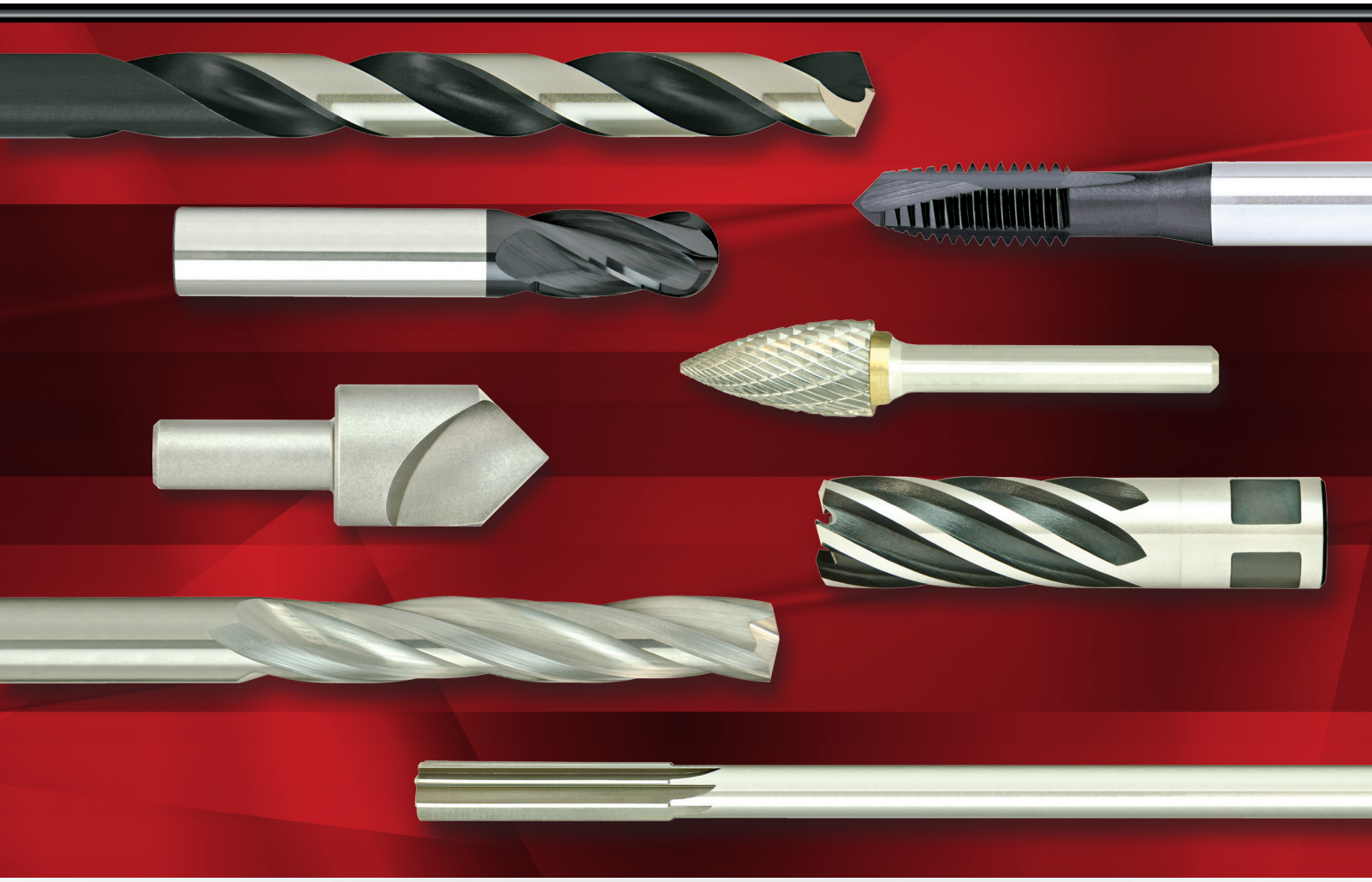
ALFA TOOLS®



Industrial Product Catalog 15IND

Mechanic's Length Drills

Jobber Length Drills

Screw Machine Length Drills

Aircraft Extension / Extra Length Drills

Taper Length Drills

Reduced Shank Drills

Taper Shank Drills

Hole Enlarging Core Drills

Solid Carbide Drills

ProBits® Multi-Step Drills

A

Alfa Tools Brands

ALFA USA — Made in USA Drills, Taps and End Mills
BLITZ BITS — Premium Heavy Duty Drills and Reamers
ProBits™ — Multi-Step Cone Drills
MEGA DRILL™ — Multi-purpose Carbide Tipped Drill Bits
Monolock® QUICK CHANGE SYSTEM — 1/4" Power Shank
RotaCutter™ — HSS, Cobalt & Carbide-Tipped Annular Cutters
ECO PRO — Tools made outside the United States to Alfa Tools specifications
MEGACUT® — Tapping/Cutting Fluids

Combination Drill & Tap

Specialty Drills

Reamers

A

Countersinks / Counterbores

Combined Drill & Countersinks (Center Drills)

Countersink & Deburring Tools

HSS Countersinks

Carbide Countersinks

Drill Accessories

Hole Making Tools

Hole Saws

Carbide Tipped Hole Cutters

Annular Hole Cutters

RotaCutters

Mini RotaCutters

High-Speed Steel Taps & Dies

Taps

High Performance Taps

Multi-Purpose

For Low Tensile Materials

For High Tensile Materials

Hand Taps

Spiral Pointed Taps

Spiral Fluted Taps

Special Purpose Taps

Pipe Taps

Dies

Carbon Steel Taps & Dies

Hand Taps

Dies

Tapping Tools & Accessories

Tapping Tools

Thread Files

Extractors & Extensions

Screw / Thread Inserts & Kits

Tap & Die Sets

Burrs

Carbide

High-Speed Steel

Deburring Tools

End Mills

Solid Carbide End Mills

Two Flute

Center Cutting

Solid Carbide End Mills

Three Flute

Center Cutting

Four Flute

Center Cutting

Solid Carbide Roughing End Mills

High-Speed Steel End Mills

Two Flute

Center Cutting

Multi-Flute

Center Cutting

Non-Center Cutting

Cobalt M42 End Mills

Two Flute

Center Cutting

Multi-Flute

Center Cutting

Cobalt Roughing End Mills

Coarse Pitch

HSS Cutters

Tool Bits

Technical Terminology & Charts

MADE IN U. S. A.

Premium High-Speed Steel

Heavy Duty
3-Flat Shank Design
(On 3/16" and Larger)
135° Split Point
Black Oxide & Gold Finish

Features:

- Engineered for heavy duty work, BLITZ BITS® are high performance drills for production as well as tough maintenance applications.
- Made from a premium grade of M-7 molybdenum high-speed steel, which has a special black and gold surface treatment to increase lubricity and reduce friction.
- The strong web construction provides greater strength and rigidity to drill in hard-to-drill materials like stainless steel and titanium alloys.
- The buttressed cutting edge, with an acute rake, makes the BLITZ BIT® cut cleanly and accurately with less effort. The extra clearance behind the side margin reduces friction, enabling balanced cutting action with closer hole tolerances, at higher speeds.
- Precision ground 135° split point is self-centering and reduces thrust.
- Designed for drilling the widest range of materials like mild steel, stainless steel and non-ferrous materials.
- The special 3-flat shank design provides a positive no-slip grip – ideal for cordless, keyless chuck and conventional power tools.
- Shorter overall length increases rigidity.

FRACTIONAL

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK #
***1/16**	.0625	7/8	1-7/8	BBML74201
***5/64**	.0781	1	2	BBML74202
***3/32**	.0938	1-1/4	2-1/4	BBML74203
***7/64**	.1094	1-5/16	2-3/8	BBML74204
***1/8**	.1250	1-7/16	2-1/2	BBML74205
***9/64**	.1406	1-9/16	2-5/8	BBML74206
***5/32**	.1562	1-11/16	2-3/4	BBML74207
***11/64**	.1719	1-13/16	2-7/8	BBML74208
3/16	.1875	1-7/8	3	BBML74209
13/64	.2031	1-15/16	3-1/8	BBML74210
7/32	.2188	2	3-1/4	BBML74211
15/64	.2344	2-1/16	3-3/8	BBML74212
1/4	.2500	2	3-1/2	BBML74213
17/64	.2656	2-1/8	3-5/8	BBML74214
9/32	.2812	2-1/4	3-3/4	BBML74215
19/64	.2969	2-3/8	3-7/8	BBML74216
5/16	.3125	2-1/2	4	BBML74217
21/64	.3281	2-9/16	4-1/16	BBML74218
11/32	.3438	2-5/8	4-1/8	BBML74219
23/64	.3594	2-11/16	4-3/16	BBML74220
3/8	.3750	2-11/16	4-1/8	BBML74221
25/64	.3906	2-3/4	4-5/16	BBML74222
13/32	.4062	2-13/16	4-3/8	BBML74223
27/64	.4219	2-7/8	4-7/16	BBML74224
7/16	.4375	2-15/16	4-1/2	BBML74225
29/64	.4531	3	4-5/8	BBML74226
15/32	.4688	3-1/8	4-3/4	BBML74227
31/64	.4844	3-1/4	4-7/8	BBML74228
1/2	.5000	3-3/8	5	BBML74229

1/16" to 5/16", 12 per envelope,
21/64" to 1/2", 6 per envelope

*sizes do not have flats on shank

SETS

QTY.	SIZES	ALFA USA STOCK #
13 Pc.	1/16" - 1/4" by 64ths	BBML74294
15 Pc.	1/16" - 1/2" by 32nds	BBML74293
21 Pc.	1/16" - 3/8" by 64ths	BBML74292
29 Pc.	1/16" - 1/2" by 64ths	BBML74290
29 Pc.	Drill Mug 1/16" - 1/2" by 64ths	BBML74290DM

Reduced Shank Drills on Page A36

Blitz Nitride® - Jobber Drills

MADE IN U. S. A.

Nitrided Premium High-Speed Steel For Extra Tough Performance

Extra Heavy Duty
135° Split Point
Black Oxide & Silver Finish

Features:

- Engineered for heavy duty work, BLITZ NITRIDE® bits are high performance drills for production as well as tough maintenance applications.
- Made from a premium grade of M-7 molybdenum high-speed steel, with a special **nitride treatment,** giving additional hardness to the cutting edge for tougher applications, and with a black and silver surface treatment to increase lubricity and reduce friction.
- The strong web construction provides greater strength and rigidity to drill in hard to drill materials like stainless steel and titanium alloys.
- The buttressed cutting edge, with an acute rake, makes the BLITZ NITRIDE® bits cut cleanly and accurately with less effort. The extra clearance behind the side margin reduces friction, enabling balanced cutting action with closer hole tolerances, at higher speeds.
- Precision ground 135° split point is self-centering and reduces thrust.
- Designed for drilling the widest range of materials including mild steel, stainless steel, titanium and nickel alloy steels and non-ferrous materials.

FRACTIONAL

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK #
1/16	.0625	7/8	1-7/8	BBN74501
5/64	.0781	1	2	BBN74502
3/32	.0938	1-1/4	2-1/4	BBN74503
7/64	.1094	1-1/2	2-5/8	BBN74504
1/8	.1250	1-5/8	2-3/4	BBN74505
9/64	.1406	1-3/4	2-7/8	BBN74506
5/32	.1562	2	3-1/8	BBN74507
11/64	.1719	2-1/8	3-1/4	BBN74508
3/16	.1875	2-5/16	3-1/2	BBN74509
13/64	.2031	2-7/16	3-5/8	BBN74510
7/32	.2188	2-1/2	3-3/4	BBN74511
15/64	.2344	2-5/8	3-7/8	BBN74512
1/4	.2500	2-3/4	4	BBN74513
17/64	.2656	2-7/8	4-1/8	BBN74514
9/32	.2812	2-15/16	4-1/4	BBN74515
19/64	.2969	3-1/16	4-3/8	BBN74516
5/16	.3125	3-3/16	4-1/2	BBN74517
21/64	.3281	3-5/16	4-5/8	BBN74518
11/32	.3438	3-7/16	4-3/4	BBN74519
23/64	.3594	3-1/2	4-7/8	BBN74520
3/8	.3750	3-5/8	5	BBN74521
25/64	.3906	3-3/4	5-1/8	BBN74522
13/32	.4062	3-7/8	5-1/4	BBN74523
27/64	.4219	3-15/16	5-3/8	BBN74524
7/16	.4375	4-1/16	5-1/2	BBN74525
29/64	.4531	4-3/16	5-5/8	BBN74526
15/32	.4688	4-5/16	5-3/4	BBN74527
31/64	.4844	4-3/8	5-7/8	BBN74528
1/2	.5000	4-1/2	6	BBN74529

1/16" to 5/16", 12 per envelope, 21/64" to 1/2", 6 per envelope

SETS

QTY.	SIZES	ALFA USA STOCK #
13 Pc.	1/16" - 1/4" by 64ths	BBN74594
15 Pc.	1/16" - 1/2" by 32nds	BBN74593
21 Pc.	1/16" - 3/8" by 64ths	BBN74592
29 Pc.	1/16" - 1/2" by 64ths	BBN74590
29 Pc.	Drill Mug 1/16" - 1/2" by 64ths	BBN74590DM

MADE IN U. S. A.

Premium High-Speed Steel

Heavy Duty
135° Split Point
Black Oxide & Gold Finish

Features:

- Engineered for heavy duty work, BLITZ BITS® are high performance drills for production as well as tough maintenance applications.
- Made from a premium grade of M-7 molybdenum high speed steel, which has a special black and gold surface treatment to increase lubricity and reduce friction.
- The strong web construction provides greater strength and rigidity to drill in hard to drill materials like stainless steel and titanium alloys.
- The buttressed cutting edge, with an acute rake, makes the BLITZ BIT® cut cleanly and accurately with less effort. The extra clearance behind the side margin reduces friction, enabling balanced cutting action with closer hole tolerances, at higher speeds.
- Precision ground 135° split point is self-centering and reduces thrust.
- Designed for drilling the widest range of materials like mild steel, stainless steel and non-ferrous materials.

FRACTIONAL

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK #
1/16	.0625	7/8	1-7/8	BB74101
5/64	.0781	1	2	BB74102
3/32	.0938	1-1/4	2-1/4	BB74103
7/64	.1094	1-1/2	2-5/8	BB74104
1/8	.1250	1-5/8	2-3/4	BB74105
9/64	.1406	1-3/4	2-7/8	BB74106
5/32	.1562	2	3-1/8	BB74107
11/64	.1719	2-1/8	3-1/4	BB74108
3/16	.1875	2-5/16	3-1/2	BB74109
13/64	.2031	2-7/16	3-5/8	BB74110
7/32	.2188	2-1/2	3-3/4	BB74111
15/64	.2344	2-5/8	3-7/8	BB74112
1/4	.2500	2-3/4	4	BB74113
17/64	.2656	2-7/8	4-1/8	BB74114
9/32	.2812	2-15/16	4-1/4	BB74115
19/64	.2969	3-1/16	4-3/8	BB74116
5/16	.3125	3-3/16	4-1/2	BB74117
21/64	.3281	3-5/16	4-5/8	BB74118
11/32	.3438	3-7/16	4-3/4	BB74119
23/64	.3594	3-1/2	4-7/8	BB74120
3/8	.3750	3-5/8	5	BB74121
25/64	.3906	3-3/4	5-1/8	BB74122
13/32	.4062	3-7/8	5-1/4	BB74123
27/64	.4219	3-15/16	5-3/8	BB74124
7/16	.4375	4-1/16	5-1/2	BB74125
29/64	.4531	4-3/16	5-5/8	BB74126
15/32	.4688	4-5/16	5-3/4	BB74127
31/64	.4844	4-3/8	5-7/8	BB74128
1/2	.5000	4-1/2	6	BB74129

1/16" to 5/16", 12 per envelope, 21/64" to 1/2", 6 per envelope

SETS

QTY.	SIZES	ALFA USA STOCK #
13 Pc.	1/16" - 1/4" by 64ths	BB74194
15 Pc.	1/16" - 1/2" by 32nds	BB74193
21 Pc.	1/16" - 3/8" by 64ths	BB74192
29 Pc.	1/16" - 1/2" by 64ths	BB74190
26 Pc.	Letter A - Z	BB74197
60 Pc.	Wire Gage #1 - #60	BB74191
115 Pc.	1/16" - 1/2" by 64ths, A - Z, Wire Gage #1 - #60	BB74199
29 Pc.	Drill Mug 1/16" - 1/2" by 64ths	BB74190DM

Reduced Shank Drills on Page A36

MADE IN U. S. A.

Premium High-Speed Steel

Heavy Duty
135° Split Point
Black Oxide & Gold Finish

LETTER

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK #
A	.234	2-5/8	3-7/8	BB74201
B	.238	2-3/4	4	BB74202
C	.242	2-3/4	4	BB74203
D	.246	2-3/4	4	BB74204
E	.250	2-3/4	4	BB74205
F	.257	2-7/8	4-1/8	BB74206
G	.261	2-7/8	4-1/8	BB74207
H	.266	2-7/8	4-1/8	BB74208
I	.272	2-7/8	4-1/8	BB74209
J	.277	2-7/8	4-1/8	BB74210
K	.281	2-15/16	4-1/4	BB74211
L	.290	2-15/16	4-1/4	BB74212
M	.295	3-1/16	4-3/8	BB74213

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK #
N	.302	3-1/16	4-3/8	BB74214
O	.316	3-3/16	4-1/2	BB74215
P	.323	3-5/16	4-5/8	BB74216
Q	.332	3-7/16	4-3/4	BB74217
R	.339	3-7/16	4-3/4	BB74218
S	.348	3-1/2	4-7/8	BB74219
T	.358	3-1/2	4-7/8	BB74220
U	.368	3-5/8	5	BB74221
V	.377	3-5/8	5	BB74222
W	.386	3-3/4	5-1/8	BB74223
X	.397	3-3/4	5-1/8	BB74224
Y	.404	3-7/8	5-1/4	BB74225
Z	.413	3-7/8	5-1/4	BB74226

A to N, 12 per envelope, O to Z, 6 per envelope

WIRE GAGE

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK #
1	.2280	2-5/8	3-7/8	BB74301
2	.2210	2-5/8	3-7/8	BB74302
3	.2130	2-1/2	3-3/4	BB74303
4	.2090	2-1/2	3-3/4	BB74304
5	.2055	2-1/2	3-3/4	BB74305
6	.2040	2-1/2	3-3/4	BB74306
7	.2010	2-7/16	3-5/8	BB74307
8	.1990	2-7/16	3-5/8	BB74308
9	.1960	2-7/16	3-5/8	BB74309
10	.1935	2-7/16	3-5/8	BB74310
11	.1910	2-5/16	3-1/2	BB74311
12	.1890	2-5/16	3-1/2	BB74312
13	.1850	2-5/16	3-1/2	BB74313
14	.1820	2-3/16	3-3/8	BB74314
15	.1800	2-3/16	3-3/8	BB74315
16	.1770	2-3/16	3-3/8	BB74316
17	.1730	2-3/16	3-3/8	BB74317
18	.1695	2-1/8	3-1/4	BB74318
19	.1660	2-1/8	3-1/4	BB74319
20	.1610	2-1/8	3-1/4	BB74320
21	.1590	2-1/8	3-1/4	BB74321
22	.1570	2	3-1/8	BB74322
23	.1540	2	3-1/8	BB74323
24	.1520	2	3-1/8	BB74324
25	.1495	1-7/8	3	BB74325
26	.1470	1-7/8	3	BB74326
27	.1440	1-7/8	3	BB74327
28	.1405	1-3/4	2-7/8	BB74328
29	.1360	1-3/4	2-7/8	BB74329
30	.1285	1-5/8	2-3/4	BB74330

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK #
31	.1200	1-5/8	2-3/4	BB74331
32	.1160	1-5/8	2-3/4	BB74332
33	.1130	1-1/2	2-5/8	BB74333
34	.1110	1-1/2	2-5/8	BB74334
35	.1100	1-1/2	2-5/8	BB74335
36	.1065	1-7/16	2-1/2	BB74336
37	.1040	1-7/16	2-1/2	BB74337
38	.1015	1-7/16	2-1/2	BB74338
39	.0995	1-3/8	2-3/8	BB74339
40	.0980	1-3/8	2-3/8	BB74340
41	.0960	1-3/8	2-3/8	BB74341
42	.0935	1-1/4	2-1/4	BB74342
43	.0890	1-1/4	2-1/4	BB74343
44	.0860	1-1/8	2-1/8	BB74344
45	.0820	1-1/8	2-1/8	BB74345
46	.0810	1-1/8	2-1/8	BB74346
47	.0785	1	2	BB74347
48	.0760	1	2	BB74348
49	.0730	1	2	BB74349
50	.0700	1	2	BB74350
51	.0670	1	2	BB74351
52	.0635	7/8	1-7/8	BB74352
*53	.0595	7/8	1-7/8	BB74353
*54	.0550	7/8	1-7/8	BB74354
*55	.0520	7/8	1-7/8	BB74355
*56	.0465	3/4	1-3/4	BB74356
*57	.0430	3/4	1-3/4	BB74357
*58	.0420	11/16	1-5/8	BB74358
*59	.0410	11/16	1-5/8	BB74359
*60	.0400	11/16	1-5/8	BB74360

1 to 60, 12 per envelope

* #53 - #60 drills do not have a split point

Super High-Speed Steel

MADE IN U. S. A.

Jobber Length
118° Point
Black Oxide Or
Bright Finish

Features:
- An excellent general purpose drill with a conventional 118° point angle.
- Designed for drilling in a wide range of materials, equipment and operating conditions.
- For black oxide drills, typical applications include drilling production parts, maintenance jobs and portable drilling.
- Bright finish provides good chip ejection in low carbon or soft materials.

FRACTIONAL

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK # BLACK OXIDE	ALFA USA STOCK # BRIGHT FINISH
1/64	.0156	3/16	3/4	J150097	J150097B
1/32	.0312	1/2	1-3/8	J150098	J150098B
3/64	.0469	3/4	1-3/4	J150099	J150099B
1/16	.0625	7/8	1-7/8	J150101	J150101B
5/64	.0781	1	2	J150102	J150102B
3/32	.0938	1-1/4	2-1/4	J150103	J150103B
7/64	.1094	1-1/2	2-5/8	J150104	J150104B
1/8	.1250	1-5/8	2-3/4	J150105	J150105B
9/64	.1406	1-3/4	2-7/8	J150106	J150106B
5/32	.1562	2	3-1/8	J150107	J150107B
11/64	.1719	2-1/8	3-1/4	J150108	J150108B
3/16	.1875	2-5/16	3-1/2	J150109	J150109B
13/64	.2031	2-7/16	3-5/8	J150110	J150110B
7/32	.2188	2-1/2	3-3/4	J150111	J150111B
15/64	.2344	2-5/8	3-7/8	J150112	J150112B
1/4	.2500	2-3/4	4	J150113	J150113B
17/64	.2656	2-7/8	4-1/8	J150114	J150114B
9/32	.2812	2-15/16	4-1/4	J150115	J150115B
19/64	.2969	3-1/16	4-3/8	J150116	J150116B
5/16	.3125	3-3/16	4-1/2	J150117	J150117B
21/64	.3281	3-5/16	4-5/8	J150118	J150118B
11/32	.3438	3-7/16	4-3/4	J150119	J150119B
23/64	.3594	3-1/2	4-7/8	J150120	J150120B
3/8	.3750	3-5/8	5	J150121	J150121B
25/64	.3906	3-3/4	5-1/8	J150122	J150122B
13/32	.4062	3-7/8	5-1/4	J150123	J150123B
27/64	.4219	3-15/16	5-3/8	J150124	J150124B
7/16	.4375	4-1/16	5-1/2	J150125	J150125B
29/64	.4531	4-3/16	5-5/8	J150126	J150126B
15/32	.4688	4-5/16	5-3/4	J150127	J150127B
31/64	.4844	4-3/8	5-7/8	J150128	J150128B
1/2	.5000	4-1/2	6	J150129	J150129B
Jobber Drills over 1/2"diameter have straight cylindrical shanks. For 1/2" Reduced Shank Drills, see Silver & Deming drills on page A38.					
33/64	.5156	4-13/16	6-5/8	J150130	–
17/32	.5312	4-13/16	6-5/8	J150131	–
35/64	.5469	4-13/16	6-5/8	J150132	–
9/16	.5625	4-13/16	6-5/8	J150133	–
37/64	.5781	4-13/16	6-5/8	J150134	–
19/32	.5938	5-3/16	7-1/8	J150135	–
39/64	.6094	5-3/16	7-1/8	J150136	–
5/8	.6250	5-3/16	7-1/8	J150137	–
41/64	.6406	5-3/16	7-1/8	J150138	–
21/32	.6562	5-3/16	7-1/8	J150139	–
43/64	.6719	5-5/8	7-5/8	J150140	–
11/16	.6875	5-5/8	7-5/8	J150141	–

1/64" to 5/16", 12 per envelope, 21/64" to 1/2", 6 per envelope
33/64" to 11/16", 1 per pack

Reduced Shank Drills on Page A37

LETTER

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK # BLACK OXIDE	ALFA USA STOCK # BRIGHT FINISH
A	.234	2-5/8	3-7/8	J160201	J160201B
B	.238	2-3/4	4	J160202	J160202B
C	.242	2-3/4	4	J160203	J160203B
D	.246	2-3/4	4	J160204	J160204B
E	.250	2-3/4	4	J160205	J160205B
F	.257	2-7/8	4-1/8	J160206	J160206B
G	.261	2-7/8	4-1/8	J160207	J160207B
H	.266	2-7/8	4-1/8	J160208	J160208B
I	.272	2-7/8	4-1/8	J160209	J160209B
J	.277	2-7/8	4-1/8	J160210	J160210B
K	.281	2-15/16	4-1/4	J160211	J160211B
L	.290	2-15/16	4-1/4	J160212	J160212B
M	.295	3-1/16	4-3/8	J160213	J160213B
N	.302	3-1/16	4-3/8	J160214	J160214B
O	.316	3-3/16	4-1/2	J160215	J160215B
P	.323	3-5/16	4-5/8	J160216	J160216B
Q	.332	3-7/16	4-3/4	J160217	J160217B
R	.339	3-7/16	4-3/4	J160218	J160218B
S	.348	3-1/2	4-7/8	J160219	J160219B
T	.358	3-1/2	4-7/8	J160220	J160220B
U	.368	3-5/8	5	J160221	J160221B
V	.377	3-5/8	5	J160222	J160222B
W	.386	3-3/4	5-1/8	J160223	J160223B
X	.397	3-3/4	5-1/8	J160224	J160224B
Y	.404	3-7/8	5-1/4	J160225	J160225B
Z	.413	3-7/8	5-1/4	J160226	J160226B

A to N, 12 per envelope, O to Z, 6 per envelope

SETS

QTY.	SIZES	ALFA USA STOCK # BLACK OXIDE	ALFA USA STOCK # BRIGHT FINISH
13 Pc.	1/16" - 1/4" by 64ths	J150194	J150194B
15 Pc.	1/16" - 1/2" by 32nds	J150193	J150193B
21 Pc.	1/16" - 3/8" by 64ths	J150192	J150192B
29 Pc.	1/16" - 1/2" by 64ths	J150190	J150190B
26 Pc.	Letter A - Z	J150197	J150197B
60 Pc.	Wire Gage #1 - #60	J150191	J150191B
20 Pc.	Wire Gage #61 - #80	J150189	J150189B
115 Pc.	1/16" - 1/2" by 64ths, A - Z, Wire Gage #1 - #60	J150199	J150199B
29 Pc.	Drill Mug 1/16" - 1/2" by 64ths	J150190DM	J150190BDM

Super High-Speed Steel

MADE IN U. S. A.

Jobber Length
118° Point
Black Oxide Or
Bright Finish

WIRE GAGE

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK # BLACK OXIDE	ALFA USA STOCK # BRIGHT FINISH
1	.2280	2-5/8	3-7/8	J160101	J160101B
2	.2210	2-5/8	3-7/8	J160102	J160102B
3	.2130	2-1/2	3-3/4	J160103	J160103B
4	.2090	2-1/2	3-3/4	J160104	J160104B
5	.2055	2-1/2	3-3/4	J160105	J160105B
6	.2040	2-1/2	3-3/4	J160106	J160106B
7	.2010	2-7/16	3-5/8	J160107	J160107B
8	.1990	2-7/16	3-5/8	J160108	J160108B
9	.1960	2-7/16	3-5/8	J160109	J160109B
10	.1935	2-7/16	3-5/8	J160110	J160110B
11	.1910	2-5/16	3-1/2	J160111	J160111B
12	.1890	2-5/16	3-1/2	J160112	J160112B
13	.1850	2-5/16	3-1/2	J160113	J160113B
14	.1820	2-3/16	3-3/8	J160114	J160114B
15	.1800	2-3/16	3-3/8	J160115	J160115B
16	.1770	2-3/16	3-3/8	J160116	J160116B
17	.1730	2-3/16	3-3/8	J160117	J160117B
18	.1695	2-1/8	3-1/4	J160118	J160118B
19	.1660	2-1/8	3-1/4	J160119	J160119B
20	.1610	2-1/8	3-1/4	J160120	J160120B
21	.1590	2-1/8	3-1/4	J160121	J160121B
22	.1570	2	3-1/8	J160122	J160122B
23	.1540	2	3-1/8	J160123	J160123B
24	.1520	2	3-1/8	J160124	J160124B
25	.1495	1-7/8	3	J160125	J160125B
26	.1470	1-7/8	3	J160126	J160126B
27	.1440	1-7/8	3	J160127	J160127B
28	.1405	1-3/4	2-7/8	J160128	J160128B
29	.1360	1-3/4	2-7/8	J160129	J160129B
30	.1285	1-5/8	2-3/4	J160130	J160130B
31	.1200	1-5/8	2-3/4	J160131	J160131B
32	.1160	1-5/8	2-3/4	J160132	J160132B
33	.1130	1-1/2	2-5/8	J160133	J160133B
34	.1110	1-1/2	2-5/8	J160134	J160134B
35	.1100	1-1/2	2-5/8	J160135	J160135B
36	.1065	1-7/16	2-1/2	J160136	J160136B
37	.1040	1-7/16	2-1/2	J160137	J160137B
38	.1015	1-7/16	2-1/2	J160138	J160138B
39	.0995	1-3/8	2-3/8	J160139	J160139B
40	.0980	1-3/8	2-3/8	J160140	J160140B
41	.0960	1-3/8	2-3/8	J160141	J160141B
42	.0935	1-1/4	2-1/4	J160142	J160142B
43	.0890	1-1/4	2-1/4	J160143	J160143B
44	.0860	1-1/8	2-1/8	J160144	J160144B
45	.0820	1-1/8	2-1/8	J160145	J160145B
46	.0810	1-1/8	2-1/8	J160146	J160146B
47	.0785	1	2	J160147	J160147B
48	.0760	1	2	J160148	J160148B
49	.0730	1	2	J160149	J160149B
50	.0700	1	2	J160150	J160150B
51	.0670	1	2	J160151	J160151B
52	.0635	7/8	1-7/8	J160152	J160152B
53	.0595	7/8	1-7/8	J160153	J160153B
54	.0550	7/8	1-7/8	J160154	J160154B
55	.0520	7/8	1-7/8	J160155	J160155B
56	.0465	3/4	1-3/4	J160156	J160156B
57	.0430	3/4	1-3/4	J160157	J160157B
58	.0420	11/16	1-5/8	J160158	J160158B
59	.0410	11/16	1-5/8	J160159	J160159B
60	.0400	11/16	1-5/8	J160160	J160160B
61	.0390	11/16	1-5/8	J160161	J160161B
62	.0380	5/8	1-1/2	J160162	J160162B
63	.0370	5/8	1-1/2	J160163	J160163B
64	.0360	5/8	1-1/2	J160164	J160164B
65	.0350	5/8	1-1/2	J160165	J160165B
66	.0330	1/2	1-3/8	J160166	J160166B
67	.0320	1/2	1-3/8	J160167	J160167B
68	.0310	1/2	1-3/8	J160168	J160168B
69	.0292	1/2	1-3/8	J160169	J160169B
70	.0280	3/8	1-1/4	J160170	J160170B
71	.0260	3/8	1-1/4	J160171	J160171B
72	.0250	5/16	1-1/8	J160172	J160172B
73	.0240	5/16	1-1/8	J160173	J160173B
74	.0225	1/4	1	J160174	J160174B
75	.0210	1/4	1	J160175	J160175B
76	.0200	3/16	7/8	J160176	J160176B
77	.0180	3/16	7/8	J160177	J160177B
78	.0160	3/16	7/8	J160178	J160178B
79	.0145	1/8	3/4	J160179	J160179B
80	.0135	1/8	3/4	J160180	J160180B

MINIATURE DRILLS – IDEAL FOR DRILLING: Fuel injector nozzles, aerosol valves, surgical needles, and other applications requiring small, accurate holes.

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK # BLACK OXIDE	ALFA USA STOCK # BRIGHT FINISH
81	.0130	3/32	3/4	J160181	–
82	.0125	3/32	3/4	J160182	–
83	.0120	3/32	3/4	J160183	–
84	.0115	3/32	3/4	J160184	–
85	.0110	3/32	3/4	J160185	–
86	.0105	3/32	3/4	J160186	–
87	.0100	5/64	3/4	J160187	–
88	.0095	5/64	3/4	J160188	–
89	.0091	5/64	3/4	J160189	–
90	.0087	5/64	3/4	J160190	–
91	.0083	5/64	3/4	J160191	–
92	.0079	1/16	3/4	J160192	–
93	.0075	1/16	3/4	J160193	–
94	.0071	1/16	3/4	J160194	–
95	.0067	1/16	3/4	J160195	–
96	.0063	1/16	3/4	J160196	–
97	.0059	1/16	3/4	J160197	–

1 to 97, 12 per envelope

Super High-Speed Steel

MADE IN U. S. A.

Jobber Length
118° Point
Titanium Nitride Coated
Gold Finish

Features:

- Titanium Nitride coating (TiN) is a gold colored ceramic coating applied by physical vapor deposit (PVD), ensuring high hardness with low friction.
- The super hard surface with high lubricity increases tool life.
- Ideal for production work or repetitive drilling in hard metals, hardened stainless and other difficult to drill materials.

FRACTIONAL

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK #
1/16	.0625	7/8	1-7/8	J150101TN
5/64	.0781	1	2	J150102TN
3/32	.0938	1-1/4	2-1/4	J150103TN
7/64	.1094	1-1/2	2-5/8	J150104TN
1/8	.1250	1-5/8	2-3/4	J150105TN
9/64	.1406	1-3/4	2-7/8	J150106TN
5/32	.1562	2	3-1/8	J150107TN
11/64	.1719	2-1/8	3-1/4	J150108TN
3/16	.1875	2-5/16	3-1/2	J150109TN
13/64	.2031	2-7/16	3-5/8	J150110TN
7/32	.2188	2-1/2	3-3/4	J150111TN
15/64	.2344	2-5/8	3-7/8	J150112TN
1/4	.2500	2-3/4	4	J150113TN
17/64	.2656	2-7/8	4-1/8	J150114TN
9/32	.2812	2-15/16	4-1/4	J150115TN
19/64	.2969	3-1/16	4-3/8	J150116TN
5/16	.3125	3-3/16	4-1/2	J150117TN
21/64	.3281	3-5/16	4-5/8	J150118TN
11/32	.3438	3-7/16	4-3/4	J150119TN
23/64	.3594	3-1/2	4-7/8	J150120TN
3/8	.3750	3-5/8	5	J150121TN
25/64	.3906	3-3/4	5-1/8	J150122TN
13/32	.4062	3-7/8	5-1/4	J150123TN
27/64	.4219	3-15/16	5-3/8	J150124TN
7/16	.4375	4-1/16	5-1/2	J150125TN
29/64	.4531	4-3/16	5-5/8	J150126TN
15/32	.4688	4-5/16	5-3/4	J150127TN
31/64	.4844	4-3/8	5-7/8	J150128TN
1/2	.5000	4-1/2	6	J150129TN

1/16" to 5/16", 12 per envelope, 21/64" to 1/2", 6 per envelope

SETS

QTY.	SIZES	ALFA USA STOCK #
13 Pc.	1/16" - 1/4" by 64ths	J150194TN
15 Pc.	1/16" - 1/2" by 32nds	J150193TN
21 Pc.	1/16" - 3/8" by 64ths	J150192TN
29 Pc.	1/16" - 1/2" by 64ths	J150190TN
26 Pc.	Letter A - Z	J150197TN
60 Pc.	Wire Gage #1 - #60	J150191TN
115 Pc.	1/16" - 1/2" by 64ths, A - Z, Wire Gage #1 - #60	J150199TN
29 Pc.	Drill Mug 1/16" - 1/2" by 64ths	J150190TNDM

See Pages A12 to A13 for 135º Split Point Heavy Duty TiN Coated Drills

Super High-Speed Steel

MADE IN U. S. A.

Jobber Length
118° Point
Titanium Nitride Coated
Gold Finish

LETTER

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK #
A	.234	2-5/8	3-7/8	J160201TN
B	.238	2-3/4	4	J160202TN
C	.242	2-3/4	4	J160203TN
D	.246	2-3/4	4	J160204TN
E	.250	2-3/4	4	J160205TN
F	.257	2-7/8	4-1/8	J160206TN
G	.261	2-7/8	4-1/8	J160207TN
H	.266	2-7/8	4-1/8	J160208TN
I	.272	2-7/8	4-1/8	J160209TN
J	.277	2-7/8	4-1/8	J160210TN
K	.281	2-15/16	4-1/4	J160211TN
L	.290	2-15/16	4-1/4	J160212TN
M	.295	3-1/16	4-3/8	J160213TN

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK #
N	.302	3-1/16	4-3/8	J160214TN
O	.316	3-3/16	4-1/2	J160215TN
P	.323	3-5/16	4-5/8	J160216TN
Q	.332	3-7/16	4-3/4	J160217TN
R	.339	3-7/16	4-3/4	J160218TN
S	.348	3-1/2	4-7/8	J160219TN
T	.358	3-1/2	4-7/8	J160220TN
U	.368	3-5/8	5	J160221TN
V	.377	3-5/8	5	J160222TN
W	.386	3-3/4	5-1/8	J160223TN
X	.397	3-3/4	5-1/8	J160224TN
Y	.404	3-7/8	5-1/4	J160225TN
Z	.413	3-7/8	5-1/4	J160226TN

WIRE GAGE

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK #
1	.2280	2-5/8	3-7/8	J160101TN
2	.2210	2-5/8	3-7/8	J160102TN
3	.2130	2-1/2	3-3/4	J160103TN
4	.2090	2-1/2	3-3/4	J160104TN
5	.2055	2-1/2	3-3/4	J160105TN
6	.2040	2-1/2	3-3/4	J160106TN
7	.2010	2-7/16	3-5/8	J160107TN
8	.1990	2-7/16	3-5/8	J160108TN
9	.1960	2-7/16	3-5/8	J160109TN
10	.1935	2-7/16	3-5/8	J160110TN
11	.1910	2-5/16	3-1/2	J160111TN
12	.1890	2-5/16	3-1/2	J160112TN
13	.1850	2-5/16	3-1/2	J160113TN
14	.1820	2-3/16	3-3/8	J160114TN
15	.1800	2-3/16	3-3/8	J160115TN
16	.1770	2-3/16	3-3/8	J160116TN
17	.1730	2-3/16	3-3/8	J160117TN
18	.1695	2-1/8	3-1/4	J160118TN
19	.1660	2-1/8	3-1/4	J160119TN
20	.1610	2-1/8	3-1/4	J160120TN
21	.1590	2-1/8	3-1/4	J160121TN
22	.1570	2	3-1/8	J160122TN
23	.1540	2	3-1/8	J160123TN
24	.1520	2	3-1/8	J160124TN
25	.1495	1-7/8	3	J160125TN
26	.1470	1-7/8	3	J160126TN
27	.1440	1-7/8	3	J160127TN
28	.1405	1-3/4	2-7/8	J160128TN
29	.1360	1-3/4	2-7/8	J160129TN
30	.1285	1-5/8	2-3/4	J160130TN

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK #
31	.1200	1-5/8	2-3/4	J160131TN
32	.1160	1-5/8	2-3/4	J160132TN
33	.1130	1-1/2	2-5/8	J160133TN
34	.1110	1-1/2	2-5/8	J160134TN
35	.1100	1-1/2	2-5/8	J160135TN
36	.1065	1-7/16	2-1/2	J160136TN
37	.1040	1-7/16	2-1/2	J160137TN
38	.1015	1-7/16	2-1/2	J160138TN
39	.0995	1-3/8	2-3/8	J160139TN
40	.0980	1-3/8	2-3/8	J160140TN
41	.0960	1-3/8	2-3/8	J160141TN
42	.0935	1-1/4	2-1/4	J160142TN
43	.0890	1-1/4	2-1/4	J160143TN
44	.0860	1-1/8	2-1/8	J160144TN
45	.0820	1-1/8	2-1/8	J160145TN
46	.0810	1-1/8	2-1/8	J160146TN
47	.0785	1	2	J160147TN
48	.0760	1	2	J160148TN
49	.0730	1	2	J160149TN
50	.0700	1	2	J160150TN
51	.0670	1	2	J160151TN
52	.0635	7/8	1-7/8	J160152TN
53	.0595	7/8	1-7/8	J160153TN
54	.0550	7/8	1-7/8	J160154TN
55	.0520	7/8	1-7/8	J160155TN
56	.0465	3/4	1-3/4	J160156TN
57	.0430	3/4	1-3/4	J160157TN
58	.0420	11/16	1-5/8	J160158TN
59	.0410	11/16	1-5/8	J160159TN
60	.0400	11/16	1-5/8	J160160TN

1 to 60, 12 per envelope

Super High-Speed Steel
NAS 907, Type B

MADE IN U. S. A.

Jobber Length
135° Split Point
Black Oxide Or
Bright Finish

Features:

- Ideal for portable or machine drilling in low-tensile strength alloy steels and for other applications.
- These drills meet all aircraft manufacturing standards and feature a heavy duty 135° split point for self-centering and quick penetration.
- Heavy duty web geometry provides added rigidity to resist tensional strain when drilling up to three times the drill diameter.
- Suitable for cotter pin hole drilling and cross hole drilling in heads of bolts.

FRACTIONAL

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK # BLACK OXIDE	ALFA USA STOCK # BRIGHT FINISH
1/16	.0625	7/8	1-7/8	S150101	S150101B
5/64	.0781	1	2	S150102	S150102B
3/32	.0938	1-1/4	2-1/4	S150103	S150103B
7/64	.1094	1-1/2	2-5/8	S150104	S150104B
1/8	.1250	1-5/8	2-3/4	S150105	S150105B
9/64	.1406	1-3/4	2-7/8	S150106	S150106B
5/32	.1562	2	3-1/8	S150107	S150107B
11/64	.1719	2-1/8	3-1/4	S150108	S150108B
3/16	.1875	2-5/16	3-1/2	S150109	S150109B
13/64	.2031	2-7/16	3-5/8	S150110	S150110B
7/32	.2188	2-1/2	3-3/4	S150111	S150111B
15/64	.2344	2-5/8	3-7/8	S150112	S150112B
1/4	.2500	2-3/4	4	S150113	S150113B
17/64	.2656	2-7/8	4-1/8	S150114	S150114B
9/32	.2812	2-15/16	4-1/4	S150115	S150115B
19/64	.2969	3-1/16	4-3/8	S150116	S150116B
5/16	.3125	3-3/16	4-1/2	S150117	S150117B
21/64	.3281	3-5/16	4-5/8	S150118	S150118B
11/32	.3438	3-7/16	4-3/4	S150119	S150119B
23/64	.3594	3-1/2	4-7/8	S150120	S150120B
3/8	.3750	3-5/8	5	S150121	S150121B
25/64	.3906	3-3/4	5-1/8	S150122	S150122B
13/32	.4062	3-7/8	5-1/4	S150123	S150123B
27/64	.4219	3-15/16	5-3/8	S150124	S150124B
7/16	.4375	4-1/16	5-1/2	S150125	S150125B
29/64	.4531	4-3/16	5-5/8	S150126	S150126B
15/32	.4688	4-5/16	5-3/4	S150127	S150127B
31/64	.4844	4-3/8	5-7/8	S150128	S150128B
1/2	.5000	4-1/2	6	S150129	S150129B

1/16" to 5/16", 12 per envelope, 21/64" to 1/2", 6 per envelope

SETS

QTY.	SIZES	ALFA USA STOCK # BLACK OXIDE	ALFA USA STOCK # BRIGHT FINISH
13 Pc.	1/16" - 1/4" by 64ths	S150194	S150194B
15 Pc.	1/16" - 1/2" by 32nds	S150193	S150193B
21 Pc.	1/16" - 3/8" by 64ths	S150192	S150192B
29 Pc.	1/16" - 1/2" by 64ths	S150190	S150190B
26 Pc.	Letter A - Z	S150197	S150197B
***60 Pc.**	Wire Gage #1 - #60	S150191	S150191B
***115 Pc.**	1/16" - 1/2" by 64ths, A - Z, Wire Gage #1 - #60	S150199	S150199B
29 Pc.	Plastic Drill Mug 1/16" - 1/2" by 64ths	S150190DM	S150190BDM
29 Pc.	Plastic Drill Index 1/16" - 1/2" by 64ths	S150190PL	S150190BPL

* #53 - #60 drills do not have a split point

Reduced Shank Drills on Page A37

Super High-Speed Steel
NAS 907, Type B

MADE IN U. S. A.

Jobber Length
135° Split Point
Black Oxide Or
Bright Finish

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK # BLACK OXIDE	ALFA USA STOCK # BRIGHT FINISH
A	.234	2-5/8	3-7/8	S160201	S160201B
B	.238	2-3/4	4	S160202	S160202B
C	.242	2-3/4	4	S160203	S160203B
D	.246	2-3/4	4	S160204	S160204B
E	.250	2-3/4	4	S160205	S160205B
F	.257	2-7/8	4-1/8	S160206	S160206B
G	.261	2-7/8	4-1/8	S160207	S160207B
H	.266	2-7/8	4-1/8	S160208	S160208B
I	.272	2-7/8	4-1/8	S160209	S160209B
J	.277	2-7/8	4-1/8	S160210	S160210B
K	.281	2-15/16	4-1/4	S160211	S160211B
L	.290	2-15/16	4-1/4	S160212	S160212B
M	.295	3-1/16	4-3/8	S160213	S160213B

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK # BLACK OXIDE	ALFA USA STOCK # BRIGHT FINISH
N	.302	3-1/16	4-3/8	S160214	S160214B
O	.316	3-3/16	4-1/2	S160215	S160215B
P	.323	3-5/16	4-5/8	S160216	S160216B
Q	.332	3-7/16	4-3/4	S160217	S160217B
R	.339	3-7/16	4-3/4	S160218	S160218B
S	.348	3-1/2	4-7/8	S160219	S160219B
T	.358	3-1/2	4-7/8	S160220	S160220B
U	.368	3-5/8	5	S160221	S160221B
V	.377	3-5/8	5	S160222	S160222B
W	.386	3-3/4	5-1/8	S160223	S160223B
X	.397	3-3/4	5-1/8	S160224	S160224B
Y	.404	3-7/8	5-1/4	S160225	S160225B
Z	.413	3-7/8	5-1/4	S160226	S160226B

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK # BLACK OXIDE	ALFA USA STOCK # BRIGHT FINISH
1	.2280	2-5/8	3-7/8	S160101	S160101B
2	.2210	2-5/8	3-7/8	S160102	S160102B
3	.2130	2-1/2	3-3/4	S160103	S160103B
4	.2090	2-1/2	3-3/4	S160104	S160104B
5	.2055	2-1/2	3-3/4	S160105	S160105B
6	.2040	2-1/2	3-3/4	S160106	S160106B
7	.2010	2-7/16	3-5/8	S160107	S160107B
8	.1990	2-7/16	3-5/8	S160108	S160108B
9	.1960	2-7/16	3-5/8	S160109	S160109B
10	.1935	2-7/16	3-5/8	S160110	S160110B
11	.1910	2-5/16	3-1/2	S160111	S160111B
12	.1890	2-5/16	3-1/2	S160112	S160112B
13	.1850	2-5/16	3-1/2	S160113	S160113B
14	.1820	2-3/16	3-3/8	S160114	S160114B
15	.1800	2-3/16	3-3/8	S160115	S160115B
16	.1770	2-3/16	3-3/8	S160116	S160116B
17	.1730	2-3/16	3-3/8	S160117	S160117B
18	.1695	2-1/8	3-1/4	S160118	S160118B
19	.1660	2-1/8	3-1/4	S160119	S160119B
20	.1610	2-1/8	3-1/4	S160120	S160120B
21	.1590	2-1/8	3-1/4	S160121	S160121B
22	.1570	2	3-1/8	S160122	S160122B
23	.1540	2	3-1/8	S160123	S160123B
24	.1520	2	3-1/8	S160124	S160124B
25	.1495	1-7/8	3	S160125	S160125B
26	.1470	1-7/8	3	S160126	S160126B
27	.1440	1-7/8	3	S160127	S160127B
28	.1405	1-3/4	2-7/8	S160128	S160128B
29	.1360	1-3/4	2-7/8	S160129	S160129B
30	.1285	1-5/8	2-3/4	S160130	S160130B

1 to 60, 12 per envelope

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK # BLACK OXIDE	ALFA USA STOCK # BRIGHT FINISH
31	.1200	1-5/8	2-3/4	S160131	S160131B
32	.1160	1-5/8	2-3/4	S160132	S160132B
33	.1130	1-1/2	2-5/8	S160133	S160133B
34	.1110	1-1/2	2-5/8	S160134	S160134B
35	.1100	1-1/2	2-5/8	S160135	S160135B
36	.1065	1-7/16	2-1/2	S160136	S160136B
37	.1040	1-7/16	2-1/2	S160137	S160137B
38	.1015	1-7/16	2-1/2	S160138	S160138B
39	.0995	1-3/8	2-3/8	S160139	S160139B
40	.0980	1-3/8	2-3/8	S160140	S160140B
41	.0960	1-3/8	2-3/8	S160141	S160141B
42	.0935	1-1/4	2-1/4	S160142	S160142B
43	.0890	1-1/4	2-1/4	S160143	S160143B
44	.0860	1-1/8	2-1/8	S160144	S160144B
45	.0820	1-1/8	2-1/8	S160145	S160145B
46	.0810	1-1/8	2-1/8	S160146	S160146B
47	.0785	1	2	S160147	S160147B
48	.0760	1	2	S160148	S160148B
49	.0730	1	2	S160149	S160149B
50	.0700	1	2	S160150	S160150B
51	.0670	1	2	S160151	S160151B
52	.0635	7/8	1-7/8	S160152	S160152B
*53	.0595	7/8	1-7/8	S160153	S160153B
*54	.0550	7/8	1-7/8	S160154	S160154B
*55	.0520	7/8	1-7/8	S160155	S160155B
*56	.0465	3/4	1-3/4	S160156	S160156B
*57	.0430	3/4	1-3/4	S160157	S160157B
*58	.0420	11/16	1-5/8	S160158	S160158B
*59	.0410	11/16	1-5/8	S160159	S160159B
*60	.0400	11/16	1-5/8	S160160	S160160B

* #53 - #60 drills do not have a split point

Super High-Speed Steel

MADE IN U. S. A.

Jobber Length
135° Split Point
Titanium Nitride Coated
Gold Finish

Features:

- Titanium Nitride coating (TiN) is a gold colored ceramic coating applied by physical vapor deposit (PVD), ensuring high hardness with low friction.
- The super hard surface with high lubricity increases tool life.
- Ideal for production work or repetitive drilling in hard metals, hardened stainless and other difficult to drill materials.
- 135° self-centering split point reduces thrust.

FRACTIONAL

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK #
1/16	.0625	7/8	1-7/8	S150101TN
5/64	.0781	1	2	S150102TN
3/32	.0938	1-1/4	2-1/4	S150103TN
7/64	.1094	1-1/2	2-5/8	S150104TN
1/8	.1250	1-5/8	2-3/4	S150105TN
9/64	.1406	1-3/4	2-7/8	S150106TN
5/32	.1562	2	3-1/8	S150107TN
11/64	.1719	2-1/8	3-1/4	S150108TN
3/16	.1875	2-5/16	3-1/2	S150109TN
13/64	.2031	2-7/16	3-5/8	S150110TN
7/32	.2188	2-1/2	3-3/4	S150111TN
15/64	.2344	2-5/8	3-7/8	S150112TN
1/4	.2500	2-3/4	4	S150113TN
17/64	.2656	2-7/8	4-1/8	S150114TN
9/32	.2812	2-15/16	4-1/4	S150115TN
19/64	.2969	3-1/16	4-3/8	S150116TN
5/16	.3125	3-3/16	4-1/2	S150117TN
21/64	.3281	3-5/16	4-5/8	S150118TN
11/32	.3438	3-7/16	4-3/4	S150119TN
23/64	.3594	3-1/2	4-7/8	S150120TN
3/8	.3750	3-5/8	5	S150121TN
25/64	.3906	3-3/4	5-1/8	S150122TN
13/32	.4062	3-7/8	5-1/4	S150123TN
27/64	.4219	3-15/16	5-3/8	S150124TN
7/16	.4375	4-1/16	5-1/2	S150125TN
29/64	.4531	4-3/16	5-5/8	S150126TN
15/32	.4688	4-5/16	5-3/4	S150127TN
31/64	.4844	4-3/8	5-7/8	S150128TN
1/2	.5000	4-1/2	6	S150129TN

1/16" to 5/16", 12 per envelope, 21/64" to 1/2", 6 per envelope

SETS

QTY.	SIZES	ALFA USA STOCK #
13 Pc.	1/16" - 1/4" by 64ths	S150194TN
15 Pc.	1/16" - 1/2" by 32nds	S150193TN
21 Pc.	1/16" - 3/8" by 64ths	S150192TN
29 Pc.	1/16" - 1/2" by 64ths	S150190TN
26 Pc.	Letter A - Z	S150197TN
***60 Pc.**	Wire Gage #1 - #60	S150191TN
***115 Pc.**	1/16" - 1/2" by 64ths, A - Z, Wire Gage #1 - #60	S150199TN
29 Pc.	Drill Mug 1/16" - 1/2" by 64ths	S150190TNDM

* #53 - #60 drills do not have a split point

Super High-Speed Steel

MADE IN U. S. A.

Jobber Length
135° Split Point
Titanium Nitride Coated
Gold Finish

LETTER

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK #
A	.234	2-5/8	3-7/8	S160201TN
B	.238	2-3/4	4	S160202TN
C	.242	2-3/4	4	S160203TN
D	.246	2-3/4	4	S160204TN
E	.250	2-3/4	4	S160205TN
F	.257	2-7/8	4-1/8	S160206TN
G	.261	2-7/8	4-1/8	S160207TN
H	.266	2-7/8	4-1/8	S160208TN
I	.272	2-7/8	4-1/8	S160209TN
J	.277	2-7/8	4-1/8	S160210TN
K	.281	2-15/16	4-1/4	S160211TN
L	.290	2-15/16	4-1/4	S160212TN
M	.295	3-1/16	4-3/8	S160213TN

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK #
N	.302	3-1/16	4-3/8	S160214TN
O	.316	3-3/16	4-1/2	S160215TN
P	.323	3-5/16	4-5/8	S160216TN
Q	.332	3-7/16	4-3/4	S160217TN
R	.339	3-7/16	4-3/4	S160218TN
S	.348	3-1/2	4-7/8	S160219TN
T	.358	3-1/2	4-7/8	S160220TN
U	.368	3-5/8	5	S160221TN
V	.377	3-5/8	5	S160222TN
W	.386	3-3/4	5-1/8	S160223TN
X	.397	3-3/4	5-1/8	S160224TN
Y	.404	3-7/8	5-1/4	S160225TN
Z	.413	3-7/8	5-1/4	S160226TN

A to N, 12 per envelope, O to Z, 6 per envelope

WIRE GAGE

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK #
1	.2280	2-5/8	3-7/8	S160101TN
2	.2210	2-5/8	3-7/8	S160102TN
3	.2130	2-1/2	3-3/4	S160103TN
4	.2090	2-1/2	3-3/4	S160104TN
5	.2055	2-1/2	3-3/4	S160105TN
6	.2040	2-1/2	3-3/4	S160106TN
7	.2010	2-7/16	3-5/8	S160107TN
8	.1990	2-7/16	3-5/8	S160108TN
9	.1960	2-7/16	3-5/8	S160109TN
10	.1935	2-7/16	3-5/8	S160110TN
11	.1910	2-5/16	3-1/2	S160111TN
12	.1890	2-5/16	3-1/2	S160112TN
13	.1850	2-5/16	3-1/2	S160113TN
14	.1820	2-3/16	3-3/8	S160114TN
15	.1800	2-3/16	3-3/8	S160115TN
16	.1770	2-3/16	3-3/8	S160116TN
17	.1730	2-3/16	3-3/8	S160117TN
18	.1695	2-1/8	3-1/4	S160118TN
19	.1660	2-1/8	3-1/4	S160119TN
20	.1610	2-1/8	3-1/4	S160120TN
21	.1590	2-1/8	3-1/4	S160121TN
22	.1570	2	3-1/8	S160122TN
23	.1540	2	3-1/8	S160123TN
24	.1520	2	3-1/8	S160124TN
25	.1495	1-7/8	3	S160125TN
26	.1470	1-7/8	3	S160126TN
27	.1440	1-7/8	3	S160127TN
28	.1405	1-3/4	2-7/8	S160128TN
29	.1360	1-3/4	2-7/8	S160129TN
30	.1285	1-5/8	2-3/4	S160130TN

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK #
31	.1200	1-5/8	2-3/4	S160131TN
32	.1160	1-5/8	2-3/4	S160132TN
33	.1130	1-1/2	2-5/8	S160133TN
34	.1110	1-1/2	2-5/8	S160134TN
35	.1100	1-1/2	2-5/8	S160135TN
36	.1065	1-7/16	2-1/2	S160136TN
37	.1040	1-7/16	2-1/2	S160137TN
38	.1015	1-7/16	2-1/2	S160138TN
39	.0995	1-3/8	2-3/8	S160139TN
40	.0980	1-3/8	2-3/8	S160140TN
41	.0960	1-3/8	2-3/8	S160141TN
42	.0935	1-1/4	2-1/4	S160142TN
43	.0890	1-1/4	2-1/4	S160143TN
44	.0860	1-1/8	2-1/8	S160144TN
45	.0820	1-1/8	2-1/8	S160145TN
46	.0810	1-1/8	2-1/8	S160146TN
47	.0785	1	2	S160147TN
48	.0760	1	2	S160148TN
49	.0730	1	2	S160149TN
50	.0700	1	2	S160150TN
51	.0670	1	2	S160151TN
52	.0635	7/8	1-7/8	S160152TN
*53	.0595	7/8	1-7/8	S160153TN
*54	.0550	7/8	1-7/8	S160154TN
*55	.0520	7/8	1-7/8	S160155TN
*56	.0465	3/4	1-3/4	S160156TN
*57	.0430	3/4	1-3/4	S160157TN
*58	.0420	11/16	1-5/8	S160158TN
*59	.0410	11/16	1-5/8	S160159TN
*60	.0400	11/16	1-5/8	S160160TN

1 to 60, 12 per envelope

* #53 - #60 drills do not have a split point

TiN Tipped Jobber Drills - Heavy Duty

Super High-Speed Steel

Jobber Length
135° Split Point
Titanium Nitride Coated Tips

Features:

- Titanium Nitride (TiN) coated tip creates high surface hardness to the "working" surface of the drill providing lubricity and improved tool life.
- Reduces friction and improves chip flow at higher speeds and feeds, creating a superior hole finish.
- Ideal for production work or repetitive drilling in a wide range of materials including steel, stainless steel, titanium, nickel & aluminum.

FRACTIONAL

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ECO PRO STOCK #
*1/16	.0625	7/8	1-7/8	S40101TT
*5/64	.0781	1	2	S40102TT
*3/32	.0938	1-1/4	2-1/4	S40103TT
*7/64	.1094	1-1/2	2-5/8	S40104TT
1/8	.1250	1-5/8	2-3/4	S40105TT
9/64	.1406	1-3/4	2-7/8	S40106TT
5/32	.1563	2	3-1/8	S40107TT
11/64	.1719	2-1/8	3-1/4	S40108TT
3/16	.1875	2-5/16	3-1/2	S40109TT
13/64	.2031	2-7/16	3-5/8	S40110TT
7/32	.2188	2-1/2	3-3/4	S40111TT
15/64	.2344	2-5/8	3-7/8	S40112TT
1/4	.2500	2-3/4	4	S40113TT
17/64	.2656	2-7/8	4-1/8	S40114TT
9/32	.2813	2-15/16	4-1/4	S40115TT

* 1/16" - 7/64 drills do not have a split point

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ECO PRO STOCK #
19/64	.2969	3-1/16	4-3/8	S40116TT
5/16	.3125	3-3/16	4-1/2	S40117TT
21/64	.2164	3-5/16	4-5/8	S40118TT
11/32	.3438	3-7/16	4-3/4	S40119TT
23/64	.3594	3-1/2	4-7/8	S40120TT
3/8	.3750	3-5/8	5	S40121TT
25/64	.3906	3-3/4	5-1/8	S40122TT
13/32	.4063	3-7/8	5-1/4	S40123TT
27/64	.4219	3-5/16	5-3/8	S40124TT
7/16	.4375	4-1/16	5-1/2	S40125TT
29/64	.4531	4-3/16	5-5/8	S40126TT
15/32	.4688	4-5/16	5-3/4	S40127TT
31/64	.4844	4-3/8	5-7/8	S40128TT
1/2	.5000	4-1/2	6	S40129TT

1/16" to 5/16", 12 per envelope, 21/64" to 1/2", 6 per envelope

WIRE GAGE

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ECO PRO STOCK #
1	.2280	2-5/8	3-7/8	S40201TT
2	.2210	2-5/8	3-7/8	S40202TT
3	.2130	2-1/2	3-3/4	S40203TT
4	.2090	2-1/2	3-3/4	S40204TT
5	.2055	2-1/2	3-3/4	S40205TT
6	.2040	2-1/2	3-3/4	S40206TT
7	.2010	2-7/16	3-5/8	S40207TT
8	.1990	2-7/16	3-5/8	S40208TT
9	.1960	2-7/16	3-5/8	S40209TT
10	.1935	2-7/16	3-5/8	S40210TT
11	.1910	2-5/16	3-1/2	S40211TT
12	.1890	2-5/16	3-1/2	S40212TT
13	.1850	2-5/16	3-1/2	S40213TT
14	.1820	2-3/16	3-3/8	S40214TT
15	.1800	2-3/16	3-3/8	S40215TT
16	.1770	2-3/16	3-3/8	S40216TT
17	.1730	2-3/16	3-3/8	S40217TT
18	.1695	2-1/8	3-1/4	S40218TT
19	.1660	2-1/8	3-1/4	S40219TT
20	.1610	2-1/8	3-1/4	S40220TT
21	.1160	1-5/8	2-3/4	S40221TT
22	.1590	2-1/8	3-1/4	S40222TT
23	.1570	2	3-1/8	S40223TT
24	.1540	2	3-1/8	S40224TT
25	.1520	2	3-1/8	S40225TT
26	.1495	1-7/8	3	S40226TT
27	.1470	1-7/8	3	S40227TT
28	.1440	1-7/8	3	S40228TT
29	.1405	1-3/4	2-7/8	S40229TT
30	.1360	1-3/4	2-7/8	S40230TT

1 to 60, 12 per envelope

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ECO PRO STOCK #
31	.1285	1-5/8	2-3/4	S40231TT
*32	.1200	1-5/8	2-3/4	S40232TT
*33	.1130	1-1/2	2-5/8	S40233TT
*34	.1110	1-1/2	2-5/8	S40234TT
*35	.1100	1-1/2	2-5/8	S40235TT
*36	.1065	1-7/16	2-1/2	S40236TT
*37	.1040	1-7/16	2-1/2	S40237TT
*38	.1015	1-7/16	2-1/2	S40238TT
*39	.0995	1-3/8	2-3/8	S40239TT
*40	.0980	1-3/8	2-3/8	S40240TT
*41	.0960	1-3/8	2-3/8	S40241TT
*42	.0935	1-1/4	2-1/4	S40242TT
*43	.0890	1-1/4	2-1/4	S40243TT
*44	.0860	1-1/8	2-1/8	S40244TT
*45	.0820	1-1/8	2-1/8	S40245TT
*46	.0810	1-1/8	2-1/8	S40246TT
*47	.0785	1	2	S40247TT
*48	.0760	1	2	S40248TT
*49	.0730	1	2	S40249TT
*50	.0700	1	2	S40250TT
*51	.0670	1	2	S40251TT
*52	.0635	7/8	1-7/8	S40252TT
*53	.0595	7/8	1-7/8	S40253TT
*54	.0550	7/8	1-7/8	S40254TT
*55	.0520	7/8	1-7/8	S40255TT
*56	.0465	3/4	1-3/4	S40256TT
*57	.0430	3/4	1-3/4	S40257TT
*58	.0420	11/16	1-5/8	S40258TT
*59	.0410	11/16	1-5/8	S40259TT
*60	.0400	11/16	1-5/8	S40260TT

* #32 - #60 drills do not have a split point

SETS

QTY.	SIZES	ECO PRO STOCK #
13 Pc.	1/16" - 1/4" by 64ths	S40194TT
15 Pc.	1/16" - 1/2" by 32nds	S40193TT
21 Pc.	1/16" - 3/8" by 64ths	S40192TT
29 Pc.	1/16" - 1/2" by 64ths	S40190TT
60 Pc.	#1 - #60	S40191TT
29 Pc.	Drill Mug 1/16" - 1/2" by 64ths	S40190TTDM

- **ECO PRO** drills are made outside the United States to ALFA TOOLS' specifications.

3-Flatted Shank Jobber Drills - Heavy Duty

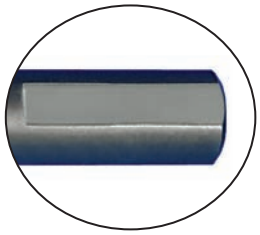
High-Speed Steel
Right Hand Cut

MADE IN U. S. A.

3-Flat Shank Design
(On 3/16" and Larger)
135° Split Point
Black Oxide Finish

Features:

- 3 flats on shank make drills suitable for positive chucking in keyless and regular chucks.
- 135° split point enables instantaneous penetration.
- Drills specially designed for Contractor / MRO use of cordless and handheld machines in difficult working conditions.



FRACTIONAL

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK #
*1/16	.0625	7/8	1-7/8	SFL50101
*5/64	.0781	1	2	SFL50102
*3/32	.0938	1-1/4	2-1/4	SFL50103
*7/64	.1094	1-1/2	2-5/8	SFL50104
*1/8	.1250	1-5/8	2-3/4	SFL50105
*9/64	.1406	1-3/4	2-7/8	SFL50106
*5/32	.1562	2	3-1/8	SFL50107
*11/64	.1719	2-1/8	3-1/4	SFL50108
3/16	.1875	2-5/16	3-1/2	SFL50109
13/64	.2031	2-7/16	3-5/8	SFL50110
7/32	.2188	2-1/2	3-3/4	SFL50111
15/64	.2344	2-5/8	3-7/8	SFL50112
1/4	.2500	2-3/4	4	SFL50113
17/64	.2656	2-7/8	4-1/8	SFL50114
9/32	.2812	2-15/16	4-1/4	SFL50115
19/64	.2969	3-1/16	4-3/8	SFL50116
5/16	.3125	3-3/16	4-1/2	SFL50117
21/64	.3281	3-5/16	4-5/8	SFL50118
11/32	.3438	3-7/16	4-3/4	SFL50119
23/64	.3594	3-1/2	4-7/8	SFL50120
3/8	.3750	3-5/8	5	SFL50121
25/64	.3906	3-3/4	5-1/8	SFL50122
13/32	.4062	3-7/8	5-1/4	SFL50123
27/64	.4219	3-15/16	5-3/8	SFL50124
7/16	.4375	4-1/16	5-1/2	SFL50125
29/64	.4531	4-3/16	5-5/8	SFL50126
15/32	.4688	4-5/16	5-3/4	SFL50127
31/64	.4844	4-3/8	5-7/8	SFL50128
1/2	.5000	4-1/2	6	SFL50129

1/16" to 5/16", 12 per envelope,
21/64" to 1/2", 6 per envelope

*sizes do not have flats on shank

SETS

QTY.	SIZES	ALFA USA STOCK #
13 Pc.	1/16" - 1/4" by 64ths	SFL50194
15 Pc.	1/16" - 1/2" by 32nds	SFL50193
21 Pc.	1/16" - 3/8" by 64ths	SFL50192
29 Pc.	1/16" - 1/2" by 64ths	SFL50190
29 Pc.	Drill Mug 1/16" - 1/2" by 64ths	SFL50190DM

Heavy Duty
NAS 907, Type J Standards

MADE IN U. S. A.

Jobber Length
135° Split Point
Straw Gold Finish

Features:

- Manufactured from heat-resistant cobalt M42 high-speed steel, these drills maintain their cutting ability at temperatures exceeding 1000°F.
- Their heat-resistant and heavy duty design enables use in the harder, high-tensile strength steels like stainless steel, titanium, armor plate, inconel and other difficult-to-machine materials.
- 135° self-centering split point reduces thrust.

FRACTIONAL

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK #
*1/64	.0156	3/16	3/4	CO50097
*1/32	.0312	1/2	1-3/8	CO50098
*3/64	.0469	3/4	1-3/4	CO50099
1/16	.0625	7/8	1-7/8	CO50101
5/64	.0781	1	2	CO50102
3/32	.0938	1-1/4	2-1/4	CO50103
7/64	.1094	1-1/2	2-5/8	CO50104
1/8	.1250	1-5/8	2-3/4	CO50105
9/64	.1406	1-3/4	2-7/8	CO50106
5/32	.1562	2	3-1/8	CO50107
11/64	.1719	2-1/8	3-1/4	CO50108
3/16	.1875	2-5/16	3-1/2	CO50109
13/64	.2031	2-7/16	3-5/8	CO50110
7/32	.2188	2-1/2	3-3/4	CO50111
15/64	.2344	2-5/8	3-7/8	CO50112
1/4	.2500	2-3/4	4	CO50113
17/64	.2656	2-7/8	4-1/8	CO50114
9/32	.2812	2-15/16	4-1/4	CO50115
19/64	.2969	3-1/16	4-3/8	CO50116
5/16	.3125	3-3/16	4-1/2	CO50117
21/64	.3281	3-5/16	4-5/8	CO50118
11/32	.3438	3-7/16	4-3/4	CO50119
23/64	.3594	3-1/2	4-7/8	CO50120
3/8	.3750	3-5/8	5	CO50121
25/64	.3906	3-3/4	5-1/8	CO50122
13/32	.4062	3-7/8	5-1/4	CO50123
27/64	.4219	3-15/16	5-3/8	CO50124
7/16	.4375	4-1/16	5-1/2	CO50125
29/64	.4531	4-3/16	5-5/8	CO50126
15/32	.4688	4-5/16	5-3/4	CO50127
31/64	.4844	4-3/8	5-7/8	CO50128
1/2	.5000	4-1/2	6	CO50129
Jobber Drills over 1/2"diameter have straight cylindrical shanks. For 1/2" Reduced Shank Drills, see Silver & Deming drills on page A40.				
33/64	.5156	4-13/16	6-5/8	CO50130
17/32	.5312	4-13/16	6-5/8	CO50131
35/64	.5469	4-13/16	6-5/8	CO50132
9/16	.5625	4-13/16	6-5/8	CO50133
37/64	.5781	4-13/16	6-5/8	CO50134
19/32	.5938	5-3/16	7-1/8	CO50135
39/64	.6094	5-3/16	7-1/8	CO50136
5/8	.6250	5-3/16	7-1/8	CO50137
41/64	.6406	5-3/16	7-1/8	CO50138
21/32	.6562	5-3/16	7-1/8	CO50139
43/64	.6719	5-5/8	7-5/8	CO50140
11/16	.6875	5-5/8	7-5/8	CO50141

1/64" to 5/16", 12 per envelope
21/64" to 1/2", 6 per envelope
33/64" and above, 1 per pack

*Smaller sizes than 1/16" have 135° points, not split.

LETTER

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK #
A	.234	2-5/8	3-7/8	CO60201
B	.238	2-3/4	4	CO60202
C	.242	2-3/4	4	CO60203
D	.246	2-3/4	4	CO60204
E	.250	2-3/4	4	CO60205
F	.257	2-7/8	4-1/8	CO60206
G	.261	2-7/8	4-1/8	CO60207
H	.266	2-7/8	4-1/8	CO60208
I	.272	2-7/8	4-1/8	CO60209
J	.277	2-7/8	4-1/8	CO60210
K	.281	2-15/16	4-1/4	CO60211
L	.290	2-15/16	4-1/4	CO60212
M	.295	3-1/16	4-3/8	CO60213
N	.302	3-1/16	4-3/8	CO60214
O	.316	3-3/16	4-1/2	CO60215
P	.323	3-5/16	4-5/8	CO60216
Q	.332	3-7/16	4-3/4	CO60217
R	.339	3-7/16	4-3/4	CO60218
S	.348	3-1/2	4-7/8	CO60219
T	.358	3-1/2	4-7/8	CO60220
U	.368	3-5/8	5	CO60221
V	.377	3-5/8	5	CO60222
W	.386	3-3/4	5-1/8	CO60223
X	.397	3-3/4	5-1/8	CO60224
Y	.404	3-7/8	5-1/4	CO60225
Z	.413	3-7/8	5-1/4	CO60226

A to N, 12 per envelope, O to Z, 6 per envelope

SETS

QTY.	SIZES	ALFA USA STOCK #
13 Pc.	1/16" - 1/4" by 64ths	CO50194
15 Pc.	1/16" - 1/2" by 32nds	CO50193
19 Pc.	1.0 mm - 10.0 mm by .5 mm	COM50198A
21 Pc.	1/16" - 3/8" by 64ths	CO50192
25 Pc.	1.0 mm - 13.0 mm by .5 mm	COM50198
29 Pc.	1/16" - 1/2" by 64ths	CO50190
26 Pc.	Letter A - Z	CO50197
60 Pc.	Wire Gage #1 - #60	CO50191
115 Pc.	1/16" - 1/2" by 64ths, A - Z, Wire Gage #1 - #60	CO50199
29 Pc.	Drill Mug 1/16" - 1/2" by 64ths	CO50190DM

Heavy Duty
NAS 907, Type J Standards

MADE IN U. S. A.

Jobber Length
135° Split Point
Straw Gold Finish

WIRE GAGE

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK #
1	.2280	2-5/8	3-7/8	CO60101
2	.2210	2-5/8	3-7/8	CO60102
3	.2130	2-1/2	3-3/4	CO60103
4	.2090	2-1/2	3-3/4	CO60104
5	.2055	2-1/2	3-3/4	CO60105
6	.2040	2-1/2	3-3/4	CO60106
7	.2010	2-7/16	3-5/8	CO60107
8	.1990	2-7/16	3-5/8	CO60108
9	.1960	2-7/16	3-5/8	CO60109
10	.1935	2-7/16	3-5/8	CO60110
11	.1910	2-5/16	3-1/2	CO60111
12	.1890	2-5/16	3-1/2	CO60112
13	.1850	2-5/16	3-1/2	CO60113
14	.1820	2-3/16	3-3/8	CO60114
15	.1800	2-3/16	3-3/8	CO60115
16	.1770	2-3/16	3-3/8	CO60116
17	.1730	2-3/16	3-3/8	CO60117
18	.1695	2-1/8	3-1/4	CO60118
19	.1660	2-1/8	3-1/4	CO60119
20	.1610	2-1/8	3-1/4	CO60120
21	.1590	2-1/8	3-1/4	CO60121
22	.1570	2	3-1/8	CO60122
23	.1540	2	3-1/8	CO60123
24	.1520	2	3-1/8	CO60124
25	.1495	1-7/8	3	CO60125
26	.1470	1-7/8	3	CO60126
27	.1440	1-7/8	3	CO60127
28	.1405	1-3/4	2-7/8	CO60128
29	.1360	1-3/4	2-7/8	CO60129
30	.1285	1-5/8	2-3/4	CO60130
31	.1200	1-5/8	2-3/4	CO60131
32	.1160	1-5/8	2-3/4	CO60132
33	.1130	1-1/2	2-5/8	CO60133
34	.1110	1-1/2	2-5/8	CO60134
35	.1100	1-1/2	2-5/8	CO60135
36	.1065	1-7/16	2-1/2	CO60136
37	.1040	1-7/16	2-1/2	CO60137
38	.1015	1-7/16	2-1/2	CO60138
39	.0995	1-3/8	2-3/8	CO60139
40	.0980	1-3/8	2-3/8	CO60140

1 to 80, 12 per envelope

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK #
41	.0960	1-3/8	2-3/8	CO60141
42	.0935	1-1/4	2-1/4	CO60142
43	.0890	1-1/4	2-1/4	CO60143
44	.0860	1-1/8	2-1/8	CO60144
45	.0820	1-1/8	2-1/8	CO60145
46	.0810	1-1/8	2-1/8	CO60146
47	.0785	1	2	CO60147
48	.0760	1	2	CO60148
49	.0730	1	2	CO60149
50	.0700	1	2	CO60150
51	.0670	1	2	CO60151
52	.0635	7/8	1-7/8	CO60152
***53**	.0595	7/8	1-7/8	CO60153
***54**	.0550	7/8	1-7/8	CO60154
***55**	.0520	7/8	1-7/8	CO60155
***56**	.0465	3/4	1-3/4	CO60156
***57**	.0430	3/4	1-3/4	CO60157
***58**	.0420	11/16	1-5/8	CO60158
***59**	.0410	11/16	1-5/8	CO60159
***60**	.0400	11/16	1-5/8	CO60160
***61**	.0390	11/16	1-5/8	CO60161
***62**	.0380	5/8	1-1/2	CO60162
***63**	.0370	5/8	1-1/2	CO60163
***64**	.0360	5/8	1-1/2	CO60164
***65**	.0350	5/8	1-1/2	CO60165
***66**	.0330	1/2	1-3/8	CO60166
***67**	.0320	1/2	1-3/8	CO60167
***68**	.0310	1/2	1-3/8	CO60168
***69**	.0292	1/2	1-3/8	CO60169
***70**	.0280	3/8	1-1/4	CO60170
***71**	.0260	3/8	1-1/4	CO60171
***72**	.0250	5/16	1-1/8	CO60172
***73**	.0240	5/16	1-1/8	CO60173
***74**	.0225	1/4	1	CO60174
***75**	.0210	1/4	1	CO60175
***76**	.0200	3/16	7/8	CO60176
***77**	.0180	3/16	7/8	CO60177
***78**	.0160	3/16	7/8	CO60178
***79**	.0145	1/8	3/4	CO60179
***80**	.0135	1/8	3/4	CO60180

* #53 - #80 drills do not have a split point

METRIC (ISO Length)

SIZE MM	FLUTE LENGTH MM	OAL MM	STOCK #
1.00	12	34	CO51914
1.50	18	40	CO51915
2.00	24	49	CO51916
2.50	30	57	CO51917
3.00	33	61	CO51918
3.50	39	70	CO51919
4.00	43	75	CO51920
4.50	47	80	CO51921
5.00	52	86	CO51922
5.50	57	93	CO51923
6.00	57	93	CO51924
6.50	63	101	CO51925
7.00	69	109	CO51926

SIZE MM	FLUTE LENGTH MM	OAL MM	STOCK #
7.50	69	109	CO51927
8.00	75	117	CO51928
8.50	75	117	CO51929
9.00	81	125	CO51930
9.50	81	125	CO51931
10.00	87	133	CO51932
10.50	87	133	CO51933
11.00	94	142	CO51934
11.50	94	142	CO51935
12.00	101	151	CO51936
12.50	101	151	CO51937
13.00	101	151	CO51938

1.00 to 8.00, 12 per envelope, 8.50 to 13.00, 6 per envelope

Super High-Speed Steel

Jobber Length
118° Point
Black Oxide

Features:
- Designed for general purpose drilling in a wide range of materials, equipment and operating conditions.
- Typical applications include drilling production parts, maintenance jobs and portable drilling.
- Drills are surface treated with a black oxide finish for added lubricity and improved chip flow.

SIZE MM	DECIMAL EQUIV.	FLUTE LENGTH		OVERALL LENGTH		ALFA USA	ECO PRO
		MM	INCHES	MM	INCHES	STOCK #	STOCK #
0.50	0.0197	5	3/16	22	7/8	MJ151904	MJ251904
0.55	0.0217	6	1/4	25	1	–	MJ251905
0.60	0.0236	8	5/16	29	1-1/8	MJ151906	MJ251906
0.65	0.0256	10	3/8	32	1-1/4	–	MJ251907
0.70	0.0276	10	3/8	32	1-1/4	MJ151908	MJ251908
0.75	0.0295	13	1/2	35	1-3/8	MJ151909	MJ251909
0.80	0.0315	13	1/2	35	1-3/8	MJ151910	MJ251910
0.85	0.0335	16	5/8	38	1-1/2	MJ151911	MJ251911
0.90	0.0354	16	5/8	38	1-1/2	MJ151912	MJ251912
0.95	0.0374	16	5/8	38	1-1/2	–	MJ251913
1.00	0.0394	18	11/16	41	1-5/8	MJ151914	MJ251914
1.05	0.0413	18	11/16	41	1-5/8	MJ151915	MJ251915
1.10	0.0433	19	3/4	44	1-3/4	MJ151916	MJ251916
1.15	0.0453	19	3/4	44	1-3/4	MJ151917	MJ251917
1.20	0.0472	22	7/8	48	1-7/8	MJ151918	MJ251918
1.25	0.0492	22	7/8	48	1-7/8	MJ151919	MJ251919
1.30	0.0512	22	7/8	48	1-7/8	MJ151920	MJ251920
1.35	0.0531	22	7/8	48	1-7/8	MJ151921	MJ251921
1.40	0.0551	22	7/8	48	1-7/8	MJ151922	MJ251922
1.45	0.0571	22	7/8	48	1-7/8	MJ151923	MJ251923
1.50	0.0591	22	7/8	48	1-7/8	MJ151924	MJ251924
1.55	0.0610	22	7/8	48	1-7/8	MJ151925	MJ251925
1.60	0.0630	22	7/8	48	1-7/8	MJ151926	MJ251926
1.65	0.0650	25	1	51	2	MJ151927	MJ251927
1.70	0.0669	25	1	51	2	MJ151928	MJ251928
1.75	0.0689	25	1	51	2	MJ151929	MJ251929
1.80	0.0709	25	1	51	2	MJ151930	MJ251930
1.85	0.0728	25	1	51	2	MJ151931	MJ251931
1.90	0.0748	25	1	51	2	MJ151932	MJ251932
1.95	0.0768	25	1	51	2	MJ151933	MJ251933
2.00	0.0787	25	1	51	2	MJ151934	MJ251934
2.05	0.0807	29	1-5/32	54	2-1/8	MJ151935	MJ251935
2.10	0.0827	29	1-5/32	54	2-1/8	MJ151936	MJ251936
2.15	0.0846	29	1-5/32	54	2-1/8	MJ151937	MJ251937
2.20	0.0866	32	1-1/4	57	2-1/4	MJ151938	MJ251938
2.25	0.0886	32	1-1/4	57	2-1/4	–	MJ251939
2.30	0.0906	32	1-1/4	57	2-1/4	MJ151940	MJ251940
2.35	0.0925	32	1-1/4	57	2-1/4	–	MJ251941
2.40	0.0945	35	1-3/8	60	2-23/64	MJ151942	MJ251942
2.45	0.0965	35	1-3/8	60	2-23/64	–	MJ251943
2.50	0.0984	35	1-3/8	60	2-23/64	MJ151944	MJ251944
2.55	0.1003	–	–	57	–	–	MJ251945
2.60	0.1024	37	1-29/64	64	2-1/2	MJ151946	MJ251946
2.70	0.1063	37	1-29/64	64	2-1/2	MJ151947	MJ251947
2.75	0.1083	38	1-1/2	67	2-5/8	–	MJ251948
2.80	0.1102	38	1-1/2	67	2-5/8	MJ151949	MJ251949
2.90	0.1142	41	1-5/8	70	2-3/4	MJ151950	MJ251950
3.00	0.1181	41	1-5/8	70	2-3/4	MJ151951	MJ251951
3.10	0.1220	41	1-5/8	70	2-3/4	MJ151952	MJ251952
3.20	0.1260	41	1-5/8	70	2-3/4	MJ151953	MJ251953
3.25	0.1280	41	1-5/8	70	2-3/4	MJ151954	MJ251954
3.30	0.1299	45	1-3/4	73	2-7/8	MJ151955	MJ251955
3.40	0.1339	45	1-3/4	73	2-7/8	MJ151956	MJ251956
3.50	0.1378	45	1-3/4	73	2-7/8	MJ151957	MJ251957
3.60	0.1417	48	1-7/8	76	3	MJ151958	MJ251958
3.70	0.1457	48	1-7/8	76	3	MJ151959	MJ251959
3.75	0.1476	48	1-7/8	76	3	MJ151960	MJ251960
3.80	0.1496	48	1-7/8	76	3	MJ151961	MJ251961
3.90	0.1535	51	2	79	3-1/8	MJ151962	MJ251962
4.00	0.1575	54	2-1/8	83	3-1/4	MJ151963	MJ251963
4.10	0.1614	54	2-1/8	83	3-1/4	MJ151964	MJ251964

.50 to 8.00, 12 per envelope, 8.10 to 13.00, 6 per envelope

MADE IN U. S. A. • **ALFA USA** drills are made in the United States.

• **ECO PRO** drills are made outside the United States to ALFA TOOLS' specifications.

Super High-Speed Steel

Jobber Length
118° Point
Black Oxide

SIZE MM	DECIMAL EQUIV.	FLUTE LENGTH		OVERALL LENGTH		ALFA USA	ECO PRO
		MM	INCHES	MM	INCHES	STOCK #	STOCK #
4.20	0.1654	54	2-1/8	83	3-1/4	MJ151965	MJ251965
4.25	0.1673	54	2-1/8	83	3-1/4	–	MJ251966
4.30	0.1693	54	2-1/8	83	3-1/4	MJ151967	MJ251967
4.40	0.1732	56	2-13/64	86	3-3/8	–	MJ251968
4.50	0.1772	56	2-13/64	86	3-3/8	MJ151969	MJ251969
4.60	0.1811	56	2-13/64	86	3-3/8	MJ151970	MJ251970
4.70	0.1850	59	2-21/64	89	3-1/2	MJ151971	MJ251971
4.75	0.1870	59	2-21/64	89	3-1/2	–	MJ251972
4.80	0.1890	59	2-21/64	89	3-1/2	MJ151973	MJ251973
4.90	0.1929	62	2-7/16	92	3-5/8	MJ151974	MJ251974
5.00	0.1969	62	2-7/16	92	3-5/8	MJ151975	MJ251975
5.10	0.2008	62	2-7/16	92	3-5/8	MJ151976	MJ251976
5.20	0.2047	64	2-1/2	95	3-3/4	MJ151977	MJ251977
5.25	0.2067	64	2-1/2	95	3-3/4	–	MJ251978
5.30	0.2087	64	2-1/2	95	3-3/4	MJ151979	MJ251979
5.40	0.2126	64	2-1/2	95	3-3/4	MJ151980	MJ251980
5.50	0.2165	64	2-1/2	95	3-3/4	MJ151981	MJ251981
5.60	0.2205	67	2-5/8	98	3-7/8	MJ151982	MJ251982
5.70	0.2244	67	2-5/8	98	3-7/8	MJ151983	MJ251983
5.75	0.2264	67	2-5/8	98	3-7/8	MJ151984	MJ251984
5.80	0.2283	67	2-5/8	98	3-7/8	MJ151985	MJ251985
5.90	0.2323	67	2-5/8	98	3-7/8	MJ151986	MJ251986
6.00	0.2362	70	2-3/4	102	4	MJ151987	MJ251987
6.10	0.2402	70	2-3/4	102	4	MJ151988	MJ251988
6.20	0.2441	70	2-3/4	102	4	MJ151989	MJ251989
6.25	0.2461	70	2-3/4	102	4	MJ151990	MJ251990
6.30	0.2480	70	2-3/4	102	4	MJ151991	MJ251991
6.40	0.2520	73	2-7/8	105	4-1/8	MJ151992	MJ251992
6.50	0.2559	73	2-7/8	105	4-1/8	MJ151993	MJ251993
6.60	0.2598	73	2-7/8	105	4-1/8	MJ151994	MJ251994
6.70	0.2638	73	2-7/8	105	4-1/8	MJ151995	MJ251995
6.75	0.2657	73	2-7/8	105	4-1/8	MJ151996	MJ251996
6.80	0.2677	73	2-7/8	105	4-1/8	MJ151997	MJ251997
6.90	0.2717	73	2-7/8	105	4-1/8	MJ151998	MJ251998
7.00	0.2756	73	2-7/8	105	4-1/8	MJ151999	MJ251999
7.10	0.2795	75	2-61/64	108	4-1/4	MJ152000	MJ252000
7.20	0.2835	75	2-61/64	108	4-1/4	MJ152001	MJ252001
7.25	0.2854	75	2-61/64	108	4-1/4	MJ152002	MJ252002
7.30	0.2874	75	2-61/64	108	4-1/4	MJ152003	MJ252003
7.40	0.2913	78	3	111	4-3/8	MJ152004	MJ252004
7.50	0.2953	78	3	111	4-3/8	MJ152005	MJ252005
7.60	0.2992	78	3	111	4-3/8	MJ152006	MJ252006
7.70	0.3031	81	3-3/16	114	4-1/2	MJ152007	MJ252007
7.75	0.3051	81	3-3/16	114	4-1/2	–	MJ252008
7.80	0.3071	81	3-3/16	114	4-1/2	MJ152009	MJ252009
7.90	0.3110	81	3-3/16	114	4-1/2	MJ152010	MJ252010
8.00	0.3150	81	3-3/16	114	4-1/2	MJ152011	MJ252011
8.10	0.3189	84	3-5/16	117	4-9/16	MJ152012	MJ252012
8.20	0.3228	84	3-5/16	117	4-9/16	MJ152013	MJ252013
8.25	0.3248	84	3-5/16	117	4-5/8	–	MJ252014
8.30	0.3268	84	3-5/16	117	4-9/16	MJ152015	MJ252015
8.40	0.3307	87	3-27/64	121	4-3/4	MJ152016	MJ252016
8.50	0.3346	87	3-27/64	121	4-3/4	MJ152017	MJ252017
8.60	0.3386	87	3-27/64	121	4-3/4	MJ152018	MJ252018
8.70	0.3425	87	3-27/64	121	4-3/4	MJ152019	MJ252019
8.75	0.3445	89	3-1/2	124	4-7/8	–	MJ252020
8.80	0.3465	89	3-1/2	124	4-7/8	MJ152021	MJ252021
8.90	0.3504	89	3-1/2	124	4-7/8	–	MJ252022
9.00	0.3543	89	3-1/2	124	4-7/8	MJ152023	MJ252023
9.10	0.3583	89	3-1/2	124	4-7/8	MJ152024	MJ252024
9.20	0.3622	92	3-5/8	127	5	MJ152025	MJ252025

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Super High-Speed Steel

Jobber Length
118° Point
Black Oxide

SIZE MM	DECIMAL EQUIV.	FLUTE LENGTH MM	FLUTE LENGTH INCHES	OVERALL LENGTH MM	OVERALL LENGTH INCHES	ALFA USA STOCK #	ECO PRO STOCK #
9.25	0.3642	92	3-5/8	127	5	–	MJ252026
9.30	0.3661	92	3-5/8	127	5	MJ152027	MJ252027
9.40	0.3701	92	3-5/8	127	5	MJ152028	MJ252028
9.50	0.3740	92	3-5/8	127	5	MJ152029	MJ252029
9.60	0.3780	95	3-3/4	130	5-1/8	MJ152030	MJ252030
9.70	0.3819	95	3-3/4	130	5-1/8	MJ152031	MJ252031
9.75	0.3839	95	3-3/4	130	5-1/8	–	MJ252032
9.80	0.3858	95	3-3/4	130	5-1/8	MJ152033	MJ252033
9.90	0.3898	95	3-3/4	130	5-1/8	MJ152034	MJ252034
10.00	0.3937	95	3-3/4	130	5-1/8	MJ152035	MJ252035
10.50	0.4134	98	3-7/8	133	5-15/64	MJ152036	MJ252036
11.00	0.4331	103	4-1/16	140	5-1/2	MJ152037	MJ252037
11.50	0.4528	106	4-7/32	143	5-5/8	MJ152038	MJ252038
12.00	0.4724	111	4-3/8	150	5-7/8	MJ152039	MJ252039
12.50	0.4921	114	4-1/2	152	6	MJ152040	MJ252040
13.00	0.5118	114	4-1/2	152	6	MJ152041	MJ252041

Jobber Drills over 13mm diameter have straight cylindrical shanks.
For 1/2" Reduced Shank Drills, see drills on page A41.

13.10	0.5187	114	4-1/2	152	6	–	MJ252042
13.20	0.5197	122	4-13/16	168	6-5/8	–	MJ252043
13.30	0.5236	122	4-13/16	168	6-5/8	–	MJ252044
13.40	0.5276	122	4-13/16	168	6-5/8	–	MJ252045
13.50	0.5315	122	4-13/16	168	6-5/8	–	MJ252046
13.60	0.5354	122	4-13/16	168	6-5/8	–	MJ252047
13.70	0.5394	122	4-13/16	168	6-5/8	–	MJ252048
13.75	0.5413	122	4-13/16	168	6-5/8	–	MJ252049
13.80	0.5433	122	4-13/16	168	6-5/8	–	MJ252050
13.90	0.5472	122	4-13/16	168	6-5/8	–	MJ252051
14.00	0.5512	122	4-13/16	168	6-5/8	–	MJ252052
14.25	0.5610	122	4-13/16	168	6-5/8	–	MJ252053
14.50	0.5709	122	4-13/16	168	6-5/8	–	MJ252054
14.75	0.5807	132	5-3/16	181	7-1/8	–	MJ252055
15.00	0.5906	132	5-3/16	181	7-1/8	–	MJ252056
15.25	0.6004	132	5-3/16	181	7-1/8	–	MJ252057
15.50	0.6102	132	5-3/16	181	7-1/8	–	MJ252058
15.75	0.6201	132	5-3/16	181	7-1/8	–	MJ252059
16.00	0.6299	132	5-3/16	181	7-1/8	–	MJ252060
16.25	0.6398	132	5-3/16	181	7-1/8	–	MJ252061
16.50	0.6496	132	5-3/16	181	7-1/8	–	MJ252062
16.75	0.6594	143	5-5/8	194	7-5/8	–	MJ252063
17.00	0.6693	143	5-5/8	194	7-5/8	–	MJ252064
17.25	0.6791	143	5-5/8	194	7-5/8	–	MJ252065
17.50	0.6890	143	5-5/8	194	7-5/8	–	MJ252066
17.75	0.6988	143	5-5/8	194	7-5/8	–	MJ252067
18.00	0.7087	143	5-5/8	194	7-5/8	–	MJ252068
18.25	0.7185	143	5-5/8	194	7-5/8	–	MJ252069
18.50	0.7283	143	5-5/8	194	7-5/8	–	MJ252070
18.75	0.7382	143	5-5/8	194	7-5/8	–	MJ252071
19.00	0.7480	143	5-5/8	194	7-5/8	–	MJ252072
19.25	0.7579	143	5-5/8	194	7-5/8	–	MJ252073
19.50	0.7677	143	5-5/8	194	7-5/8	–	MJ252074
19.75	0.7776	143	5-5/8	194	7-5/8	–	MJ252075
20.00	0.7874	143	5-5/8	194	7-5/8	–	MJ252076

8.10 to 13.00, 6 per envelope, 13.10 to 20, 1 per pack

SETS

QTY.	SIZES	ALFA USA STOCK #
19 Pc.	1.0 mm - 10.0 mm by .5 mm	MJ150198A
25 Pc.	1.0 mm - 13.0 mm by .5 mm	MJ150198

QTY.	SIZES	ECO PRO STOCK #
19 Pc.	1.0 mm - 10.0 mm by .5 mm	MJ250198A
25 Pc.	1.0 mm - 13.0 mm by .5 mm	MJ250198

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Pilot-Point® Jobber Drills

High-Speed Pilot-Point® Drills

Jobber Length
Parabolic Flute
3 Flats On Shank
Straw Gold Finish

Features:

- Drills up to four times faster than regular point drill bits.
- Drills precise, smooth holes without burrs.
- Minimizes walking – no center punch required.
- No binding or lock-up at break-through.
- Requires half the force of regular point drill bits.

FRACTIONAL

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	STOCK #
3/16	.1875	2-5/16	3-1/2	JD50109BD
13/64	.2031	2-7/16	3-5/8	JD50110BD
7/32	.2188	2-1/2	3-3/4	JD50111BD
15/64	.2344	2-5/8	3-7/8	JD50112BD
1/4	.2500	2-3/4	4	JD50113BD
17/64	.2656	2-7/8	4-1/8	JD50114BD
9/32	.2812	2-15/16	4-1/4	JD50115BD
19/64	.2969	3-1/16	4-3/8	JD50116BD
5/16	.3125	3-3/16	4-1/2	JD50117BD
21/64	.3281	3-5/16	4-5/8	JD50118BD
11/32	.3438	3-7/16	4-3/4	JD50119BD
23/64	.3594	3-1/2	4-7/8	JD50120BD
3/8	.3750	3-5/8	5	JD50121BD

3/16" to 5/16", 12 per envelope, 21/64" to 3/8", 6 per envelope

3/8" SHANK

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	STOCK #
25/64	.3906	3-3/4	5-1/8	RS51851BD
13/32	.4062	3-7/8	5-1/4	RS51853BD
27/64	.4219	3-15/16	5-3/8	RS51855BD
7/16	.4375	4-1/16	5-1/2	RS51857BD
29/64	.4531	4-3/16	5-5/8	RS51859BD
15/32	.4688	4-5/16	5-3/4	RS51861BD
31/64	.4844	4-3/8	5-7/8	RS51863BD
1/2	.5000	4-1/2	6	RS51865BD

25/64" to 1/2", 6 per envelope

RS50186BD

HSS BULLET PILOT-POINT® DRILL SET

IN METAL INDEX

QTY.	SIZES	STOCK #
29 Pc.	1/16" - 1/2" by 64ths	RS50186BD

Sizes 1/16" - 11/64" are 135º Split Pt.
Sizes 25/64" to 1/2" have 3/8" Shank

Cobalt Pilot-Point® Jobber Drills

Jobber Length
Parabolic Flute
3 Flats On Shank
Gold Finish

Features:

EU

- Manufactured from heat-resistant cobalt M42 high-speed steel to maintain cutting ability at temperatures exceeding 1000º F.
- For use in drilling stainless steel / hardened alloys.
- Drills precise, smooth holes without burrs.
- Requires half the force of regular point drill bits.

FRACTIONAL

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	STOCK #
3/16	.1875	2-5/16	3-1/2	JDCO50109BD
13/64	.2031	2-7/16	3-5/8	JDCO50110BD
7/32	.2188	2-1/2	3-3/4	JDCO50111BD
15/64	.2344	2-5/8	3-7/8	JDCO50112BD
1/4	.2500	2-3/4	4	JDCO50113BD
5/16	.3125	3-3/16	4-1/2	JDCO50117BD
3/8	.3750	3-5/8	5	JDCO50121BD

3/16" to 5/16", 12 per envelope, 3/8", 6 per envelope

3/8" SHANK

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	STOCK #
7/16	.4375	4-1/16	5-1/2	RSCO51857BD
1/2	.5000	4-1/2	6	RSCO51865BD

6 per envelope

Super High-Speed Steel
Left Hand Spiral

MADE IN U. S. A.

Jobber Length
118° Point
Bright Finish

Features:
- Designed for use in left hand rotation.
- General purpose drill construction.
- Excellect for screw extractor applications.
- Features a left hand helix for screw machine applications where spindles rotate counter-clockwise.

FRACTIONAL

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK #
1/16	.0625	7/8	1-7/8	JDL50101
5/64	.0781	1	2	JDL50102
3/32	.0938	1-1/4	2-1/4	JDL50103
7/64	.1094	1-1/2	2-5/8	JDL50104
1/8	.1250	1-5/8	2-3/4	JDL50105
9/64	.1406	1-3/4	2-7/8	JDL50106
5/32	.1562	2	3-1/8	JDL50107
11/64	.1719	2-1/8	3-1/4	JDL50108
3/16	.1875	2-5/16	3-1/2	JDL50109
13/64	.2031	2-7/16	3-5/8	JDL50110
7/32	.2188	2-1/2	3-3/4	JDL50111
15/64	.2344	2-5/8	3-7/8	JDL50112
1/4	.2500	2-3/4	4	JDL50113
17/64	.2656	2-7/8	4-1/8	JDL50114
9/32	.2812	2-15/16	4-1/4	JDL50115

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK #
19/64	.2969	3-1/16	4-3/8	JDL50116
5/16	.3125	3-3/16	4-1/2	JDL50117
21/64	.3281	3-5/16	4-5/8	JDL50118
11/32	.3438	3-7/16	4-3/4	JDL50119
23/64	.3594	3-1/2	4-7/8	JDL50120
3/8	.3750	3-5/8	5	JDL50121
25/64	.3906	3-3/4	5-1/8	JDL50122
13/32	.4062	3-7/8	5-1/4	JDL50123
27/64	.4219	3-15/16	5-3/8	JDL50124
7/16	.4375	4-1/16	5-1/2	JDL50125
29/64	.4531	4-3/16	5-5/8	JDL50126
15/32	.4688	4-5/16	5-3/4	JDL50127
31/64	.4844	4-3/8	5-7/8	JDL50128
1/2	.5000	4-1/2	6	JDL50129

1/16" to 5/16", 12 per envelope, 21/64" to 1/2", 6 per envelope

EU

WIRE GAGE

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	STOCK #
1	.2280	2-5/8	3-7/8	JDL60101
2	.2210	2-5/8	3-7/8	JDL60102
3	.2130	2-1/2	3-3/4	JDL60103
4	.2090	2-1/2	3-3/4	JDL60104
5	.2055	2-1/2	3-3/4	JDL60105
6	.2040	2-1/2	3-3/4	JDL60106
7	.2010	2-7/16	3-5/8	JDL60107
8	.1990	2-7/16	3-5/8	JDL60108
9	.1960	2-7/16	3-5/8	JDL60109
10	.1935	2-7/16	3-5/8	JDL60110
11	.1910	2-5/16	3-1/2	JDL60111
12	.1890	2-5/16	3-1/2	JDL60112
13	.1850	2-5/16	3-1/2	JDL60113
14	.1820	2-3/16	3-3/8	JDL60114
15	.1800	2-3/16	3-3/8	JDL60115
16	.1770	2-3/16	3-3/8	JDL60116
17	.1730	2-3/16	3-3/8	JDL60117
18	.1695	2-1/8	3-1/4	JDL60118
19	.1660	2-1/8	3-1/4	JDL60119
20	.1610	2-1/8	3-1/4	JDL60120
21	.1590	2-1/8	3-1/4	JDL60121
22	.1570	2	3-1/8	JDL60122
23	.1540	2	3-1/8	JDL60123
24	.1520	2	3-1/8	JDL60124
25	.1495	1-7/8	3	JDL60125
26	.1470	1-7/8	3	JDL60126
27	.1440	1-7/8	3	JDL60127
28	.1405	1-3/4	2-7/8	JDL60128
29	.1360	1-3/4	2-7/8	JDL60129
30	.1285	1-5/8	2-3/4	JDL60130
31	.1200	1-5/8	2-3/4	JDL60131
32	.1160	1-5/8	2-3/4	JDL60132
33	.1130	1-1/2	2-5/8	JDL60133
34	.1110	1-1/2	2-5/8	JDL60134
35	.1100	1-1/2	2-5/8	JDL60135
36	.1065	1-7/16	2-1/2	JDL60136
37	.1040	1-7/16	2-1/2	JDL60137
38	.1015	1-7/16	2-1/2	JDL60138
39	.0995	1-3/8	2-3/8	JDL60139
40	.0980	1-3/8	2-3/8	JDL60140

1 to 60, 12 per envelope

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	STOCK #
41	.0960	1-3/8	2-3/8	JDL60141
42	.0935	1-1/4	2-1/4	JDL60142
43	.0890	1-1/4	2-1/4	JDL60143
44	.0860	1-1/8	2-1/8	JDL60144
45	.0820	1-1/8	2-1/8	JDL60145
46	.0810	1-1/8	2-1/8	JDL60146
47	.0785	1	2	JDL60147
48	.0760	1	2	JDL60148
49	.0730	1	2	JDL60149
50	.0700	1	2	JDL60150
51	.0670	1	2	JDL60151
52	.0635	7/8	1-7/8	JDL60152
53	.0595	7/8	1-7/8	JDL60153
54	.0550	7/8	1-7/8	JDL60154
55	.0520	7/8	1-7/8	JDL60155
56	.0465	3/4	1-3/4	JDL60156
57	.0430	3/4	1-3/4	JDL60157
58	.0420	11/16	1-5/8	JDL60158
59	.0410	11/16	1-5/8	JDL60159
60	.0400	11/16	1-5/8	JDL60160

SETS

QTY.	SIZES	ALFA USA STOCK #
13 Pc.	1/16" - 1/4" by 64ths	JDL50194
15 Pc.	1/16" - 1/2" by 32nds	JDL50193
21 Pc.	1/16" - 3/8" by 64ths	JDL50192
29 Pc.	1/16" - 1/2" by 64ths	JDL50190
60 Pc.	#1 - #60	JDL50191

Heavy Duty
NAS 907, Type J Standards
Left Hand Spiral

MADE IN U. S. A.

Jobber Length
135° Split Point
Straw Gold Finish

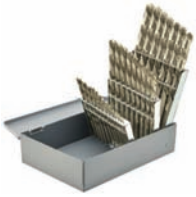
Features:

- Features a left hand helix for screw machine applications where spindles rotate counter-clockwise.
- Manufactured from heat-resistant cobalt M42 high-speed steel, these drills maintain their cutting ability at temperatures exceeding 1000°F.
- Heat-resistant and heavy duty design enables use in the harder, high-tensile strength steels like stainless steel, titanium, armor plate, inconel and other difficult-to-machine materials.

FRACTIONAL

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK #
1/16	.0625	7/8	1-7/8	JDLCO93101
5/64	.0781	1	2	JDLCO93102
3/32	.0938	1-1/4	2-1/4	JDLCO93103
7/64	.1094	1-1/2	2-5/8	JDLCO93104
1/8	.1250	1-5/8	2-3/4	JDLCO93105
9/64	.1406	1-3/4	2-7/8	JDLCO93106
5/32	.1562	2	3-1/8	JDLCO93107
11/64	.1719	2-1/8	3-1/4	JDLCO93108
3/16	.1875	2-5/16	3-1/2	JDLCO93109
13/64	.2031	2-7/16	3-5/8	JDLCO93110
7/32	.2188	2-1/2	3-3/4	JDLCO93111
15/64	.2344	2-5/8	3-7/8	JDLCO93112
1/4	.2500	2-3/4	4	JDLCO93113
17/64	.2656	2-7/8	4-1/8	JDLCO93114
9/32	.2812	2-15/16	4-1/4	JDLCO93115
19/64	.2969	3-1/16	4-3/8	JDLCO93116
5/16	.3125	3-3/16	4-1/2	JDLCO93117
21/64	.3281	3-5/16	4-5/8	JDLCO93118
11/32	.3438	3-7/16	4-3/4	JDLCO93119
23/64	.3594	3-1/2	4-7/8	JDLCO93120
3/8	.3750	3-5/8	5	JDLCO93121
25/64	.3906	3-3/4	5-1/8	JDLCO93122
13/32	.4062	3-7/8	5-1/4	JDLCO93123
27/64	.4219	3-15/16	5-3/8	JDLCO93124
7/16	.4375	4-1/16	5-1/2	JDLCO93125
29/64	.4531	4-3/16	5-5/8	JDLCO93126
15/32	.4688	4-5/16	5-3/4	JDLCO93127
31/64	.4844	4-3/8	5-7/8	JDLCO93128
1/2	.5000	4-1/2	6	JDLCO93129

1/16" to 5/16", 12 per envelope, 21/64" to 1/2", 6 per envelope



SETS

QTY.	SIZES	ALFA USA STOCK #
13 Pc.	1/16" - 1/4" by 64ths	JDLCO93194
15 Pc.	1/16" - 1/2" by 32nds	JDLCO93193
21 Pc.	1/16" - 3/8" by 64ths	JDLCO93192
29 Pc.	1/16" - 1/2" by 64ths	JDLCO93190

High-Speed Steel Body

MADE IN U. S. A.

Heavy Duty
Jobber Length
118° Point
Bright Finish

Features:

- Carbide tipped drills resist abrasion and retain edge sharpness.
- Recommended for drilling in cast iron, aluminum castings, hard plastics and other abrasive nonferrous materials.
- Should not be used in soft materials.

FRACTIONAL

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK #
7/64	.1094	1-5/8	2-3/4	T50104
1/8	.1250	1-5/8	2-3/4	T50105
9/64	.1406	1-3/4	2-7/8	T50106
5/32	.1562	2	3-1/8	T50107
11/64	.1719	2-1/8	3-1/4	T50108
3/16	.1875	2-5/16	3-1/2	T50109
13/64	.2031	2-7/16	3-5/8	T50110
7/32	.2188	2-1/2	3-3/4	T50111
15/64	.2344	2-5/8	3-7/8	T50112
1/4	.2500	2-3/4	4	T50113
17/64	.2656	2-7/8	4-1/8	T50114
9/32	.2812	2-15/16	4-1/4	T50115
19/64	.2969	3-1/16	4-3/8	T50116

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK #
5/16	.3125	3-3/16	4-1/2	T50117
21/64	.3281	3-5/16	4-5/8	T50118
11/32	.3438	3-7/16	4-3/4	T50119
23/64	.3594	3-1/2	4-7/8	T50120
3/8	.3750	3-5/8	5	T50121
25/64	.3906	3-3/4	5-1/8	T50122
13/32	.4062	3-7/8	5-1/4	T50123
27/64	.4219	3-15/16	5-3/8	T50124
7/16	.4375	4-1/16	5-1/2	T50125
29/64	.4531	4-3/16	5-5/8	T50126
15/32	.4688	4-5/16	5-3/4	T50127
31/64	.4844	4-3/8	5-7/8	T50128
1/2	.5000	4-1/2	6	T50129

1 per pack

LETTER

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK #
A	.234	2-5/8	3-7/8	T60201
B	.238	2-3/4	4	T60202
C	.242	2-3/4	4	T60203
D	.246	2-3/4	4	T60204
E	.250	2-3/4	4	T60205
F	.257	2-7/8	4-1/8	T60206
G	.261	2-7/8	4-1/8	T60207
H	.266	2-7/8	4-1/8	T60208
I	.272	2-7/8	4-1/8	T60209
J	.277	2-7/8	4-1/8	T60210
K	.281	2-15/16	4-1/4	T60211
L	.290	2-15/16	4-1/4	T60212
M	.295	3-1/16	4-3/8	T60213

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK #
N	.302	3-1/16	4-3/8	T60214
O	.316	3-3/16	4-1/2	T60215
P	.323	3-5/16	4-5/8	T60216
Q	.332	3-7/16	4-3/4	T60217
R	.339	3-7/16	4-3/4	T60218
S	.348	3-1/2	4-7/8	T60219
T	.358	3-1/2	4-7/8	T60220
U	.368	3-5/8	5	T60221
V	.377	3-5/8	5	T60222
W	.386	3-3/4	5-1/8	T60223
X	.397	3-3/4	5-1/8	T60224
Y	.404	3-7/8	5-1/4	T60225
Z	.413	3-7/8	5-1/4	T60226

1 per pack

WIRE GAGE

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK #
1	.2280	2-5/8	3-7/8	T60101
2	.2210	2-5/8	3-7/8	T60102
3	.2130	2-1/2	3-3/4	T60103
4	.2090	2-1/2	3-3/4	T60104
5	.2055	2-1/2	3-3/4	T60105
6	.2040	2-1/2	3-3/4	T60106
7	.2010	2-7/16	3-5/8	T60107
8	.1990	2-7/16	3-5/8	T60108
9	.1960	2-7/16	3-5/8	T60109
10	.1935	2-7/16	3-5/8	T60110
11	.1910	2-5/16	3-1/2	T60111
12	.1890	2-5/16	3-1/2	T60112
13	.1850	2-5/16	3-1/2	T60113
14	.1820	2-3/16	3-3/8	T60114
15	.1800	2-3/16	3-3/8	T60115
16	.1770	2-3/16	3-3/8	T60116

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK #
17	.1730	2-3/16	3-3/8	T60117
18	.1695	2-1/8	3-1/4	T60118
19	.1660	2-1/8	3-1/4	T60119
20	.1610	2-1/8	3-1/4	T60120
21	.1590	2-1/8	3-1/4	T60121
22	.1570	2	3-1/8	T60122
23	.1540	2	3-1/8	T60123
24	.1520	2	3-1/8	T60124
25	.1495	1-7/8	3	T60125
26	.1470	1-7/8	3	T60126
27	.1440	1-7/8	3	T60127
28	.1405	1-3/4	2-7/8	T60128
29	.1360	1-3/4	2-7/8	T60129
30	.1285	1-5/8	2-3/4	T60130
31	.1200	1-5/8	2-3/4	T60131
32	.1160	1-5/8	2-3/4	T60132

1 per pack

Carbide Tipped Die Drills

High-Speed Steel Body
Right Hand Cut

MADE IN U. S. A.

Straight Flute
118° Point

Features:

- Also known as a "Hard Steel Drill".
- Recommended for drilling hardened and case hardened steel over 45RC hardness.
- Can produce a reamer finish.
- Drill body diameter is smaller than the carbide tip to prevent material galling.

FRACTIONAL

CUTTING DIA.	DECIMAL EQUIV.	SHANK DIA.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK #
3/16	.1875	11/64	1-1/2	3-1/2	CDD10209
13/64	.2031	3/16	1-3/4	3-3/4	CDD10210
7/32	.2188	13/64	1-3/4	3-3/4	CDD10211
15/64	.2344	7/32	2	4	CDD10212
1/4	.2500	15/64	2	4	CDD10213
17/64	.2656	1/4	2-1/4	4-1/4	CDD10214
9/32	.2812	17/64	2-1/4	4-1/4	CDD10215
19/64	.2969	9/32	2-1/2	4-1/2	CDD10216
5/16	.3125	19/64	2-1/2	4-1/2	CDD10217
21/64	.3281	5/16	2-3/4	4-3/4	CDD10218
11/32	.3438	21/64	2-3/4	4-3/4	CDD10219
23/64	.3594	11/32	3	5	CDD10220
3/8	.3750	23/64	3	5	CDD10221
25/64	.3906	3/8	3	5-1/4	CDD10222
13/32	.4062	25/64	3	5-1/4	CDD10223
27/64	.4219	13/32	3	5-1/2	CDD10224
7/16	.4375	27/64	3	5-1/2	CDD10225

CUTTING DIA.	DECIMAL EQUIV.	SHANK DIA.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK #
29/64	.4531	7/16	3-1/4	5-3/4	CDD10226
15/32	.4688	29/64	3-1/4	5-3/4	CDD10227
31/64	.4844	15/32	3-1/2	6	CDD10228
1/2	.5000	15/32	3-1/2	6	CDD10229
17/32	.5312	1/2	3-1/2	6	CDD10231
9/16	.5625	17/32	3-1/2	6	CDD10233
19/32	.5938	9/16	4	7	CDD10235
5/8	.6250	19/32	4	7	CDD10237
21/32	.6562	5/8	4-1/2	7-1/2	CDD10239
11/16	.6875	21/32	4-1/2	7-1/2	CDD10241
23/32	.7188	11/16	4-3/4	8	CDD10243
3/4	.7500	23/32	4-3/4	8	CDD10245
13/16	.8125	25/32	4-3/4	8	CDD10247
7/8	.8750	27/32	4-3/4	8	CDD10249
15/16	.9375	29/32	4-3/4	8	CDD10251
1	1.0000	31/32	4-3/4	8	CDD10253

1 per pack

Drill Blanks

Super High-Speed Steel
Hardened & Ground, Bright Finish

Tolerance:

Up to 1/4" +.0000" – .0005"
1/4" to 25/64" +.0000" – .0009"
Over 13/32" +.0000" – .0010"

Features:

- Used as stock for small tools, drill blanks are often used as gauges to check hole size and drill bushing size or as guide pins for die sets.

FRACTIONAL

SIZE	OVERALL LENGTH	STOCK #
1/16	1-7/8	DB50101
5/64	2	DB50102
3/32	2-1/4	DB50103
7/64	2-5/8	DB50104
1/8	2-3/4	DB50105
9/64	2-7/8	DB50106
5/32	3-1/8	DB50107
11/64	3-1/4	DB50108
3/16	3-1/2	DB50109
13/64	3-5/8	DB50110
7/32	3-3/4	DB50111
15/64	3-7/8	DB50112
1/4	4	DB50113

SIZE	OVERALL LENGTH	STOCK #
17/64	4-1/8	DB50114
9/32	4-1/4	DB50115
19/64	4-3/8	DB50116
5/16	4-1/2	DB50117
21/64	4-5/8	DB50118
11/32	4-3/4	DB50119
23/64	4-7/8	DB50120
3/8	5	DB50121
25/64	5-1/8	DB50122
13/32	5-1/4	DB50123
27/64	5-3/8	DB50124
7/16	5-1/2	DB50125
29/64	5-5/8	DB50126

SIZE	OVERALL LENGTH	STOCK #
15/32	5-3/4	DB50127
31/64	5-7/8	DB50128
1/2	6	DB50129
9/16	6	DB50133
5/8	6	DB50137
11/16	6	DB50141
3/4	6	DB50145
13/16	6	DB50149
7/8	6	DB50153
15/16	6	DB50157
1	6	DB50161

1 per pack

Wire Gage & Letter Sizes are available. Details on request.

Super High-Speed Steel
NAS 907, Type C

MADE IN U. S. A.

Heavy Duty
135° Split Point
(Above 1/2" 118° Point)
Black Oxide

Features:
- Manufactured to National Aerospace Standard 907, Type C.
- Heavy duty construction and shorter length, performs well in stationary and portable drilling.
- Shorter flute and overall length increases the rigidity resulting in less deflection, better hole accuracy and longer tool life.
- 135° split point is self-centering and reduces thrust.
- Designed for drilling in a broad range of materials in the iron and steel families.

FRACTIONAL

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK #
135° POINT				
3/64	.0469	1/2	1-3/8	SM50200
1/16	.0625	5/8	1-5/8	SM50201
5/64	.0781	11/16	1-11/16	SM50202
3/32	.0938	3/4	1-3/4	SM50203
7/64	.1094	13/16	1-13/16	SM50204
1/8	.1250	7/8	1-7/8	SM50205
9/64	.1406	15/16	1-15/16	SM50206
5/32	.1562	1	2-1/16	SM50207
11/64	.1719	1-1/16	2-1/8	SM50208
3/16	.1875	1-1/8	2-3/16	SM50209
13/64	.2031	1-3/16	2-1/4	SM50210
7/32	.2188	1-1/4	2-3/8	SM50211
15/64	.2344	1-5/16	2-7/16	SM50212
1/4	.2500	1-3/8	2-1/2	SM50213
17/64	.2656	1-7/16	2-5/8	SM50214
9/32	.2812	1-1/2	2-11/16	SM50215
19/64	.2969	1-9/16	2-3/4	SM50216
5/16	.3125	1-5/8	2-13/16	SM50217
21/64	.3281	1-11/16	2-15/16	SM50218
11/32	.3438	1-11/16	3	SM50219
23/64	.3594	1-3/4	3-1/16	SM50220
3/8	.3750	1-13/16	3-1/8	SM50221
25/64	.3906	1-7/8	3-1/4	SM50222
13/32	.4062	1-15/16	3-5/16	SM50223
27/64	.4219	2	3-3/8	SM50224
7/16	.4375	2-1/16	3-7/16	SM50225
29/64	.4531	2-1/8	3-9/16	SM50226
15/32	.4688	2-1/8	3-5/8	SM50227
31/64	.4844	2-3/16	3-11/16	SM50228
1/2	.5000	2-1/4	3-3/4	SM50229

3/64" to 5/16",12 per envelope, 21/64" to 1/2", 6 per envelope, 33/64" to 2", 1 per pack

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK #
118° POINT				
33/64	.5156	2-3/8	3-7/8	SM50230
17/32	.5312	2-3/8	3-7/8	SM50231
35/64	.5469	2-1/2	4	SM50232
9/16	.5625	2-1/2	4	SM50233
37/64	.5781	2-5/8	4-1/8	SM50234
19/32	.5938	2-5/8	4-1/8	SM50235
39/64	.6094	2-3/4	4-1/4	SM50236
5/8	.6250	2-3/4	4-1/4	SM50237
41/64	.6406	2-7/8	4-1/2	SM50238
21/32	.6562	2-7/8	4-1/2	SM50239
43/64	.6719	2-7/8	4-5/8	SM50240
11/16	.6875	2-7/8	4-5/8	SM50241
45/64	.7031	3	4-3/4	SM50242
23/32	.7188	3	4-3/4	SM50243
47/64	.7344	3-1/8	5	SM50244
3/4	.7500	3-1/8	5	SM50245
49/64	.7656	3-1/4	5-1/8	SM50246
25/32	.7812	3-1/4	5-1/8	SM50247
51/64	.7969	3-3/8	5-1/4	SM50248
13/16	.8125	3-3/8	5-1/4	SM50249
53/64	.8281	3-1/2	5-3/8	SM50250
27/32	.8438	3-1/2	5-3/8	SM50251
55/64	.8594	3-1/2	5-1/2	SM50252
7/8	.8750	3-1/2	5-1/2	SM50253
57/64	.8906	3-5/8	5-5/8	SM50254
29/32	.9062	3-5/8	5-5/8	SM50255
59/64	.9219	3-3/4	5-3/4	SM50256
15/16	.9375	3-3/4	5-3/4	SM50257
61/64	.9531	3-7/8	5-7/8	SM50258
31/32	.9688	3-7/8	5-7/8	SM50259
63/64	.9844	4	6	SM50260
1	1.0000	4	6	SM50261
1-1/16	1.0625	4	6-1/4	SM50262
1-1/8	1.1250	4	6-3/8	SM50263
1-3/16	1.1875	4-1/4	6-5/8	SM50264
1-1/4	1.2500	4-3/8	6-3/4	SM50265

SETS

QTY.	SIZES	ALFA USA STOCK #
13 Pc.	1/16" - 1/4" by 64ths	SM50294
29 Pc.	1/16" - 1/2" by 64ths	SM50290
26 Pc.	Letter Sizes A - Z	SM50297
60 Pc.	Wire Gage #1 - #60	SM50291

Note Sizes:
33/64" to 1" have Straight Shank
1-1/16" to 1-1/4" have 1" Shank Dia.
1-5/16" to 1-1/2" have 1-1/4" Shank Dia.
1-9/16" to 2" have 1-1/2" Shank Dia.

Super High-Speed Steel
NAS 907, Type C

MADE IN U. S. A.

Heavy Duty
135° Split Point
Black Oxide

LETTER

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK #
A	.234	1-5/16	2-7/16	SM60401
B	.238	1-3/8	2-1/2	SM60402
C	.242	1-3/8	2-1/2	SM60403
D	.246	1-3/8	2-1/2	SM60404
E	.250	1-3/8	2-1/2	SM60405
F	.257	1-7/16	2-5/8	SM60406
G	.261	1-7/16	2-5/8	SM60407
H	.266	1-1/2	2-11/16	SM60408
I	.272	1-1/2	2-11/16	SM60409
J	.277	1-1/2	2-11/16	SM60410
K	.281	1-1/2	2-11/16	SM60411
L	.290	1-9/16	2-3/4	SM60412
M	.295	1-9/16	2-3/4	SM60413

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK #
N	.302	1-5/8	2-13/16	SM60414
O	.316	1-11/16	2-15/16	SM60415
P	.323	1-11/16	2-15/16	SM60416
Q	.332	1-11/16	3	SM60417
R	.339	1-11/16	3	SM60418
S	.348	1-3/4	3-1/16	SM60419
T	.358	1-3/4	3-1/16	SM60420
U	.368	1-13/16	3-1/8	SM60421
V	.377	1-7/8	3-1/4	SM60422
W	.386	1-7/8	3-1/4	SM60423
X	.397	1-15/16	3-5/16	SM60424
Y	.404	1-15/16	3-5/16	SM60425
Z	.413	2	3-3/8	SM60426

A to N, 12 per envelope, O to Z, 6 per envelope

WIRE GAGE

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK #
1	.2280	1-5/16	2-7/16	SM60301
2	.2210	1-5/16	2-7/16	SM60302
3	.2130	1-1/4	2-3/8	SM60303
4	.2090	1-1/4	2-3/8	SM60304
5	.2055	1-1/4	2-3/8	SM60305
6	.2040	1-1/4	2-3/8	SM60306
7	.2010	1-3/16	2-1/4	SM60307
8	.1990	1-3/16	2-1/4	SM60308
9	.1960	1-3/16	2-1/4	SM60309
10	.1935	1-3/16	2-1/4	SM60310
11	.1910	1-3/16	2-1/4	SM60311
12	.1890	1-3/16	2-1/4	SM60312
13	.1850	1-1/8	2-3/16	SM60313
14	.1820	1-1/8	2-3/16	SM60314
15	.1800	1-1/8	2-3/16	SM60315
16	.1770	1-1/8	2-3/16	SM60316
17	.1730	1-1/8	2-3/16	SM60317
18	.1695	1-1/16	2-1/8	SM60318
19	.1660	1-1/16	2-1/8	SM60319
20	.1610	1-1/16	2-1/8	SM60320
21	.1590	1-1/16	2-1/8	SM60321
22	.1570	1-1/16	2-1/8	SM60322
23	.1540	1	2-1/16	SM60323
24	.1520	1	2-1/16	SM60324
25	.1495	1	2-1/16	SM60325
26	.1470	1	2-1/16	SM60326
27	.1440	1	2-1/16	SM60327
28	.1405	15/16	1-15/16	SM60328
29	.1360	15/16	1-15/16	SM60329
30	.1285	15/16	1-15/16	SM60330

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK #
31	.1200	7/8	1-7/8	SM60331
32	.1160	7/8	1-7/8	SM60332
33	.1130	7/8	1-7/8	SM60333
34	.1110	7/8	1-7/8	SM60334
35	.1100	7/8	1-7/8	SM60335
36	.1065	13/16	1-13/16	SM60336
37	.1040	13/16	1-13/16	SM60337
38	.1015	13/16	1-13/16	SM60338
39	.0995	13/16	1-13/16	SM60339
40	.0980	13/16	1-13/16	SM60340
41	.0960	13/16	1-13/16	SM60341
42	.0935	3/4	1-3/4	SM60342
43	.0890	3/4	1-3/4	SM60343
44	.0860	3/4	1-3/4	SM60344
45	.0820	3/4	1-3/4	SM60345
46	.0810	3/4	1-3/4	SM60346
47	.0785	11/16	1-11/16	SM60347
48	.0760	11/16	1-11/16	SM60348
49	.0730	11/16	1-11/16	SM60349
50	.0700	11/16	1-11/16	SM60350
51	.0670	11/16	1-11/16	SM60351
52	.0635	11/16	1-11/16	SM60352
*53	.0595	5/8	1-5/8	SM60353
*54	.0550	5/8	1-5/8	SM60354
*55	.0520	5/8	1-5/8	SM60355
*56	.0465	1/2	1-3/8	SM60356
*57	.0430	1/2	1-3/8	SM60357
*58	.0420	1/2	1-3/8	SM60358
*59	.0410	1/2	1-3/8	SM60359
*60	.0400	1/2	1-3/8	SM60360

1 to 60, 12 per pack

* #53 - #60 drills do not have a split point

METRIC (ISO Length)

EU

SIZE MM	FLUTE LENGTH MM	OVERALL LENGTH MM	STOCK #
*1.00	6	26	SMM74401
2.00	12	38	SMM74410
2.50	14	43	SMM74415
3.00	16	46	SMM74420
3.50	20	52	SMM74425
4.00	22	55	SMM74430
4.50	24	58	SMM74435
5.00	26	62	SMM74440

SIZE MM	FLUTE LENGTH MM	OVERALL LENGTH MM	STOCK #
5.50	28	66	SMM74445
6.00	28	66	SMM74450
6.50	31	70	SMM74455
7.00	34	74	SMM74460
7.50	34	74	SMM74465
8.00	37	79	SMM74470
8.50	37	79	SMM74475
9.00	40	84	SMM74480

SIZE MM	FLUTE LENGTH MM	OVERALL LENGTH MM	STOCK #
9.50	40	84	SMM74485
10.00	43	89	SMM74490
10.50	43	89	SMM74495
11.00	47	95	SMM74500
11.50	47	95	SMM74505
12.00	51	102	SMM74510
12.50	51	102	SMM74515

1.00 to 8.00, 12 per envelope,
8.50 to 12.50, 6 per envelope.

*Not split point

MADE IN U. S. A.

Premium High-Speed Steel

Heavy Duty
135° Split Point
Black Oxide & Gold Finish

Features:
- Heavy duty construction and shorter length are good for stationary and portable drilling.
- Shorter flute and overall length increases the rigidity resulting in less deflection, better hole accuracy and longer tool life.
- The buttressed cutting edge, with an acute rake, makes the BLITZ BIT® cut cleanly and accurately with less effort. The extra clearance behind the side margin reduces friction, enabling balanced cutting action with closer hole tolerances, at higher speeds.

FRACTIONAL

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK #
1/16	.0625	5/8	1-5/8	BBSM50201
5/64	.0781	11/16	1-11/16	BBSM50202
3/32	.0938	3/4	1-3/4	BBSM50203
7/64	.1094	13/16	1-13/16	BBSM50204
1/8	.1250	7/8	1-7/8	BBSM50205
9/64	.1406	15/16	1-15/16	BBSM50206
5/32	.1562	1	2-1/16	BBSM50207
11/64	.1719	1-1/16	2-1/8	BBSM50208
3/16	.1875	1-1/8	2-3/16	BBSM50209
13/64	.2031	1-3/16	2-1/4	BBSM50210
7/32	.2188	1-1/4	2-3/8	BBSM50211
15/64	.2344	1-5/16	2-7/16	BBSM50212
1/4	.2500	1-3/8	2-1/2	BBSM50213
17/64	.2656	1-7/16	2-5/8	BBSM50214
9/32	.2812	1-1/2	2-11/16	BBSM50215

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK #
19/64	.2969	1-9/16	2-3/4	BBSM50216
5/16	.3125	1-5/8	2-13/16	BBSM50217
21/64	.3281	1-11/16	2-15/16	BBSM50218
11/32	.3438	1-11/16	3	BBSM50219
23/64	.3594	1-3/4	3-1/16	BBSM50220
3/8	.3750	1-13/16	3-1/8	BBSM50221
25/64	.3906	1-7/8	3-1/4	BBSM50222
13/32	.4062	1-15/16	3-5/16	BBSM50223
27/64	.4219	2	3-3/8	BBSM50224
7/16	.4375	2-1/16	3-7/16	BBSM50225
29/64	.4531	2-1/8	3-9/16	BBSM50226
15/32	.4688	2-1/8	3-5/8	BBSM50227
31/64	.4844	2-3/16	3-11/16	BBSM50228
1/2	.5000	2-1/4	3-3/4	BBSM50229

1/16" to 5/16", 12 per envelope, 21/64" to 1/2", 6 per envelope

WIRE GAGE

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK #
1	.2280	1-5/16	2-7/16	BBSM60301
2	.2210	1-5/16	2-7/16	BBSM60302
3	.2130	1-1/4	2-3/8	BBSM60303
4	.2090	1-1/4	2-3/8	BBSM60304
5	.2055	1-1/4	2-3/8	BBSM60305
6	.2040	1-1/4	2-3/8	BBSM60306
7	.2010	1-3/16	2-1/4	BBSM60307
8	.1990	1-3/16	2-1/4	BBSM60308
9	.1960	1-3/16	2-1/4	BBSM60309
10	.1935	1-3/16	2-1/4	BBSM60310
11	.1910	1-3/16	2-1/4	BBSM60311
12	.1890	1-3/16	2-1/4	BBSM60312
13	.1850	1-1/8	2-3/16	BBSM60313
14	.1820	1-1/8	2-3/16	BBSM60314
15	.1800	1-1/8	2-3/16	BBSM60315
16	.1770	1-1/8	2-3/16	BBSM60316
17	.1730	1-1/8	2-3/16	BBSM60317
18	.1695	1-1/16	2-1/8	BBSM60318
19	.1660	1-1/16	2-1/8	BBSM60319
20	.1610	1-1/16	2-1/8	BBSM60320

12 per envelope

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK #
21	.1590	1-1/16	2-1/8	BBSM60321
22	.1570	1-1/16	2-1/8	BBSM60322
23	.1540	1	2-1/16	BBSM60323
24	.1520	1	2-1/16	BBSM60324
25	.1495	1	2-1/16	BBSM60325
26	.1470	1	2-1/16	BBSM60326
27	.1440	1	2-1/16	BBSM60327
28	.1405	15/16	1-15/16	BBSM60328
29	.1360	15/16	1-15/16	BBSM60329
30	.1285	15/16	1-15/16	BBSM60330
31	.1200	7/8	1-7/8	BBSM60331
32	.1160	7/8	1-7/8	BBSM60332
33	.1130	7/8	1-7/8	BBSM60333
34	.1110	7/8	1-7/8	BBSM60334
35	.1100	7/8	1-7/8	BBSM60335
36	.1065	13/16	1-13/16	BBSM60336
37	.1040	13/16	1-13/16	BBSM60337
38	.1015	13/16	1-13/16	BBSM60338
39	.0995	13/16	1-13/16	BBSM60339
40	.0980	13/16	1-13/16	BBSM60340

SETS

QTY.	SIZES	ALFA USA STOCK #
13 Pc.	Metal Index 1/16" - 1/4" by 64ths	BBSM50194
29 Pc.	Metal Index 1/16" - 1/2" by 64ths	BBSM50190

Cobalt Screw Machine Length Drills

Cobalt M42 High-Speed Steel
NAS 907, Type J

MADE IN U. S. A.

Heavy Duty, 135° Split Point, Straw Gold Finish

Features:
- Manufactured from heat-resistant cobalt M42 high-speed steel, these drills maintain their cutting ability at temperatures exceeding 1000°F.
- Heat-resistant and heavy duty design enables use in the harder, high-tensile strength steels like stainless steel, titanium, armor plate, inconel and other difficult-to-machine materials.

FRACTIONAL

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK #
1/16	.0625	5/8	1-5/8	SMCO50201
5/64	.0781	11/16	1-11/16	SMCO50202
3/32	.0938	3/4	1-3/4	SMCO50203
7/64	.1094	13/16	1-13/16	SMCO50204
1/8	.1250	7/8	1-7/8	SMCO50205
9/64	.1406	15/16	1-15/16	SMCO50206
5/32	.1562	1	2-1/16	SMCO50207
11/64	.1719	1-1/16	2-1/8	SMCO50208
3/16	.1875	1-1/8	2-3/16	SMCO50209
13/64	.2031	1-3/16	2-1/4	SMCO50210
7/32	.2188	1-1/4	2-3/8	SMCO50211
15/64	.2344	1-5/16	2-7/16	SMCO50212
1/4	.2500	1-3/8	2-1/2	SMCO50213
17/64	.2656	1-7/16	2-5/8	SMCO50214
9/32	.2812	1-1/2	2-11/16	SMCO50215

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK #
19/64	.2969	1-9/16	2-11/16	SMCO50216
5/16	.3125	1-5/8	2-1316	SMCO50217
21/64	.3281	1-11/16	2-15/16	SMCO50218
11/32	.3438	1-11/16	3	SMCO50219
23/64	.3594	1-3/4	3-1/16	SMCO50220
3/8	.3750	1-13/16	3-1/8	SMCO50221
25/64	.3906	1-7/8	3-1/4	SMCO50222
13/32	.4062	1-15/16	3-5/16	SMCO50223
27/64	.4219	2	3-3/8	SMCO50224
7/16	.4375	2-1/16	3-7/16	SMCO50225
29/64	.4531	2-1/8	3-9/16	SMCO50226
15/32	.4688	2-1/8	3-5/8	SMCO50227
31/64	.4844	2-13/16	3-11/16	SMCO50228
1/2	.5000	2-1/4	3-3/4	SMCO50229

1/16" to 5/16", 12 per envelope, 21/64" to 1/2", 6 per envelope

LETTER

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK #
A	.234	1-5/16	2-7/16	SMCO60401
B	.238	1-3/8	2-1/2	SMCO60402
C	.242	1-3/8	2-1/2	SMCO60403
D	.246	1-3/8	2-1/2	SMCO60404
E	.250	1-3/8	2-1/2	SMCO60405
F	.257	1-7/16	2-5/8	SMCO60406
G	.261	1-7/16	2-5/8	SMCO60407
H	.266	1-1/2	2-11/16	SMCO60408
I	.272	1-1/2	2-11/16	SMCO60409
J	.277	1-1/2	2-11/16	SMCO60410
K	.281	1-1/2	2-11/16	SMCO60411
L	.290	1-9/16	2-3/4	SMCO60412
M	.295	1-9/16	2-3/4	SMCO60413

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK #
N	.302	1-5/8	2-13/16	SMCO60414
O	.316	1-11/16	2-15/16	SMCO60415
P	.323	1-11/16	2-15/16	SMCO60416
Q	.332	1-11/16	3	SMCO60417
R	.339	1-11/16	3	SMCO60418
S	.348	1-3/4	3-1/16	SMCO60419
T	.358	1-3/4	3-1/16	SMCO60420
U	.368	1-13/16	3-1/8	SMCO60421
V	.377	1-7/8	3-1/4	SMCO60422
W	.386	1-7/8	3-1/4	SMCO60423
X	.397	1-15/16	3-5/16	SMCO60424
Y	.404	1-15/16	3-5/16	SMCO60425
Z	.413	2	3-3/8	SMCO60426

A to N, 12 per envelope, O to Z, 6 per envelope

WIRE GAGE

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK #
1	.2280	1-5/16	2-7/16	SMCO60301
2	.2210	1-5/16	2-7/16	SMCO60302
3	.2130	1-1/4	2-3/8	SMCO60303
4	.2090	1-1/4	2-3/8	SMCO60304
5	.2055	1-1/4	2-3/8	SMCO60305
6	.2040	1-1/4	2-3/8	SMCO60306
7	.2010	1-3/16	2-1/4	SMCO60307
8	.1990	1-3/16	2-1/4	SMCO60308
9	.1960	1-3/16	2-1/4	SMCO60309
10	.1935	1-3/16	2-1/4	SMCO60310
11	.1910	1-3/16	2-1/4	SMCO60311
12	.1890	1-3/16	2-1/4	SMCO60312
13	.1850	1-1/8	2-3/16	SMCO60313
14	.1820	1-1/8	2-3/16	SMCO60314
15	.1800	1-1/8	2-3/16	SMCO60315
16	.1770	1-1/8	2-3/16	SMCO60316
17	.1730	1-1/8	2-3/16	SMCO60317
18	.1695	1-1/16	2-1/8	SMCO60318
19	.1660	1-1/16	2-1/8	SMCO60319
20	.1610	1-1/16	2-1/8	SMCO60320
21	.1590	1-1/16	2-1/8	SMCO60321
22	.1570	1-1/16	2-1/8	SMCO60322
23	.1540	1	2-1/16	SMCO60323
24	.1520	1	2-1/16	SMCO60324
25	.1495	1	2-1/16	SMCO60325
26	.1470	1	2-1/16	SMCO60326
27	.1440	1	2-1/16	SMCO60327
28	.1405	15/16	1-15/16	SMCO60328
29	.1360	15/16	1-15/16	SMCO60329
30	.1285	15/16	1-15/16	SMCO60330

12 per envelope

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK #
31	.1200	7/8	1-7/8	SMCO60331
32	.1160	7/8	1-7/8	SMCO60332
33	.1130	7/8	1-7/8	SMCO60333
34	.1110	7/8	1-7/8	SMCO60334
35	.1100	7/8	1-7/8	SMCO60335
36	.1065	13/16	1-13/16	SMCO60336
37	.1040	13/16	1-13/16	SMCO60337
38	.1015	13/16	1-13/16	SMCO60338
39	.0995	13/16	1-13/16	SMCO60339
40	.0980	13/16	1-13/16	SMCO60340
41	.0960	13/16	1-13/16	SMCO60341
42	.0935	3/4	1-3/4	SMCO60342
43	.0890	3/4	1-3/4	SMCO60343
44	.0860	3/4	1-3/4	SMCO60344
45	.0820	3/4	1-3/4	SMCO60345
46	.0810	3/4	1-3/4	SMCO60346
47	.0785	3/4	1-3/4	SMCO60347
48	.0760	11/16	1-11/16	SMCO60348
49	.0730	11/16	1-11/16	SMCO60349
50	.0700	11/16	1-11/16	SMCO60350
51	.0670	11/16	1-11/16	SMCO60351
52	.0635	11/16	1-11/16	SMCO60352
***53**	.0595	5/8	1-5/8	SMCO60353
***54**	.0550	5/8	1-5/8	SMCO60354
***55**	.0520	5/8	1-5/8	SMCO60355
***56**	.0465	1/2	1-3/8	SMCO60356
***57**	.0430	1/2	1-3/8	SMCO60357
***58**	.0420	1/2	1-3/8	SMCO60358
***59**	.0410	1/2	1-3/8	SMCO60359
***60**	.0400	1/2	1-3/8	SMCO60360

* #53 - #60 drills do not have a split point

High-Speed Steel
NAS 907, Type B

MADE IN U. S. A.

135° Split Point
With Jobber Flute Length
Black Oxide

Features:

- For drilling applications where extra length for reach is required.
- Flute length is the same as a standard jobber drill.
- 135° split point is self-centering and reduces thrust.

6" OVERALL LENGTH

FRACTIONAL

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OAL	STOCK # ENVELOPED	STOCK # POUCHED
*3/64	.0469	3/4	6	AE60600	AE60600P
1/16	.0625	7/8	6	AE60601	AE60601P
5/64	.0781	1	6	AE60602	AE60602P
3/32	.0938	1-1/4	6	AE60603	AE60603P
7/64	.1094	1-1/2	6	AE60604	AE60604P
1/8	.1250	1-5/8	6	AE60605	AE60605P
9/64	.1406	1-3/4	6	AE60606	AE60606P
5/32	.1562	2	6	AE60607	AE60607P
11/64	.1719	2-1/8	6	AE60608	AE60608P
3/16	.1875	2-5/16	6	AE60609	AE60609P
13/64	.2031	2-7/16	6	AE60610	AE60610P
7/32	.2188	2-1/2	6	AE60611	AE60611P
15/64	.2344	2-5/8	6	AE60612	AE60612P
1/4	.2500	2-3/4	6	AE60613	AE60613P
17/64	.2656	2-7/8	6	AE60614	AE60614P
9/32	.2812	2-15/16	6	AE60615	AE60615P
19/64	.2969	3-1/16	6	AE60616	AE60616P
5/16	.3125	3-3/16	6	AE60617	AE60617P
21/64	.3281	3-5/16	6	AE60618	AE60618P
11/32	.3438	3-7/16	6	AE60619	AE60619P
23/64	.3594	3-1/2	6	AE60620	AE60620P
3/8	.3750	3-5/8	6	AE60621	AE60621P
25/64	.3906	3-3/4	6	AE60622	AE60622P
13/32	.4062	3-7/8	6	AE60623	AE60623P
27/64	.4219	3-15/16	6	AE60624	AE60624P
7/16	.4375	4-1/16	6	AE60625	AE60625P
29/64	.4531	4-3/16	6	AE60626	AE60626P
15/32	.4688	4-5/16	6	AE60627	AE60627P
31/64	.4844	4-3/8	6	AE60628	AE60628P
1/2	.5000	4-1/2	6	AE60629	AE60629P

LETTER

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	STOCK #
A	.234	2-5/8	6	AE60685
B	.238	2-3/4	6	AE60686
C	.242	2-3/4	6	AE60687
D	.246	2-3/4	6	AE60688
E	.250	2-3/4	6	AE60689
F	.257	2-7/8	6	AE60690

WIRE GAGE

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	STOCK #
1	.2280	2-5/8	6	AE60641
2	.2210	2-5/8	6	AE60642
3	.2130	2-1/2	6	AE60643
4	.2090	2-1/2	6	AE60644
5	.2055	2-1/2	6	AE60645
6	.2040	2-1/2	6	AE60646
7	.2010	2-7/16	6	AE60647
8	.1990	2-7/16	6	AE60648
9	.1960	2-7/16	6	AE60649

3/64" to 1/4", 12 per envelope, 17/64" to 1/2", 6 per envelope,
A to F, 6 per envelope, #1 - #60, 12 per envelope

WIRE GAGE – Cont.

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	STOCK #
10	.1935	2-7/16	6	AE60650
11	.1910	2-5/16	6	AE60651
12	.1890	2-5/16	6	AE60652
13	.1850	2-5/16	6	AE60653
14	.1820	2-3/16	6	AE60654
15	.1800	2-3/16	6	AE60655
16	.1770	2-3/16	6	AE60656
17	.1730	2-3/16	6	AE60657
18	.1695	2-1/8	6	AE60658
19	.1660	2-1/8	6	AE60659
20	.1610	2-1/8	6	AE60660
21	.1590	2-1/8	6	AE60661
22	.1570	2	6	AE60662
23	.1540	2	6	AE60663
24	.1520	2	6	AE60664
25	.1495	1-7/8	6	AE60665
26	.1470	1-7/8	6	AE60666
27	.1440	1-7/8	6	AE60667
28	.1405	1-3/4	6	AE60668
29	.1360	1-3/4	6	AE60669
30	.1285	1-5/8	6	AE60670
31	.1200	1-5/8	6	AE60671
32	.1160	1-5/8	6	AE60672
33	.1130	1-1/2	6	AE60673
34	.1110	1-1/2	6	AE60674
35	.1100	1-1/2	6	AE60675
36	.1065	1-7/16	6	AE60676
37	.1040	1-7/16	6	AE60677
38	.1015	1-7/16	6	AE60678
39	.0995	1-3/8	6	AE60679
40	.0980	1-3/8	6	AE60680
41	.0960	1-3/8	6	AE60681
42	.0935	1-1/4	6	AE60682
43	.0890	1-1/4	6	AE60683
44	.0860	1-1/8	6	AE60684
45	.0820	1-1/8	6	AE60685A
46	.0810	1-1/8	6	AE60686A
47	.0785	1	6	AE60687A
48	.0760	1	6	AE60688A
49	.0730	1	6	AE60689A
50	.0700	1	6	AE60690A
51	.0670	1	6	AE60691
52	.0635	7/8	6	AE60692
*53	.0595	7/8	6	AE60693
*54	.0550	7/8	6	AE60694
*55	.0520	7/8	6	AE60695
*56	.0465	3/4	6	AE60696
*57	.0430	3/4	6	AE60697
*58	.0420	11/16	6	AE60698
*59	.0410	11/16	6	AE60699
*60	.0400	11/16	6	AE60700

*Not split point

High-Speed Steel
NAS 907, Type B

MADE IN U. S. A.

135° Split Point
With Jobber Flute Length
Black Oxide

Features:

- For drilling applications where extra length for reach is required.
- Flute length is the same as a standard jobber drill.
- 135° split point is self-centering and reduces thrust.

12" OVERALL LENGTH

FRACTIONAL

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OAL	STOCK # ENVELOPED	STOCK # POUCHED
*3/64	.0469	3/4	12	AE60700A	–
1/16	.0625	7/8	12	AE60701	AE60701P
5/64	.0781	1	12	AE60702	AE60702P
3/32	.0938	1-1/4	12	AE60703	AE60703P
7/64	.1094	1-1/2	12	AE60704	AE60704P
1/8	.1250	1-5/8	12	AE60705	AE60705P
9/64	.1406	1-3/4	12	AE60706	AE60706P
5/32	.1562	2	12	AE60707	AE60707P
11/64	.1719	2-1/8	12	AE60708	AE60708P
3/16	.1875	2-5/16	12	AE60709	AE60709P
13/64	.2031	2-7/16	12	AE60710	AE60710P
7/32	.2188	2-1/2	12	AE60711	AE60711P
15/64	.2344	2-5/8	12	AE60712	AE60712P
1/4	.2500	2-3/4	12	AE60713	AE60713P
17/64	.2656	2-7/8	12	AE60714	AE60714P
9/32	.2812	2-15/16	12	AE60715	AE60715P
19/64	.2969	3-1/16	12	AE60716	AE60716P
5/16	.3125	3-3/16	12	AE60717	AE60717P
21/64	.3281	3-5/16	12	AE60718	AE60718P
11/32	.3438	3-7/16	12	AE60719	AE60719P
23/64	.3594	3-1/2	12	AE60720	AE60720P
3/8	.3750	3-5/8	12	AE60721	AE60721P
25/64	.3906	3-3/4	12	AE60722	AE60722P
13/32	.4062	3-7/8	12	AE60723	AE60723P
27/64	.4219	3-15/16	12	AE60724	AE60724P
7/16	.4375	4-1/16	12	AE60725	AE60725P
29/64	.4531	4-3/16	12	AE60726	AE60726P
15/32	.4688	4-5/16	12	AE60727	AE60727P
31/64	.4844	4-3/8	12	AE60728	AE60728P
1/2	.5000	4-1/2	12	AE60729	AE60729P

LETTER

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	STOCK #
A	.234	2-5/8	12	AE60786
B	.238	2-3/4	12	AE60787
C	.242	2-3/4	12	AE60788
D	.246	2-3/4	12	AE60789
E	.250	2-3/4	12	AE60790
F	.257	2-7/8	12	AE60791

WIRE GAGE

1	.2280	2-5/8	12	AE60741
2	.2210	2-5/8	12	AE60742
3	.2130	2-1/2	12	AE60743
4	.2090	2-1/2	12	AE60744
5	.2055	2-1/2	12	AE60745
6	.2040	2-1/2	12	AE60746
7	.2010	2-7/16	12	AE60747
8	.1990	2-7/16	12	AE60748
9	.1960	2-7/16	12	AE60749

3/64" to 1/4", 6 per envelope, 17/64" to 1/2", 3 per envelope,
A to F, 6 per envelope, #1 - #60, 6 per envelope,

WIRE GAGE – Cont.

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	STOCK #
10	.1935	2-7/16	12	AE60750
11	.1910	2-5/16	12	AE60751
12	.1890	2-5/16	12	AE60752
13	.1850	2-5/16	12	AE60753
14	.1820	2-3/16	12	AE60754
15	.1800	2-3/16	12	AE60755
16	.1770	2-3/16	12	AE60756
17	.1730	2-3/16	12	AE60757
18	.1695	2-1/8	12	AE60758
19	.1660	2-1/8	12	AE60759
20	.1610	2-1/8	12	AE60760
21	.1590	2-1/8	12	AE60761
22	.1570	2	12	AE60762
23	.1540	2	12	AE60763
24	.1520	2	12	AE60764
25	.1495	1-7/8	12	AE60765
26	.1470	1-7/8	12	AE60766
27	.1440	1-7/8	12	AE60767
28	.1405	1-3/4	12	AE60768
29	.1360	1-3/4	12	AE60769
30	.1285	1-5/8	12	AE60770
31	.1200	1-5/8	12	AE60771
32	.1160	1-5/8	12	AE60772
33	.1130	1-1/2	12	AE60773
34	.1110	1-1/2	12	AE60774
35	.1100	1-1/2	12	AE60775
36	.1065	1-7/16	12	AE60776
37	.1040	1-7/16	12	AE60777
38	.1015	1-7/16	12	AE60778
39	.0995	1-3/8	12	AE60779
40	.0980	1-3/8	12	AE60780
41	.0960	1-3/8	12	AE60781
42	.0935	1-1/4	12	AE60782
43	.0890	1-1/4	12	AE60783
44	.0860	1-1/8	12	AE60784
45	.0820	1-1/8	12	AE60785
46	.0810	1-1/8	12	AE60786A
47	.0785	1	12	AE60787A
48	.0760	1	12	AE60788A
49	.0730	1	12	AE60789A
50	.0700	1	12	AE60790A
51	.0670	1	12	AE60791A
52	.0635	7/8	12	AE60792
*53	.0595	7/8	12	AE60793
*54	.0550	7/8	12	AE60794
*55	.0520	7/8	12	AE60795
*56	.0465	3/4	12	AE60796
*57	.0430	3/4	12	AE60797
*58	.0420	11/16	12	AE60798
*59	.0410	11/16	12	AE60799
*60	.0400	11/16	12	AE60800

*Not split point

Cobalt High-Speed Steel
NAS 907, Type J

135° Split Point
With Jobber Flute Length
Straw Gold Finish

Features:
- Manufactured to National Aerospace Standard 907.
- Made of heat-resistant Cobalt high-speed steel, these drills are ideal for drilling in tough, high-tensile strength materials, where extra length for reach is required.
- 135° split point is self-centering and reduces thrust.

6" OVERALL LENGTH

FRACTIONAL

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OAL	STOCK # ENVELOPED	STOCK # POUCHED
*1/16	.0625	7/8	6	AECO60601	AECO60601P
5/64	.0781	1	6	AECO60602	AECO60602P
3/32	.0938	1-1/4	6	AECO60603	AECO60603P
7/64	.1094	1-1/2	6	AECO60604	AECO60604P
1/8	.1250	1-5/8	6	AECO60605	AECO60605P
9/64	.1406	1-3/4	6	AECO60606	AECO60606P
5/32	.1562	2	6	AECO60607	AECO60607P
11/64	.1719	2-1/8	6	AECO60608	AECO60608P
3/16	.1875	2-5/16	6	AECO60609	AECO60609P
13/64	.2031	2-7/16	6	AECO60610	AECO60610P
7/32	.2188	2-1/2	6	AECO60611	AECO60611P
15/64	.2344	2-5/8	6	AECO60612	AECO60612P
1/4	.2500	2-3/4	6	AECO60613	AECO60613P

WIRE GAGE

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	STOCK #
1	.2280	2-5/8	6	AECO60631
2	.2210	2-5/8	6	AECO60632
3	.2130	2-1/2	6	AECO60633
4	.2090	2-1/2	6	AECO60634
5	.2055	2-1/2	6	AECO60635
6	.2040	2-1/2	6	AECO60636
7	.2010	2-7/16	6	AECO60637
8	.1990	2-7/16	6	AECO60638
9	.1960	2-7/16	6	AECO60639
10	.1935	2-7/16	6	AECO60640
11	.1910	2-5/16	6	AECO60641
12	.1890	2-5/16	6	AECO60642
13	.1850	2-5/16	6	AECO60643
14	.1820	2-3/16	6	AECO60644
15	.1800	2-3/16	6	AECO60645
16	.1770	2-3/16	6	AECO60646
17	.1730	2-3/16	6	AECO60647
18	.1695	2-1/8	6	AECO60648
19	.1660	2-1/8	6	AECO60649
20	.1610	2-1/8	6	AECO60650
21	.1590	2-1/8	6	AECO60651
22	.1570	2	6	AECO60652
23	.1540	2	6	AECO60653
24	.1520	2	6	AECO60654
25	.1495	1-7/8	6	AECO60655
26	.1470	1-7/8	6	AECO60656
27	.1440	1-7/8	6	AECO60657
28	.1405	1-3/4	6	AECO60658
29	.1360	1-3/4	6	AECO60659
30	.1285	1-5/8	6	AECO60660
31	.1200	1-5/8	6	AECO60661
32	.1160	1-5/8	6	AECO60662
33	.1130	1-1/2	6	AECO60663
34	.1110	1-1/2	6	AECO60664
35	.1100	1-1/2	6	AECO60665
36	.1065	1-7/16	6	AECO60666
37	.1040	1-7/16	6	AECO60667
38	.1015	1-7/16	6	AECO60668
39	.0995	1-3/8	6	AECO60669
40	.0980	1-3/8	6	AECO60670

1/16" to 1/4", 6 per envelope, #1 to #40, 6 per envelope

12" OVERALL LENGTH

FRACTIONAL

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OAL	STOCK # ENVELOPED	STOCK # POUCHED
1/16	.0625	7/8	12	AECO60701	AECO60701P
5/64	.0781	1	12	AECO60702	AECO60702P
3/32	.0938	1-1/4	12	AECO60703	AECO60703P
7/64	.1094	1-1/2	12	AECO60704	AECO60704P
1/8	.1250	1-5/8	12	AECO60705	AECO60705P
9/64	.1406	1-3/4	12	AECO60706	AECO60706P
5/32	.1562	2	12	AECO60707	AECO60707P
11/64	.1719	2-1/8	12	AECO60708	AECO60708P
3/16	.1875	2-5/16	12	AECO60709	AECO60709P
13/64	.2031	2-7/16	12	AECO60710	AECO60710P
7/32	.2188	2-1/2	12	AECO60711	AECO60711P
15/64	.2344	2-5/8	12	AECO60712	AECO60712P
1/4	.2500	2-3/4	12	AECO60713	AECO60713P

WIRE GAGE

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	STOCK #
1	.2280	2-5/8	12	AECO60731
2	.2210	2-5/8	12	AECO60732
3	.2130	2-1/2	12	AECO60733
4	.2090	2-1/2	12	AECO60734
5	.2055	2-1/2	12	AECO60735
6	.2040	2-1/2	12	AECO60736
7	.2010	2-7/16	12	AECO60737
8	.1990	2-7/16	12	AECO60738
9	.1960	2-7/16	12	AECO60739
10	.1935	2-7/16	12	AECO60740
11	.1910	2-5/16	12	AECO60741
12	.1890	2-5/16	12	AECO60742
13	.1850	2-5/16	12	AECO60743
14	.1820	2-3/16	12	AECO60744
15	.1800	2-3/16	12	AECO60745
16	.1770	2-3/16	12	AECO60746
17	.1730	2-3/16	12	AECO60747
18	.1695	2-1/8	12	AECO60748
19	.1660	2-1/8	12	AECO60749
20	.1610	2-1/8	12	AECO60750
21	.1590	2-1/8	12	AECO60751
22	.1570	2	12	AECO60752
23	.1540	2	12	AECO60753
24	.1520	2	12	AECO60754
25	.1495	1-7/8	12	AECO60755
26	.1470	1-7/8	12	AECO60756
27	.1440	1-7/8	12	AECO60757
28	.1405	1-3/4	12	AECO60758
29	.1360	1-3/4	12	AECO60759
30	.1285	1-5/8	12	AECO60760
31	.1200	1-5/8	12	AECO60761
32	.1160	1-5/8	12	AECO60762
33	.1130	1-1/2	12	AECO60763
34	.1110	1-1/2	12	AECO60764
35	.1100	1-1/2	12	AECO60765
36	.1065	1-7/16	12	AECO60766
37	.1040	1-7/16	12	AECO60767
38	.1015	1-7/16	12	AECO60768
39	.0995	1-3/8	12	AECO60769
40	.0980	1-3/8	12	AECO60770

1/16" to 1/4", 6 per envelope, #1 to #40, 6 per envelope

High-Speed Steel

Straight Shank,
118° Point
Black Oxide Finish

Features:
- For general purpose drilling in deep hole applications.
- Designed to perform in a broad range of materials in the iron and steel families.
- Due to the extra long lengths, these tools feature a heavy-duty construction to assure good performance.

8" OVERALL LENGTH

FRACTIONAL

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	STOCK #
1/8	.1250	5-1/2	8	LB60205
9/64	.1406	5-1/2	8	LB60206
5/32	.1562	5-1/2	8	LB60207
11/64	.1719	5-1/2	8	LB60208
3/16	.1875	5-1/2	8	LB60209
13/64	.2031	5-1/2	8	LB60210
7/32	.2188	5-1/2	8	LB60211
15/64	.2344	5-1/2	8	LB60212
1/4	.2500	5-1/2	8	LB60213
17/64	.2656	5-1/2	8	LB60214
9/32	.2812	5-1/2	8	LB60215
19/64	.2969	5-1/2	8	LB60216
5/16	.3125	5-1/2	8	LB60217
21/64	.3281	5-1/2	8	LB60218
11/32	.3438	5-1/2	8	LB60219
23/64	.3594	5-1/2	8	LB60220
3/8	.3750	5-1/2	8	LB60221
25/64	.3906	5-1/2	8	LB60222
13/32	.4062	5-1/2	8	LB60223
27/64	.4219	5-1/2	8	LB60224
7/16	.4375	5-1/2	8	LB60225
29/64	.4531	5-1/2	8	LB60226
15/32	.4688	5-1/2	8	LB60227
31/64	.4844	5-1/2	8	LB60228
1/2	.5000	5-1/2	8	LB60229

1/8" to 5/16", 6 per pack, 21/64" to 1/2", 3 per pack

12" OVERALL LENGTH

FRACTIONAL

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	STOCK #
1/8	.1250	9	12	LB60251
5/32	.1562	9	12	LB60253
3/16	.1875	9	12	LB60255
7/32	.2188	9	12	LB60257
1/4	.2500	9	12	LB60259
9/32	.2812	9	12	LB60261
5/16	.3125	9	12	LB60263
11/32	.3438	9	12	LB60265
3/8	.3750	9	12	LB60267
13/32	.4062	9	12	LB60269
7/16	.4375	9	12	LB60271
15/32	.4688	9	12	LB60273
1/2	.5000	9	12	LB60275
*9/16	.5625	9	12	LB60277
*5/8	.6250	9	12	LB60279

1/8" to 5/16", 6 per pack, 11/32" to 1/2", 3 per pack, 9/16" to 5/8", 1 per pack

***These sizes are straight shank**

18" OVERALL LENGTH

FRACTIONAL

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	STOCK #
1/4	.2500	13	18	LB60909
9/32	.2812	13	18	LB60911
5/16	.3125	13	18	LB60913
11/32	.3438	13	18	LB60915
3/8	.3750	13	18	LB60917
13/32	.4062	13	18	LB60919
7/16	.4375	13	18	LB60921
15/32	.4688	13	18	LB60923
1/2	.5000	13	18	LB60925
*9/16	.5625	13	18	LB60927
*5/8	.6250	13	18	LB60929

1 per pack
*These sizes are straight shank

12" Long Drills with 1/2" Shank

High-Speed Steel

1/2" Reduced Shank
3 Flat Shank Design
118° Point
Bright Finish

Features:
- 1/2" reduced shank for use where chuck capacity is limited to 1/2".
- For general purpose drilling in deep hole applications.
- Designed to perform in a broad range of materials in the iron and steel families.

12" OVERALL LENGTH

FRACTIONAL

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	STOCK #
*7/16	.4375	9	12	LB60940
1/2	.5000	9	12	LB60941
9/16	.5625	9	12	LB60942
5/8	.6250	9	12	LB60943
11/16	.6875	9	12	LB60944
3/4	.7500	9	12	LB60945
13/16	.8125	9	12	LB60946
7/8	.8750	9	12	LB60947
1	1.0000	9	12	LB60948
1-1/16	1.0625	9	12	LB60949
1-1/8	1.1250	9	12	LB60950
1-1/4	1.2500	9	12	LB60951

1 per pack *Has 7/16" Shank

Premium High-Speed Steel

Straight Shank, 118° Standard Point

Features:

- For general purpose drilling in operations that require a length longer than jobber drill length.
- Designed to perform well in a wide range of materials in the iron and steel families.

FRACTIONAL

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	STOCK #
1/16	.0625	1-3/4	3	TL50301
5/64	.0781	2	3-3/4	TL50302
3/32	.0938	2-1/4	4-1/4	TL50303
7/64	.1094	2-1/2	4-5/8	TL50304
1/8	.1250	2-3/4	5-1/8	TL50305
9/64	.1406	3	5-3/8	TL50306
5/32	.1562	3	5-3/8	TL50307
11/64	.1719	3-3/8	5-3/4	TL50308
3/16	.1875	3-3/8	5-3/4	TL50309
13/64	.2031	3-5/8	6	TL50310
7/32	.2188	3-5/8	6	TL50311
15/64	.2344	3-3/4	6-1/8	TL50312
1/4	.2500	3-3/4	6-1/8	TL50313
17/64	.2656	3-7/8	6-1/4	TL50314
9/32	.2812	3-7/8	6-1/4	TL50315
19/64	.2969	4	6-3/8	TL50316
5/16	.3125	4	6-3/8	TL50317
21/64	.3281	4-1/8	6-1/2	TL50318
11/32	.3438	4-1/8	6-1/2	TL50319
23/64	.3594	4-1/4	6-3/4	TL50320
3/8	.3750	4-1/4	6-3/4	TL50321
25/64	.3906	4-3/8	7	TL50322
13/32	.4062	4-3/8	7	TL50323
27/64	.4219	4-5/8	7-1/4	TL50324
7/16	.4375	4-5/8	7-1/4	TL50325
29/64	.4531	4-3/4	7-1/2	TL50326
15/32	.4688	4-3/4	7-1/2	TL50327
31/64	.4844	4-3/4	7-3/4	TL50328
1/2	.5000	4-3/4	7-3/4	TL50329
33/64	.5156	4-3/4	8	TL50330
17/32	.5312	4-3/4	8	TL50331

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	STOCK #
35/64	.5469	4-7/8	8-1/4	TL50332
9/16	.5625	4-7/8	8-1/4	TL50333
37/64	.5781	4-7/8	8-3/4	TL50334
19/32	.5938	4-7/8	8-3/4	TL50335
39/64	.6094	4-7/8	8-3/4	TL50336
5/8	.6250	4-7/8	8-3/4	TL50337
41/64	.6406	5-1/8	9	TL50338
21/32	.6562	5-1/8	9	TL50339
43/64	.6719	5-3/8	9-1/4	TL50340
11/16	.6875	5-3/8	9-1/4	TL50341
45/64	.7031	5-5/8	9-1/2	TL50342
23/32	.7188	5-5/8	9-1/2	TL50343
47/64	.7344	5-7/8	9-3/4	TL50344
3/4	.7500	5-7/8	9-3/4	TL50345
49/64	.7656	6	9-7/8	TL50346
25/32	.7812	6	9-7/8	TL50347
51/64	.7969	6-1/8	10	TL50348
13/16	.8125	6-1/8	10	TL50349
53/64	.8281	6-1/8	10	TL50350
27/32	.8438	6-1/8	10	TL50351
55/64	.8594	6-1/8	10	TL50352
7/8	.8750	6-1/8	10	TL50353
57/64	.8906	6-1/8	10	TL50354
29/32	.9062	6-1/8	10	TL50355
59/64	.9219	6-1/8	10-3/4	TL50356
15/16	.9375	6-1/8	10-3/4	TL50357
61/64	.9531	6-3/8	11	TL50358
31/32	.9688	6-3/8	11	TL50359
63/64	9844	6-3/8	11	TL50360
1	1.0000	6-3/8	11	TL50361

1/16" to 1/4", 12 per pack, 17/64" to 1/2", 6 per pack
33/64" and above, 1 per pack

WIRE GAGE

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	STOCK #
1	.2280	3-3/4	6-1/8	TL51301
2	.2210	3-3/4	6-1/8	TL51302
3	.2130	3-5/8	6	TL51303
4	.2090	3-5/8	6	TL51304
5	.2055	3-5/8	6	TL51305
6	.2040	3-5/8	6	TL51306
7	.2010	3-5/8	6	TL51307
8	.1990	3-5/8	6	TL51308
9	.1960	3-5/8	6	TL51309
10	.1935	3-5/8	6	TL51310
11	.1910	3-5/8	6	TL51311
12	.1890	3-5/8	6	TL51312
13	.1850	3-3/8	5-3/4	TL51313
14	.1820	3-3/8	5-3/4	TL51314
15	.1800	3-3/8	5-3/4	TL51315

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	STOCK #
16	.1770	3-3/8	5-3/4	TL51316
17	.1730	3-3/8	5-3/4	TL51317
18	.1695	3-3/8	5-3/4	TL51318
19	.1660	3-3/8	5-3/4	TL51319
20	.1610	3-3/8	5-3/4	TL51320
21	.1590	3-3/8	5-3/4	TL51321
22	.1570	3-3/8	5-3/4	TL51322
23	.1540	3	5-3/8	TL51323
24	.1520	3	5-3/8	TL51324
25	.1495	3	5-3/8	TL51325
26	.1470	3	5-3/8	TL51326
27	.1440	3	5-3/8	TL51327
28	.1405	3	5-3/8	TL51328
29	.1360	3	5-3/8	TL51329
30	.1285	3	5-3/8	TL51330

1 to 60, 12 per envelope

Continued

SETS

QTY.	SIZES	STOCK #
16 Pc.	Metal Index 33/64" - 3/4" by 64ths	TL50391
16 Pc.	49/64" - 1" by 64ths	TL50392
29 Pc.	1/16" - 1/2" by 64ths	TL50393

Taper Length Drills – Cont.

Premium High-Speed Steel

Straight Shank, 118° Standard Point

WIRE GAGE

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	STOCK #
31	.1200	2-3/4	5-1/8	TL51331
32	.1160	2-3/4	5-1/8	TL51332
33	.1130	2-3/4	5-1/8	TL51333
34	.1110	2-3/4	5-1/8	TL51334
35	.1100	2-3/4	5-1/8	TL51335
36	.1065	2-1/2	4-5/8	TL51336
37	.1040	2-1/2	4-5/8	TL51337
38	.1015	2-1/2	4-5/8	TL51338
39	.0995	2-1/2	4-5/8	TL51339
40	.0980	2-1/2	4-5/8	TL51340
41	.0960	2-1/2	4-5/8	TL51341
42	.0935	2-1/4	4-1/4	TL51342
43	.0890	2-1/4	4-1/4	TL51343
44	.0860	2-1/4	4-1/4	TL51344
45	.0820	2-1/4	4-1/4	TL51345

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	STOCK #
46	.0810	2-1/4	4-1/4	TL51346
47	.0785	2-1/4	4-1/4	TL51347
48	.0760	2	3-3/4	TL51348
49	.0730	2	3-3/4	TL51349
50	.0700	2	3-3/4	TL51350
51	.0670	2	3-3/4	TL51351
52	.0635	2	3-3/4	TL51352
53	.0595	1-3/4	3	TL51353
54	.0550	1-3/4	3	TL51354
55	.0520	1-3/4	3	TL51355
56	.0465	1-1/8	2-1/4	TL51356
57	.0430	1-1/8	2-1/4	TL51357
58	.0420	1-1/8	2-1/4	TL51358
59	.0410	1-1/8	2-1/4	TL51359
60	.0400	1-1/8	2-1/4	TL51360

1 to 60, 12 per envelope

Cobalt M42 Taper Length Drills

Heavy Duty

MADE IN U. S. A.

Straight Shank 135° Split Point

Features:
- Manufactured from heat-resistant cobalt M42 High-Speed steel to maintain cutting ability at temperatures exceeding 1000° F.
- 135° self-centering split point reduces thrust.
- Heavy duty construction for drilling in tough alloy steels, forgings & castings.

FRACTIONAL

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	STOCK #
1/16	.0625	1-3/4	3	TLCO50301
5/64	.0781	2	3-3/4	TLCO50302
3/32	.0938	2-1/4	4-1/4	TLCO50303
7/64	.1094	2-1/2	4-5/8	TLCO50304
1/8	.1250	2-3/4	5-1/8	TLCO50305
9/64	.1406	3	5-3/8	TLCO50306
5/32	.1562	3	5-3/8	TLCO50307
11/64	.1719	3-3/8	5-3/4	TLCO50308
3/16	.1875	3-3/8	5-3/4	TLCO50309
13/64	.2031	3-5/8	6	TLCO50310
7/32	.2188	3-5/8	6	TLCO50311
15/64	.2344	3-3/4	6-1/8	TLCO50312
1/4	.2500	3-3/4	6-1/8	TLCO50313
17/64	.2656	3-7/8	6-1/4	TLCO50314
9/32	.2812	3-7/8	6-1/4	TLCO50315
19/64	.2969	4	6-3/8	TLCO50316
5/16	.3125	4	6-3/8	TLCO50317
21/64	.3281	4-1/8	6-1/2	TLCO50318
11/32	.3438	4-1/8	6-1/2	TLCO50319
23/64	.3594	4-1/4	6-3/4	TLCO50320
3/8	.3750	4-1/4	6-3/4	TLCO50321
25/64	.3906	4-3/8	7	TLCO50322
13/32	.4062	4-3/8	7	TLCO50323

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	STOCK #
27/64	.4219	4-5/8	7-1/4	TLCO50324
7/16	.4375	4-5/8	7-1/4	TLCO50325
29/64	.4531	4-3/4	7-1/2	TLCO50326
15/32	.4688	4-3/4	7-1/2	TLCO50327
31/64	.4844	4-3/4	7-3/4	TLCO50328
1/2	.5000	4-3/4	7-3/4	TLCO50329
33/64*	.5156	4-3/4	8	TLCO50330
17/32*	.5312	4-3/4	8	TLCO50331
35/64*	.5469	4-7/8	8-1/4	TLCO50332
9/16*	.5625	4-7/8	8-1/4	TLCO50333
37/64*	.5781	4-7/8	8-3/4	TLCO50334
19/32*	.5938	4-7/8	8-3/4	TLCO50335
39/64*	.6094	4-7/8	8-3/4	TLCO50336
5/8*	.6250	4-7/8	8-3/4	TLCO50337
41/64*	.6406	5-1/8	9	TLCO50338
21/32*	.6562	5-1/8	9	TLCO50339
43/64*	.6719	5-3/8	9-1/4	TLCO50340
11/16*	.6875	5-3/8	9-1/4	TLCO50341
45/64*	.7031	5-5/8	9-1/2	TLCO50342
23/32*	.7188	5-5/8	9-1/2	TLCO50343
47/64*	.7344	5-7/8	9-3/4	TLCO50344
3/4*	.7500	5-7/8	9-3/4	TLCO50345

1/16" to 1/4", 12 per envelope, 17/64" to 1/2", 6 per envelope
33/64" & above, 1 per pack *33/64" to 3/4" have notched point

SETS

QTY.	SIZES	STOCK #
16 Pc.	Metal Index 33/64" - 3/4" by 64ths	TLCO50391
29 Pc.	Metal Index 1/16" - 1/2" by 64ths	TLCO50393

1/4" Reduced Shank Drills

High-Speed Steel

MADE IN U. S. A.

EU

Economy Length
118° Point
Black Oxide Finish

• Increased strength and rigidity due to short flute length.

FRACTIONAL ALFA USA

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK #
5/16	.3125	2-1/2	4	RS51807A
3/8	.3750	2-1/2	4	RS51815A
7/16	.4375	2-1/2	4	RS51823A
1/2	.5000	2-1/2	4	RS51831A

6 per envelope

Intermediate Length
118° Split Point
Bright Finish

• Flute length is approximately 20% shorter than jobber length, providing increased strength and rigidity.

FRACTIONAL ALFA USA

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK #
5/16	.3125	2-1/2	3-13/16	RS51835
3/8	.3750	2-7/8	4-1/4	RS51836
7/16	.4375	3-3/8	4-11/16	RS51837
1/2	.5000	3-5/8	5-1/16	RS51838

6 per envelope

Jobber Length
118° Point
Black Oxide Finish

• Expands the size capacity of a 1/4" portable drill chuck.

FRACTIONAL ECO PRO

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ECO PRO STOCK #
17/64	.2656	2-7/8	4-1/8	RS51801
9/32	.2812	2-15/16	4-1/4	RS51803
19/64	.2969	3-1/16	4-3/8	RS51805
5/16	.3125	3-3/16	4-1/2	RS51807
21/64	.3281	3-5/16	4-5/8	RS51809
11/32	.3438	3-7/16	4-3/4	RS51811
23/64	.3594	3-1/2	4-7/8	RS51813
3/8	.3750	3-5/8	5	RS51815
25/64	.3906	3-3/4	5-1/8	RS51817
13/32	.4062	3-7/8	5-1/4	RS51819
27/64	.4219	3-15/16	5-3/8	RS51821
7/16	.4375	4-1/16	5-1/2	RS51823
29/64	.4531	4-3/16	5-5/8	RS51825
15/32	.4688	4-5/16	5-3/4	RS51827
31/64	.4844	4-3/8	5-7/8	RS51829
1/2	.5000	4-1/2	6	RS51831

17/64" to 5/16", 12 per envelope, 21/64" to 1/2", 6 per envelope

SET

29 Pc. Drill Set 1/16" - 1/2" by 64ths

RS250187

Reduced Shank

A

Blitz Bits® - 3/8" Reduced Shank Drills

Engineered for heavy duty work, BLITZ BITS® are high performance drills for production as well as tough maintenance applications.

MADE IN U. S. A.

Premium High-Speed Steel

Mechanic's Length
135° Split Point, 3 Flats On Shank
Black Oxide & Gold Finish

FRACTIONAL

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK #
27/64	.4219	2-7/8	4-7/16	BBML74224R
7/16	.4375	2-15/16	4-1/2	BBML74225R
29/64	.4531	3	4-5/8	BBML74226R
15/32	.4688	3-1/8	4-3/4	BBML74227R
31/64	.4844	3-1/4	4-7/8	BBML74228R
1/2	.5000	3-3/8	5	BBML74229R

6 per envelope, Note: 25/64" and 13/32" fit into a 3/8" capacity chuck.

SETS

QTY.	SIZES	ALFA USA STOCK #
15 Pc.	1/16" - 1/2" by 32nds	BBML74293R
29 Pc.	1/16" - 1/2" by 64ths	BBML74290R

See page A73 for 29 Pc. Drill Mug Set

Premium High-Speed Steel

Jobber Length
135° Split Point
Black Oxide & Gold Finish

FRACTIONAL

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK #
25/64	.3906	3-3/4	5-1/8	BBRS74122
13/32	.4062	3-7/8	5-1/4	BBRS74123
27/64	.4219	3-15/16	5-3/8	BBRS74124
7/16	.4375	4-1/16	5-1/2	BBRS74125
29/64	.4531	4-3/16	5-5/8	BBRS74126
15/32	.4688	4-5/16	5-3/4	BBRS74127
31/64	.4844	4-3/8	5-7/8	BBRS74128
1/2	.5000	4-1/2	6	BBRS74129

6 per envelope

SETS

QTY.	SIZES	ALFA USA STOCK #
15 Pc.	1/16" - 1/2" by 32nds	BBRS74193
29 Pc.	1/16" - 1/2" by 64ths	BB74186

High-Speed Steel

MADE IN U. S. A.

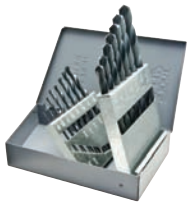
Jobber Length
118° Point
Black Oxide Finish

Features:
- General purpose drill with a conventional 118° point angle.
- Designed for drilling in a wide range of materials, equipment and operating conditions.
- Typical applications include drilling production parts, maintenance jobs and portable drilling.

FRACTIONAL

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK #
25/64	.3906	3-3/4	5-1/8	RS151851
13/32	.4062	3-7/8	5-1/4	RS151853
27/64	.4219	3-15/16	5-3/8	RS151855
7/16	.4375	4-1/16	5-1/2	RS151857
29/64	.4531	4-3/16	5-5/8	RS151859
15/32	.4688	4-5/16	5-3/4	RS151861
31/64	.4844	4-3/8	5-7/8	RS151863
1/2	.5000	4-1/2	6	RS151865

6 per envelope



SETS

QTY.	SIZES	ALFA USA STOCK #
15 Pc.	1/16" - 1/2" by 32nds	RS150193
29 Pc.	1/16" - 1/2" by 64ths	RS150186

High-Speed Steel Heavy Duty

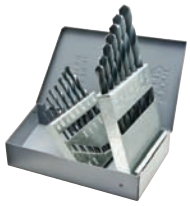
Jobber Length
135° Split Point
Black Oxide Finish

Features:
- Ideal for portable or machine drilling in low tensile strength alloy steels and for other applications.
- Meets all aircraft manufacturing standards and features a heavy duty 135° split point for self-centering and quick penetration.
- Heavy duty web geometry provides added rigidity to resist tensional strain when drilling up to three times the drill diameter.

FRACTIONAL

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK #
25/64	.3906	3-3/4	5-1/8	RSS151851
13/32	.4062	3-7/8	5-1/4	RSS151853
27/64	.4219	3-15/16	5-3/8	RSS151855
7/16	.4375	4-1/16	5-1/2	RSS151857
29/64	.4531	4-3/16	5-5/8	RSS151859
15/32	.4688	4-5/16	5-3/4	RSS151861
31/64	.4844	4-3/8	5-7/8	RSS151863
1/2	.5000	4-1/2	6	RSS151865

6 per envelope



SETS

QTY.	SIZES	ALFA USA STOCK #
15 Pc.	1/16" - 1/2" by 32nds	RSS150193
29 Pc.	1/16" - 1/2" by 64ths	RSS150186

Super High-Speed Steel

MADE IN U. S. A.

EU

1/2" Reduced Shank, Alfa USA, 118° Point 3 Flats On Shank Black Oxide Finish

Features:

- Silver and Deming drills are ideal for portable drilling and drill presses, where the maximum chuck capacity is 1/2".
- Precision ground for high degree of concentricity between shank and body diameter.
- Used extensively in machine shops, maintenance departments, garages and body shops.
- Also popular in screw machining centers where a short, rigid drill is desirable.

Not for enlarging existing holes.

FRACTIONAL

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK #
33/64	.5156	3-1/8	6	SD50400
17/32	.5312	3-1/8	6	SD50401
35/64	.5469	3-1/8	6	SD50402
9/16	.5625	3-1/8	6	SD50403
37/64	.5781	3-1/8	6	SD50404
19/32	.5938	3-1/8	6	SD50405
39/64	.6094	3-1/8	6	SD50406
5/8	.6250	3-1/8	6	SD50407
41/64	.6406	3-1/8	6	SD50408
21/32	.6562	3-1/8	6	SD50409
43/64	.6719	3-1/8	6	SD50410
11/16	.6875	3-1/8	6	SD50411
45/64	.7031	3-1/8	6	SD50412
23/32	.7188	3-1/8	6	SD50413
47/64	.7344	3-1/8	6	SD50414
3/4	.7500	3-1/8	6	SD50415
49/64	.7656	3-1/8	6	SD50416A
25/32	.7812	3-1/8	6	SD50416
51/64	.7969	3-1/8	6	SD50417A
13/16	.8125	3-1/8	6	SD50417
53/64	.8281	3-1/8	6	SD50418A
27/32	.8438	3-1/8	6	SD50418
55/64	.8594	3-1/8	6	SD50419A
7/8	.8750	3-1/8	6	SD50419
57/64	.8906	3-1/8	6	SD50420A
29/32	.9062	3-1/8	6	SD50420
59/64	.9219	3-1/8	6	SD50421A
15/16	.9375	3-1/8	6	SD50421
61/64	.9531	3-1/8	6	SD50422A
31/32	.9688	3-1/8	6	SD50422
63/64	.9844	3-1/8	6	SD50423A
1	1.0000	3-1/8	6	SD50423
1-1/64	1.0156	3-1/8	6	SD50424A
1-1/32	1.0312	3-1/8	6	SD50424
1-3/64	1.0469	3-1/8	6	SD50425A
1-1/16	1.0625	3-1/8	6	SD50425
1-5/64	1.0781	3-1/8	6	SD50426A
1-3/32	1.0938	3-1/8	6	SD50426
1-7/64	1.1094	3-1/8	6	SD50427A
1-1/8	1.1250	3-1/8	6	SD50427
1-9/64	1.1406	3-1/8	6	SD50428A
1-5/32	1.1562	3-1/8	6	SD50428
1-11/64	1.1719	3-1/8	6	SD50429A
1-3/16	1.1875	3-1/8	6	SD50429
1-13/64	1.2031	3-1/8	6	SD50430A
1-7/32	1.2188	3-1/8	6	SD50430
1-15/64	1.2344	3-1/8	6	SD50431A
1-1/4	1.2500	3-1/8	6	SD50431
1-9/32	1.2812	3-1/8	6	SD50432
1-5/16	1.3125	3-1/8	6	SD50433
1-11/32	1.3438	3-1/8	6	SD50434
1-3/8	1.3750	3-1/8	6	SD50435
1-25/64	1.3906	3-1/8	6	SD50436A
1-13/32	1.4062	3-1/8	6	SD50436
1-7/16	1.4375	3-1/8	6	SD50437
1-15/32	1.4688	3-1/8	6	SD50438
1-1/2	1.5000	3-1/8	6	SD50439

1 per pack

SETS

QTY.	SIZES	ALFA USA STOCK #
5 Pc.	Handy Roll 9/16", 5/8", 3/4", 7/8", 1"	SD50448R
8 Pc.	Molded Plastic Case 9/16" - 1" by 1/16ths	SD50449PL
8 Pc.	Metal Index 9/16" - 1" by 1/16ths	SD50449A
33 Pc.	Metal Stand 1/2" - 1" by 1/64ths	SD50450

MADE IN U. S. A.

Blitz Bits
Heavy Duty
Premium High-Speed Steel

1/2" Reduced Shank,
118° Split Point
3 Flats On Shank,
Black & Gold Finish

Features:

- Engineered for heavy duty work, BLITZ BITS are high performance drills for production and tough maintenance applications.
- Made from a premium grade of M-7 molybdenum high-speed steel, which has a special black and gold surface treatment to increase lubricity and reduce friction.
- Strong web construction provides greater strength and rigidity to drill in hard-to-drill materials like stainless steel and titanium alloys.
- Buttressed cutting edge, with an acute rake, makes the BLITZ BIT cut cleanly and accurately with less effort. The extra clearance behind the side margin reduces friction, enabling balanced cutting action with closer hole tolerances at higher speeds.
- Silver and Deming drills are ideal for portable drilling and drill presses, where the maximum chuck capacity is 1/2".

Not for enlarging existing holes.

FRACTIONAL

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK #
33/64	.5156	3-1/8	6	SDBB50400
17/32	.5312	3-1/8	6	SDBB50401
35/64	.5469	3-1/8	6	SDBB50402
9/16	.5625	3-1/8	6	SDBB50403
37/64	.5781	3-1/8	6	SDBB50404
19/32	.5938	3-1/8	6	SDBB50405
39/64	.6094	3-1/8	6	SDBB50406
5/8	.6250	3-1/8	6	SDBB50407
41/64	.6406	3-1/8	6	SDBB50408
21/32	.6562	3-1/8	6	SDBB50409
43/64	.6719	3-1/8	6	SDBB50410
11/16	.6875	3-1/8	6	SDBB50411
45/64	.7031	3-1/8	6	SDBB50412
23/32	.7188	3-1/8	6	SDBB50413
47/64	.7344	3-1/8	6	SDBB50414
3/4	.7500	3-1/8	6	SDBB50415
49/64	.7656	3-1/8	6	SDBB50416A
25/32	.7812	3-1/8	6	SDBB50416
51/64	.7969	3-1/8	6	SDBB50417A
13/16	.8125	3-1/8	6	SDBB50417
53/64	.8281	3-1/8	6	SDBB50418A
27/32	.8438	3-1/8	6	SDBB50418
55/64	.8594	3-1/8	6	SDBB50419A
7/8	.8750	3-1/8	6	SDBB50419
57/64	.8906	3-1/8	6	SDBB50420A
29/32	.9062	3-1/8	6	SDBB50420
59/64	.9219	3-1/8	6	SDBB50421A
15/16	.9375	3-1/8	6	SDBB50421
61/64	.9531	3-1/8	6	SDBB50422A
31/32	.9688	3-1/8	6	SDBB50422
63/64	.9844	3-1/8	6	SDBB50423A
1	1.0000	3-1/8	6	SDBB50423
1-1/16	1.0625	3-1/8	6	SDBB50425
1-1/8	1.1250	3-1/8	6	SDBB50427
1-3/16	1.1875	3-1/8	6	SDBB50429
1-1/4	1.2500	3-1/8	6	SDBB50431
1-5/16	1.3125	3-1/8	6	SDBB50433
1-3/8	1.3750	3-1/8	6	SDBB50435
1-7/16	1.4375	3-1/8	6	SDBB50437
1-1/2	1.5000	3-1/8	6	SDBB50439

1 per pack

SETS

QTY.	SIZES	ALFA USA STOCK #
8 Pc.	Metal Index 9/16" - 1" by 1/16ths	SDBB50449A
8 Pc.	Molded Plastic Case 9/16" - 1" by 1/16ths	SDBB50449PL
33 Pc.	Metal Stand 1/2" - 1" by 1/64ths	SDBB50450

Heavy Duty
Super High-Speed Steel

MADE IN U. S. A.

1/2" Reduced Shank,
118° Split Point
3 Flats On Shank,
Straw Gold Finish

Features:

- Manufactured from heat-resistant cobalt M42 high-speed steel to maintain cutting ability at temperatures exceeding 1000° F.
- Silver and Deming drills are ideal for portable drilling and drill presses, where the maximum chuck capacity is 1/2".
- Used extensively in machine shops, maintenance departments, garages and body shops.
- Also popular in screw machining centers where a short, rigid drill is desirable.

Not for enlarging existing holes.

FRACTIONAL

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK #
33/64	.5156	3-1/8	6	SDCO50400
17/32	.5312	3-1/8	6	SDCO50401
35/64	.5469	3-1/8	6	SDCO50402
9/16	.5625	3-1/8	6	SDCO50403
37/64	.5781	3-1/8	6	SDCO50404
19/32	.5938	3-1/8	6	SDCO50405
39/64	.6094	3-1/8	6	SDCO50406
5/8	.6250	3-1/8	6	SDCO50407
41/64	.6406	3-1/8	6	SDCO50408
21/32	.6562	3-1/8	6	SDCO50409
43/64	.6719	3-1/8	6	SDCO50410
11/16	.6875	3-1/8	6	SDCO50411
45/64	.7031	3-1/8	6	SDCO50412
23/32	.7188	3-1/8	6	SDCO50413
47/64	.7344	3-1/8	6	SDCO50414
3/4	.7500	3-1/8	6	SDCO50415
49/64	.7656	3-1/8	6	SDCO50416A
25/32	.7812	3-1/8	6	SDCO50416
51/64	.7969	3-1/8	6	SDCO50417A
13/16	.8125	3-1/8	6	SDCO50417
53/64	.8281	3-1/8	6	SDCO50418A
27/32	.8438	3-1/8	6	SDCO50418
55/64	.8594	3-1/8	6	SDCO50419A
7/8	.8750	3-1/8	6	SDCO50419
57/64	.8906	3-1/8	6	SDCO50420A
29/32	.9062	3-1/8	6	SDCO50420
59/64	.9219	3-1/8	6	SDCO50421A
15/16	.9375	3-1/8	6	SDCO50421
61/64	.9531	3-1/8	6	SDCO50422A
31/32	.9688	3-1/8	6	SDCO50422
63/64	.9844	3-1/8	6	SDCO50423A
1	1.0000	3-1/8	6	SDCO50423
1-1/16	1.0625	3-1/8	6	SDCO50425
1-1/8	1.1250	3-1/8	6	SDCO50427
1-3/16	1.1875	3-1/8	6	SDCO50429
1-1/4	1.2500	3-1/8	6	SDCO50431
1-5/16	1.3125	3-1/8	6	SDCO50433
1-3/8	1.3750	3-1/8	6	SDCO50435
1-7/16	1.4375	3-1/8	6	SDCO50437
1-1/2	1.5000	3-1/8	6	SDCO50439

1 per pack

SETS

QTY.	SIZES	ALFA USA STOCK #
8 Pc.	Metal Index 9/16" - 1" by 1/16ths	SDCO50449A
8 Pc.	Molded Plastic Case 9/16" - 1" by 1/16ths	SDCO50449PL
33 Pc.	Metal Stand 1/2" - 1" by 1/64ths	SDCO50450

Metric Silver & Deming Drills

Super High-Speed Steel

1/2" Reduced Shank 118° Point, Black Oxide

Not for enlarging existing holes.

Features:

- Ideal for portable drilling and drill presses, where the maximum chuck capacity is 1/2".
- Used extensively in machine shops, maintenance departments, garages and body shops.
- Also popular in screw machining centers where a short, rigid drill is desirable.

METRIC

SIZE MM	FLUTE LENGTH	OVERALL LENGTH	STOCK #
12.5	3"	6"	SDM50451
13.0	3"	6"	SDM50453
13.5	3"	6"	SDM50455
14.0	3"	6"	SDM50457
14.5	3"	6"	SDM50459
15.0	3"	6"	SDM50461
15.5	3"	6"	SDM50463
16.0	3"	6"	SDM50465
16.5	3"	6"	SDM50467
17.0	3"	6"	SDM50469
17.5	3"	6"	SDM50471
18.0	3"	6"	SDM50473
18.5	3"	6"	SDM50475
19.0	3"	6"	SDM50477
19.5	3"	6"	SDM50479
20.0	3"	6"	SDM50481
20.5	3"	6"	SDM50483
21.0	3"	6"	SDM50485
21.5	3"	6"	SDM50487
22.0	3"	6"	SDM50489
22.5	3"	6"	SDM50491
23.0	3"	6"	SDM50493
23.5	3"	6"	SDM50495
24.0	3"	6"	SDM50497
24.5	3"	6"	SDM50499
25.0	3"	6"	SDM50500
25.5	3"	6"	SDM50501
26.0	3"	6"	SDM50503
26.5	3"	6"	SDM50505
27.0	3"	6"	SDM50507
27.5	3"	6"	SDM50509
28.0	3"	6"	SDM50511
28.5	3"	6"	SDM50513
29.0	3"	6"	SDM50515
30.0	3"	6"	SDM50519
30.5	3"	6"	SDM50521
31.0	3"	6"	SDM50523

1 per pack

Carbide Tipped S & D Drills

Right Hand Cut

Silver & Deming 1/2" Reduced Shank 118° Point

Also called "Bowling Ball" drills

Features:

- Recommended for drilling carbon blocks, hard plastics, bakelite, stone, composites, brick and asphalt.
- Not recommended where precise hole sizing is required.
- Not recommended for drilling steel.

All sizes 1/2" (12.7 mm) shank.

FRACTIONAL

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK #
17/32	.5312	3-7/8"	6"	SDC50401
35/64	.5469	3-7/8"	6"	SDC50402
9/16	.5625	3-7/8"	6"	SDC50403
37/64	.5781	3-7/8"	6"	SDC50404
19/32	.5938	3-7/8"	6"	SDC50405
39/64	.6094	3-7/8"	6"	SDC50406
5/8	.6250	3-7/8"	6"	SDC50407
41/64	.6406	3-7/8"	6"	SDC50408
21/32	.6562	3-7/8"	6"	SDC50409
43/64	.6719	3-7/8"	6"	SDC50410
11/16	.6875	3-7/8"	6"	SDC50411
45/64	.7031	3-7/8"	6"	SDC50412
23/32	.7188	3-7/8"	6"	SDC50413
47/64	.7344	3-7/8"	6"	SDC50414
3/4	.7500	3-7/8"	6"	SDC50415
49/64	.7656	3-7/8"	6"	SDC50416
25/32	.7812	3-7/8"	6"	SDC50417
51/64	.7969	3-7/8"	6"	SDC50418
13/16	.8125	3-7/8"	6"	SDC50419
53/64	.8281	3-7/8"	6"	SDC50420
27/32	.8438	3-7/8"	6"	SDC50421
55/64	.8594	3-7/8"	6"	SDC50422
7/8	.8750	3-7/8"	6"	SDC50423
57/64	.8906	3-7/8"	6"	SDC50424
29/32	.9062	3-7/8"	6"	SDC50425
59/64	.9219	3-7/8"	6"	SDC50426
15/16	.9375	3-7/8"	6"	SDC50427
61/64	.9531	3-7/8"	6"	SDC50428
31/32	.9688	3-7/8"	6"	SDC50429
63/64	.9844	3-7/8"	6"	SDC50430
1	1.0000	3-7/8"	6"	SDC50431
1-1/16	1.0625	3-7/8"	6"	SDC50432
1-1/8	1.1250	3-7/8"	6"	SDC50433
1-1/4	1.2500	3-7/8"	6"	SDC50434
1-3/8	1.3750	3-7/8"	6"	SDC50435

1 per pack

3/4" Silver & Deming Drills

High-Speed Steel

3/4" Reduced Shank 118° Point, Black Oxide

Not for enlarging existing holes.

Features:

- Ideal for portable drilling and drill presses, where the maximum chuck capacity is 3/4".
- Used extensively in machine shops, maintenance departments, garages and body shops.
- Also popular in screw machining centers where a short, rigid drill is desirable.

FRACTIONAL

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	STOCK #
1	1.0000	3"	6"	RS52423
1-1/16	1.0625	3"	6"	RS52425
1-1/8	1.1250	3"	6"	RS52427
1-3/16	1.8750	3"	6"	RS52429
1-1/4	1.2500	3"	6"	RS52431
1-5/16	1.3125	3"	6"	RS52433
1-3/8	1.3750	3"	6"	RS52435
1-7/16	1.4375	3"	6"	RS52437
1-1/2	1.5000	3"	6"	RS52439

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	STOCK #
1-9/16	1.5625	3"	6"	RS52441
1-5/8	1.6250	3"	6"	RS52443
1-11/16	1.6875	3"	6"	RS52445
1-3/4	1.7500	3"	6"	RS52447
1-13/16	1.8125	3"	6"	RS52449
1-7/8	1.8750	3"	6"	RS52451
1-15/16	1.9375	3"	6"	RS52453
2	2.0000	3"	6"	RS52455

1 per pack

High-Speed Steel

118° Point
Black Oxide Finish
Morse Taper Shank

Features:
- Made to fit Morse tapered holders, taper shank drills are made to American National Standard dimensions.
- Designed to give maximum performance in drilling many different materials, under a wide range of applications.

FRACTIONAL
REGULAR TAPERS

SIZE	DECIMAL EQUIV.	MT	FLUTE LENGTH	OVERALL LENGTH	STOCK #
1/4	.2500	1	2-7/8	6-1/8	TS49993
17/64	.2656	1	3	6-1/4	TS49994
9/32	.2812	1	3	6-1/4	TS49995
19/64	.2969	1	3-1/8	6-3/8	TS49996
5/16	.3125	1	3-1/8	6-3/8	TS49997
21/64	.3281	1	3-1/4	6-1/2	TS49998
11/32	.3438	1	3-1/4	6-1/2	TS49999
23/64	.3594	1	3-1/2	6-3/4	TS50000
3/8	.3750	1	3-1/2	6-3/4	TS50001
25/64	.3906	1	3-5/8	7	TS50002
13/32	.4062	1	3-5/8	7	TS50003
27/64	.4219	1	3-7/8	7-1/4	TS50004
7/16	.4375	1	3-7/8	7-1/4	TS50005
29/64	.4531	1	4-1/8	7-1/2	TS50006
15/32	.4688	1	4-1/8	7-1/2	TS50007
31/64	.4844	1	4-3/8	8-1/4	TS50008
1/2	.5000	2	4-3/8	8-1/4	TS50009
33/64	.5156	2	4-5/8	8-1/2	TS50010
17/32	.5312	2	4-5/8	8-1/2	TS50011
35/64	.5469	2	4-7/8	8-3/4	TS50012
9/16	.5625	2	4-7/8	8-3/4	TS50013
37/64	.5781	2	4-7/8	8-3/4	TS50014
19/32	.5938	2	4-7/8	8-3/4	TS50015
39/64	.6094	2	4-7/8	8-3/4	TS50016
5/8	.6250	2	4-7/8	8-3/4	TS50017
41/64	.6406	2	5-1/8	9	TS50018
21/32	.6562	2	5-1/8	9	TS50019
43/64	.6719	2	5-3/8	9-1/4	TS50020
11/16	.6875	2	5-3/8	9-1/4	TS50021
45/64	.7031	2	5-5/8	9-1/2	TS50022
23/32	.7188	2	5-5/8	9-1/2	TS50023
47/64	.7344	2	5-7/8	9-3/4	TS50024
3/4	.7500	2	5-7/8	9-3/4	TS50025
49/64	.7656	2	6	9-7/8	TS50026
25/32	.7812	2	6	9-7/8	TS50027
51/64	.7969	3	6-1/8	10-3/4	TS50028
13/16	.8125	3	6-1/8	10-3/4	TS50029
53/64	.8281	3	6-1/8	10-3/4	TS50030
27/32	.8438	3	6-1/8	10-3/4	TS50031
55/64	.8594	3	6-1/8	10-3/4	TS50032
7/8	.8750	3	6-1/8	10-3/4	TS50033
57/64	.8906	3	6-1/8	10-3/4	TS50034
29/32	.9062	3	6-1/8	10-3/4	TS50035
59/64	.9219	3	6-1/8	10-3/4	TS50036
15/16	.9375	3	6-1/8	10-3/4	TS50037
61/64	.9531	3	6-3/8	11	TS50038
31/32	.9688	3	6-3/8	11	TS50039
63/64	.9844	3	6-3/8	11	TS50040
1	1.0000	3	6-3/8	11	TS50041
1-1/64	1.0156	3	6-1/2	11-1/8	TS50042

SIZE	DECIMAL EQUIV.	MT	FLUTE LENGTH	OVERALL LENGTH	STOCK #
1-1/32	1.0312	3	6-1/2	11-1/8	TS50043
1-3/64	1.0469	3	6-5/8	11-1/4	TS50044
1-1/16	1.0625	3	6-5/8	11-1/4	TS50045
1-5/64	1.0781	4	6-7/8	12-1/2	TS50046
1-3/32	1.0938	4	6-7/8	12-1/2	TS50047
1-7/64	1.1094	4	7-1/8	12-3/4	TS50048
1-1/8	1.1250	4	7-1/8	12-3/4	TS50049
1-9/64	1.1406	4	7-1/4	12-7/8	TS50050
1-5/32	1.1562	4	7-1/4	12-7/8	TS50051
1-11/64	1.1719	4	7-3/8	13	TS50052
1-3/16	1.1875	4	7-3/8	13	TS50053
1-13/64	1.2031	4	7-1/2	13-1/8	TS50054
1-7/32	1.2188	4	7-1/2	13-1/8	TS50055
1-15/64	1.2344	4	7-7/8	13-1/2	TS50056
1-1/4	1.2500	4	7-7/8	13-1/2	TS50057
1-17/64	1.2656	4	8-1/2	14-1/8	TS50058
1-9/32	1.2812	4	8-1/2	14-1/8	TS50059
1-19/64	1.2969	4	8-5/8	14-1/4	TS50060
1-5/16	1.3125	4	8-5/8	14-1/4	TS50061
1-21/64	1.3218	4	8-3/4	14-3/8	TS50062
1-11/32	1.3438	4	8-3/4	14-3/8	TS50063
1-23/64	1.3594	4	8-7/8	14-1/2	TS50064
1-3/8	1.3750	4	8-7/8	14-1/2	TS50065
1-25/64	1.3906	4	9	14-5/8	TS50066
1-13/32	1.4062	4	9	14-5/8	TS50067
1-27/64	1.4219	4	9-1/8	14-3/4	TS50068
1-7/16	1.4375	4	9-1/8	14-3/4	TS50069
1-29/64	1.4531	4	9-1/4	14-7/8	TS50070
1-15/32	1.4688	4	9-1/4	14-7/8	TS50071
1-31/64	1.4844	4	9-3/8	15	TS50072
1-1/2	1.5000	4	9-3/8	15	TS50073
1-17/32	1.5312	5	9-3/8	16-3/8	TS50074
1-9/16	1.5625	5	9-5/8	16-5/8	TS50075
1-19/32	1.5938	5	9-7/8	16-7/8	TS50076
1-5/8	1.6250	5	10	17	TS50077
1-21/32	1.6562	5	10-1/8	17-1/8	TS50078
1-11/16	1.6875	5	10-1/8	17-1/8	TS50079
1-23/32	1.7188	5	10-1/8	17-1/8	TS50080
1-47/64	1.7344	5	10-1/8	17-1/8	TS50080A
1-3/4	1.7500	5	10-1/8	17-1/8	TS50081
1-25/32	1.7812	5	10-1/8	17-1/8	TS50082
1-13/16	1.8125	5	10-1/8	17-1/8	TS50083
1-27/32	1.8438	5	10-1/8	17-1/8	TS50084
1-7/8	1.8750	5	10-3/8	17-3/8	TS50085
1-29/32	1.9062	5	10-3/8	17-3/8	TS50086
1-15/16	1.9375	5	10-3/8	17-3/8	TS50087
1-31/32	1.9688	5	10-3/8	17-3/8	TS50088
2	2.0000	5	10-3/8	17-3/8	TS50089
2-13/64	2.2031	5	10-1/8	17-3/8	TS50090
2-5/8	2.6250	5	11-7/8	19-1/2	TS50091

1 per pack

SETS

QTY.	SIZES	STOCK #
16 Pc.	Metal Index 33/64" - 3/4" by 64ths	TS50098
16 Pc.	Metal Index 49/64" - 1" by 64ths	TS50099

Taper Shank Drills - Cont.

High-Speed Steel

118° Point
Black Oxide Finish
Morse Taper Shank

FRACTIONAL
SMALLER / LARGER TAPERS

SIZE	DECIMAL EQUIV.	MT	FLUTE LENGTH	OVERALL LENGTH	STOCK #
3/8	.3750	2	3-1/2	7-3/8	TS50001A
25/64	.3906	2	3-5/8	7-1/2	TS50002A
13/32	.4062	2	3-5/8	7-1/2	TS50003A
27/64	.4219	2	3-7/8	7-3/4	TS50004A
7/16	.4375	2	3-7/8	7-3/4	TS50005A
29/64	.4531	2	4-1/8	8	TS50006A
15/32	.4688	2	4-1/8	8	TS50007A
31/64	.4844	1	4-3/8	7-3/4	TS50008A
1/2	.5000	1	4-3/8	7-3/4	TS50009A
33/64	.5156	1	4-5/8	8	TS50010A
17/32	.5312	1	4-5/8	8	TS50011A
35/64	.5469	1	4-7/8	8-1/4	TS50012A
9/16	.5625	1	4-7/8	8-1/4	TS50013A
21/32	.6562	3	5-1/8	9-3/4	TS50019A
43/64	.6719	3	5-3/8	10	TS50020A
11/16	.6875	3	5-3/8	10	TS50021A
45/64	.7031	3	5-5/8	10-1/4	TS50022A
23/32	.7188	3	5-5/8	10-1/4	TS50023A
47/64	.7344	3	5-7/8	10-1/2	TS50024A
3/4	.7500	3	5-7/8	10-1/2	TS50025A
49/64	.7656	3	6	10-5/8	TS50026A
25/32	.7812	3	6	10-5/8	TS50027A
51/64	.7969	2	6-1/8	10	TS50028A
13/16	.8125	2	6-1/8	10	TS50029A
53/64	.8281	2	6-1/8	10	TS50030A
27/32	.8438	2	6-1/8	10	TS50031A
55/64	.8594	2	6-1/8	10	TS50032A

1 per pack

SIZE	DECIMAL EQUIV.	MT	FLUTE LENGTH	OVERALL LENGTH	STOCK #
7/8	.8750	2	6-1/8	10	TS50033A
57/64	.8906	2	6-1/8	10	TS50034A
29/32	.9062	2	6-1/8	10	TS50035A
1	1.0000	4	6-3/8	12	TS50041A
1	1.0000	2	6-3/8	12	TS50041B
1-1/32	1.0312	4	6-1/2	12-1/8	TS50043A
1-1/16	1.0625	4	6-5/8	12-1/4	TS50045A
1-5/64	1.0781	3	6-7/8	11-1/2	TS50046A
1-3/32	1.0938	3	6-7/8	11-1/2	TS50047A
1-7/64	1.1094	3	7-1/8	11-3/4	TS50048A
1-1/8	1.1250	3	7-1/8	11-3/4	TS50049A
1-9/64	1.1406	3	7-1/4	11-7/8	TS50050A
1-5/32	1.1562	3	7-1/4	11-7/8	TS50051A
1-11/64	1.1719	3	7-3/8	12	TS50052A
1-3/16	1.1875	3	7-3/8	12	TS50053A
1-13/64	1.2031	3	7-1/2	12-1/8	TS50054A
1-7/32	1.2188	3	7-1/2	12-1/8	TS50055A
1-15/64	1.2344	3	7-7/8	12-1/2	TS50056A
1-1/4	1.2500	3	7-7/8	12-1/2	TS50057A
1-5/8	1.6250	4	10	15-5/8	TS50077A
1-11/16	1.6875	4	10-1/8	15-3/4	TS50079A
1-3/4	1.7500	4	10-3/8	16-1/4	TS50081A
1-13/16	1.8125	4	10-3/8	16-1/4	TS50083A
1-7/8	1.8750	4	10-1/2	16-1/2	TS50085A
1-15/16	1.9375	4	10-5/8	16-5/8	TS50087A
2	2.0000	4	10-5/8	16-5/8	TS50089A

Hole Enlarging Core Drills

High-Speed Steel

4 Flute, 3 Flats On Shank
Black & Gold Finish

Features:

- Specially made for enlarging and finishing existing holes.
- Ideal for use on truck frames, structurals and heavy lattice work.
- Black and gold surface treated body and clearance provides lubricity necessary for close tolerance construction work.

FRACTIONAL

HOLE SIZE	DECIMAL EQUIV.	SHANK SIZE	MINIMUM STARTING HOLE SIZE	FLUTE LENGTH	OVERALL LENGTH	STOCK #
3/8	.3750	3/8	1/4	1-7/8	4-5/16	HED121
1/2	.5000	1/2	5/16	1-7/8	4-5/16	HED129
9/16	.5625	1/2	3/8	1-7/8	4-5/16	HED133
5/8	.6250	1/2	25/64	1-7/8	4-5/16	HED137
11/16	.6875	1/2	7/16	1-7/8	4-5/16	HED141
3/4	.7500	1/2	15/32	1-7/8	4-5/16	HED145
13/16	.8125	1/2	1/2	1-7/8	4-5/16	HED149
7/8	.8750	1/2	17/32	1-7/8	4-5/16	HED153
15/16	.9375	1/2	9/16	1-7/8	4-5/16	HED157
1	1.0000	1/2	5/8	1-7/8	4-5/16	HED161
1-1/16	1.0625	1/2	21/32	1-7/8	4-5/16	HED165

1 per pack

Micrograin Solid Carbide

MADE IN U. S. A.

Heavy Duty 118° Split Point

Features:
- Solid carbide drills offer advantages of greater rigidity and closer tolerance in difficult-to-machine materials.
- Withstands high drilling speeds, temperatures and continuous abrasion.
- For materials such as cast iron, aluminum casting, non-ferrous alloys, hard plastics, rubber, and other abrasive materials.

FRACTIONAL

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK #
1/32	.0312	5/16	1-1/4	ST50099
3/64	.0469	3/4	1-1/2	ST50100
1/16	.0625	3/4	1-1/2	ST50101
5/64	.0781	7/8	1-3/4	ST50102
3/32	.0938	1	2	ST50103
7/64	.1094	1-1/4	2-1/4	ST50104
1/8	.1250	1-1/4	2-1/4	ST50105
9/64	.1406	1-3/8	2-1/2	ST50106
5/32	.1562	1-3/8	2-1/2	ST50107
11/64	.1719	1-5/8	2-3/4	ST50108
3/16	.1875	1-5/8	2-3/4	ST50109
13/64	.2031	1-3/4	3	ST50110
7/32	.2188	1-3/4	3	ST50111
15/64	.2344	2	3-1/4	ST50112
1/4	.2500	2	3-1/4	ST50113
17/64	.2656	2-1/8	3-1/2	ST50114

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK #
9/32	.2812	2-1/8	3-1/2	ST50115
19/64	.2969	2-3/8	3-3/4	ST50116
5/16	.3125	2-3/8	3-3/4	ST50117
21/64	.3281	2-1/2	4	ST50118
11/32	.3438	2-1/2	4	ST50119
23/64	.3594	2-3/4	4-1/4	ST50120
3/8	.3750	2-3/4	4-1/4	ST50121
25/64	.3906	2-7/8	4-1/2	ST50122
13/32	.4062	2-7/8	4-1/2	ST50123
27/64	.4219	2-7/8	4-1/2	ST50124
7/16	.4375	2-7/8	4-1/2	ST50125
29/64	.4531	3	4-3/4	ST50126
15/32	.4688	3	4-3/4	ST50127
31/64	.4844	3	4-3/4	ST50128
1/2	.5000	3	4-3/4	ST50129

1 per pack

LETTER

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK #
A	.234	2	3-1/4	ST60201
B	.238	2	3-1/4	ST60202
C	.242	2	3-1/4	ST60203
D	.246	2	3-1/4	ST60204
E	.250	2	3-1/4	ST60205
F	.257	2	3-1/4	ST60206
G	.261	2-1/8	3-1/2	ST60207
H	.266	2-1/8	3-1/2	ST60208
I	.272	2-1/8	3-1/2	ST60209
J	.277	2-1/8	3-1/2	ST60210
K	.281	2-1/8	3-1/2	ST60211
L	.290	2-1/8	3-1/2	ST60212
M	.295	2-3/8	3-3/4	ST60213

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK #
N	.302	2-3/8	3-3/4	ST60214
O	.316	2-3/8	3-3/4	ST60215
P	.323	2-3/8	3-3/4	ST60216
Q	.332	2-1/2	4	ST60217
R	.339	2-1/2	4	ST60218
S	.348	2-1/2	4	ST60219
T	.358	2-3/4	4-1/4	ST60220
U	.368	2-3/4	4-1/4	ST60221
V	.377	2-3/4	4-1/4	ST60222
W	.386	2-7/8	4-1/2	ST60223
X	.397	2-7/8	4-1/2	ST60224
Y	.404	2-7/8	4-1/2	ST60225
Z	.413	2-7/8	4-1/2	ST60226

1 per pack

Micrograin Solid Carbide

MADE IN U. S. A.

Heavy Duty 118° Split Point

Features:
- Solid carbide drills offer advantages of greater rigidity and closer tolerance in difficult-to-machine materials.
- Withstands high drilling speeds, temperatures and continuous abrasion.
- For materials such as cast iron, aluminum casting, non-ferrous alloys, hard plastics, rubber, and other abrasive materials.

WIRE GAGE

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK #
1	.2280	1-3/4	3	ST60101
2	.2210	1-3/4	3	ST60102
3	.2130	1-3/4	3	ST60103
4	.2090	1-3/4	3	ST60104
5	.2055	1-3/4	3	ST60105
6	.2040	1-3/4	3	ST60106
7	.2010	1-3/4	3	ST60107
8	.1990	1-3/4	3	ST60108
9	.1960	1-3/4	3	ST60109
10	.1935	1-5/8	2-3/4	ST60110
11	.1910	1-5/8	2-3/4	ST60111
12	.1890	1-5/8	2-3/4	ST60112
13	.1850	1-5/8	2-3/4	ST60113
14	.1820	1-5/8	2-3/4	ST60114
15	.1800	1-5/8	2-3/4	ST60115
16	.1770	1-5/8	2-3/4	ST60116
17	.1730	1-5/8	2-3/4	ST60117
18	.1695	1-5/8	2-3/4	ST60118
19	.1660	1-5/8	2-3/4	ST60119
20	.1610	1-3/8	2-1/2	ST60120
21	.1590	1-3/8	2-1/2	ST60121
22	.1570	1-3/8	2-1/2	ST60122
23	.1540	1-3/8	2-1/2	ST60123
24	.1520	1-3/8	2-1/2	ST60124
25	.1495	1-3/8	2-1/2	ST60125
26	.1470	1-3/8	2-1/2	ST60126
27	.1440	1-3/8	2-1/2	ST60127
28	.1405	1-3/8	2-1/2	ST60128
29	.1360	1-3/8	2-1/2	ST60129
30	.1285	1-1/4	2-1/4	ST60130

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK #
31	.1200	1-1/4	2-1/4	ST60131
32	.1160	1-1/4	2-1/4	ST60132
33	.1130	1-1/4	2-1/4	ST60133
34	.1110	1-1/4	2-1/4	ST60134
35	.1100	1-1/4	2-1/4	ST60135
36	.1065	1-1/4	2-1/4	ST60136
37	.1040	1-1/4	2-1/4	ST60137
38	.1015	1-1/4	2-1/4	ST60138
39	.0995	1-1/4	2-1/4	ST60139
40	.0980	1	2	ST60140
41	.0960	1	2	ST60141
42	.0935	1	2	ST60142
43	.0890	1	2	ST60143
44	.0860	1	2	ST60144
45	.0820	7/8	1-3/4	ST60145
46	.0810	7/8	1-3/4	ST60146
47	.0785	7/8	1-3/4	ST60147
48	.0760	7/8	1-3/4	ST60148
49	.0730	7/8	1-3/4	ST60149
50	.0700	7/8	1-3/4	ST60150
51	.0670	3/4	1-1/2	ST60151
52	.0635	3/4	1-1/2	ST60152
53	.0595	3/4	1-1/2	ST60153
54	.0550	3/4	1-1/2	ST60154
55	.0520	3/4	1-1/2	ST60155
56	.0465	3/4	1-1/2	ST60156
57	.0430	3/4	1-1/2	ST60157
58	.0420	3/4	1-1/2	ST60158
59	.0410	3/4	1-1/2	ST60159
60	.0400	3/4	1-1/2	ST60160

1 per pack

SETS

QTY.	SIZES	ALFA USA STOCK #
13 Pc.	1/16" - 1/4" by 64ths	ST50194
15 Pc.	1/16" - 1/2" by 32nds	ST50193

QTY.	SIZES	ALFA USA STOCK #
21 Pc.	1/16" - 3/8" by 64ths	ST50192
29 Pc.	1/16" - 1/2" by 64ths	ST50190

Micrograin Solid Carbide

MADE IN U. S. A.

140° Split Point

Features:
- Recommended for drilling in hardened steel and abrasive materials.
- The high rigidity of the drill enables it to drill a close tolerance hole.
- Ideal for drilling materials with short, powdery chips.

FRACTIONAL

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK #
1/32	.0313	1/2	1-1/2	SCSF30098
3/64	.0469	1/2	1-1/2	SCSF30099
1/16	.0625	5/8	1-5/8	SCSF30101
5/64	.0781	11/16	1-11/16	SCSF30102
3/32	.0938	3/4	1-3/4	SCSF30103
7/64	.1094	13/16	1-13/16	SCSF30104
1/8	.1250	7/8	1-7/8	SCSF30105
9/64	.1406	15/16	1-15/16	SCSF30106
5/32	.1563	1	2-1/16	SCSF30107
11/64	.1719	1-1/16	2-1/8	SCSF30108
3/16	.1875	1-1/8	2-3/16	SCSF30109
13/64	.2031	1-3/16	2-1/4	SCSF30110
7/32	.2188	1-1/4	2-3/8	SCSF30111
15/64	.2344	1-5/16	2-7/16	SCSF30112
1/4	.2500	1-3/8	2-1/2	SCSF30113
17/64	.2656	1-7/16	2-5/8	SCSF30114

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK #
9/32	.2813	1-1/2	2-11/16	SCSF30115
19/64	.2969	1-9/16	2-3/4	SCSF30116
5/16	.3125	1-5/8	2-13/16	SCSF30117
21/64	.3281	1-11/16	2-15/16	SCSF30118
11/32	.3438	1-11/16	3	SCSF30119
23/64	.3594	1-3/4	3-1/16	SCSF30120
3/8	.3750	1-13/16	3-1/8	SCSF30121
25/64	.3906	1-7/8	3-1/4	SCSF30122
13/32	.4063	1-15/16	3-5/16	SCSF30123
27/64	.4219	2	3-3/8	SCSF30124
7/16	.4375	2-1/16	3-7/16	SCSF30125
29/64	.4531	2-1/8	3-9/16	SCSF30126
15/32	.4688	2-1/8	3-5/8	SCSF30127
31/64	.4844	2-3/16	3-11/16	SCSF30128
1/2	.5000	2-1/4	3-3/4	SCSF30129

1 per pack

WIRE GAGE

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK #
1	.2280	1-5/16	2-7/16	SCSF30201
2	.2210	1-5/16	2-7/16	SCSF30202
3	.2130	1-1/4	2-3/8	SCSF30203
4	.2090	1-1/4	2-3/8	SCSF30204
5	.2055	1-1/4	2-3/8	SCSF30205
6	.2040	1-1/4	2-3/8	SCSF30206
7	.2010	1-3/16	2-1/4	SCSF30207
8	.1990	1-3/16	2-1/4	SCSF30208
9	.1960	1-3/16	2-1/4	SCSF30209
10	.1935	1-3/16	2-1/4	SCSF30210
11	.1910	1-3/16	2-1/4	SCSF30211
12	.1890	1-3/16	2-1/4	SCSF30212
13	.1850	1-1/8	2-3/16	SCSF30213
14	.1820	1-1/8	2-3/16	SCSF30214
15	.1800	1-1/8	2-3/16	SCSF30215
16	.1770	1-1/8	2-3/16	SCSF30216
17	.1730	1-1/8	2-3/16	SCSF30217
18	.1695	1-1/16	2-1/8	SCSF30218
19	.1660	1-1/16	2-1/8	SCSF30219
20	.1610	1-1/16	2-1/8	SCSF30220
21	.1590	1-1/16	2-1/8	SCSF30221
22	.1570	1-1/16	2-1/8	SCSF30222
23	.1540	1	2-1/16	SCSF30223
24	.1520	1	2-1/16	SCSF30224
25	.1495	1	2-1/16	SCSF30225
26	.1470	1	2-1/16	SCSF30226
27	.1440	1	2-1/16	SCSF30227
28	.1405	15/16	1-15/16	SCSF30228
29	.1360	15/16	1-15/16	SCSF30229
30	.1285	15/16	1-15/16	SCSF30230

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK #
31	.1200	7/8	1-7/8	SCSF30231
32	.1160	7/8	1-7/8	SCSF30232
33	.1130	7/8	1-7/8	SCSF30233
34	.1110	7/8	1-7/8	SCSF30234
35	.1100	7/8	1-7/8	SCSF30235
36	.1065	13/16	1-13/16	SCSF30236
37	.1040	13/16	1-13/16	SCSF30237
38	.1015	13/16	1-13/16	SCSF30238
39	.0995	13/16	1-13/16	SCSF30239
40	.0980	13/16	1-13/16	SCSF30240
41	.0960	13/16	1-13/16	SCSF30241
42	.0935	3/4	1-3/4	SCSF30242
43	.0890	3/4	1-3/4	SCSF30243
44	.0860	3/4	1-3/4	SCSF30244
45	.0820	3/4	1-3/4	SCSF30245
46	.0810	3/4	1-3/4	SCSF30246
47	.0785	3/4	1-3/4	SCSF30247
48	.0760	11/16	1-11/16	SCSF30248
49	.0730	11/16	1-11/16	SCSF30249
50	.0700	11/16	1-11/16	SCSF30250
51	.0670	11/16	1-11/16	SCSF30251
52	.0635	11/16	1-11/16	SCSF30252
53	.0595	1/2	1-1/2	SCSF30253
54	.0550	1/2	1-1/2	SCSF30254
55	.0520	1/2	1-1/2	SCSF30255
56	.0465	1/2	1-1/2	SCSF30256
57	.0430	1/2	1-1/2	SCSF30257
58	.0420	1/2	1-1/2	SCSF30258
59	.0410	1/2	1-1/2	SCSF30259
60	.0400	1/2	1-1/2	SCSF30260

1 per pack

Solid Carbide Straight Flute Drills - Cont.

Micrograin Solid Carbide

MADE IN U. S. A.

140° Split Point

Features:
- Recommended for drilling in hardened steel and abrasive materials.
- The high rigidity of the drill enables it to drill a close tolerance hole.
- Ideal for drilling materials with short, powdery chips.

LETTER

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK #
A	.2340	1-5/16	2-7/16	SCSF30301
B	.2380	1-3/8	2-1/2	SCSF30302
C	.2420	1-3/8	2-1/2	SCSF30303
D	.2460	1-3/8	2-1/2	SCSF30304
E	.2500	1-3/8	2-1/2	SCSF30305
F	.2570	1-7/16	2-5/8	SCSF30306
G	.2610	1-7/16	2-5/8	SCSF30307
H	.2660	1-1/2	2-11/16	SCSF30308
I	.2720	1-1/2	2-11/16	SCSF30309
J	.2770	1-1/2	2-11/16	SCSF30310
K	.2810	1-1/2	2-11/16	SCSF30311
L	.2900	1-9/16	2-3/4	SCSF30312
M	.2950	1-9/16	2-3/4	SCSF30313

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK #
N	.3020	1-5/8	2-13/16	SCSF30314
O	.3160	1-11/16	2-15/16	SCSF30315
P	.3230	1-11/16	2-15/16	SCSF30316
Q	.3320	1-11/16	3	SCSF30317
R	.3390	1-11/16	3	SCSF30318
S	.3480	1-3/4	3-1/16	SCSF30319
T	.3580	1-3/4	3-1/16	SCSF30320
U	.3680	1-13/16	3-1/8	SCSF30321
V	.3770	1-7/8	3-1/4	SCSF30322
W	.3860	1-7/8	3-1/4	SCSF30323
X	.3970	1-15/16	3-5/16	SCSF30324
Y	.4040	1-15/16	3-5/16	SCSF30325
Z	.4130	2	3-3/8	SCSF30326

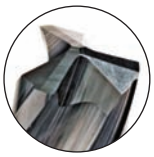
1 per pack

Solid Carbide Three Fluted Drills

Solid Carbide

MADE IN U. S. A.

150° Point



Features:
- 3 flute solid carbide drills can produce smooth straight cuts which may reduce the need for reaming.
- The 150° self-centering point eliminates the need for spot drilling.
- Can be used for core drilling.
- Applications include titanium, cast iron, high silicon low alloy steel and non-ferrous metals.

FRACTIONAL

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK #
1/8	0.1250	1-1/4	2-1/4	SCTF30805
9/64	0.1406	1-3/8	2-1/2	SCTF30806
5/32	0.1562	1-3/8	2-1/2	SCTF30807
11/64	0.1719	1-5/8	2-3/4	SCTF30808
3/16	0.1875	1-5/8	2-3/4	SCTF30809
13/64	0.2031	1-3/4	3	SCTF30810
7/32	0.2188	1-3/4	3	SCTF30811
15/64	0.2344	2	3-1/4	SCTF30812
1/4	0.2500	2	3-1/4	SCTF30813
17/64	0.2656	2-1/8	3-1/2	SCTF30814
9/32	0.2812	2-1/8	3-1/2	SCTF30815
19/64	0.2969	2-3/8	3-3/4	SCTF30816
5/16	0.3125	2-3/8	3-3/4	SCTF30817

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK #
21/64	0.3281	2-1/2	4	SCTF30818
11/32	0.3438	2-1/2	4	SCTF30819
23/64	0.3594	2-3/4	4-1/4	SCTF30820
3/8	0.3750	2-3/4	4-1/4	SCTF30821
25/64	0.3906	2-7/8	4-1/2	SCTF30822
13/32	0.4062	2-7/8	4-1/2	SCTF30823
27/64	0.4219	2-7/8	4-1/2	SCTF30824
7/16	0.4375	2-7/8	4-1/2	SCTF30825
29/64	0.4531	3	4-3/4	SCTF30826
15/32	0.4688	3	4-3/4	SCTF30827
31/64	0.4844	3	4-3/4	SCTF30828
1/2	0.5000	3	4-3/4	SCTF30829

1 per pack

Micrograin Solid Carbide

MADE IN U. S. A.

Heavy Duty 135° Drill Point Slow Helix

Features:
- Slow helix.
- Split point improves penetration.
- Shorter flute and overall length increases rigidity, resulting in less deflection, better hole accuracy, and longer drill life.
- Can withstand high drilling speeds and temperatures.
- Suited for materials such as nickel and chrome alloys, steel weldments, titanium alloys and stainless steel.

FRACTIONAL

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK #
1/16	.0625	5/8	1-5/8	SCSM70201
5/64	.0781	11/16	1-11/16	SCSM70202
3/32	.0938	3/4	1-3/4	SCSM70203
7/64	.1094	13/16	1-13/16	SCSM70204
1/8	.1250	7/8	1-7/8	SCSM70205
9/64	.1406	15/16	1-15/16	SCSM70206
5/32	.1562	1	2-1/16	SCSM70207
11/64	.1719	1-1/16	2-1/8	SCSM70208
3/16	.1875	1-1/8	2-3/16	SCSM70209
13/64	.2031	1-3/16	2-1/4	SCSM70210
7/32	.2188	1-1/4	2-3/8	SCSM70211
15/64	.2344	1-5/16	2-7/16	SCSM70212
1/4	.2500	1-3/8	2-1/2	SCSM70213
17/64	.2656	1-7/16	2-5/8	SCSM70214
9/32	.2812	1-1/2	2-11/16	SCSM70215

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK #
19/64	.2969	1-9/16	2-3/4	SCSM70216
5/16	.3125	1-5/8	2-13/16	SCSM70217
21/64	.3281	1-11/16	2-15/16	SCSM70218
11/32	.3438	1-11/16	3	SCSM70219
23/64	.3594	1-3/4	3-1/16	SCSM70220
3/8	.3750	1-13/16	3-1/8	SCSM70221
25/64	.3906	1-7/8	3-1/4	SCSM70222
13/32	.4062	1-15/16	3-5/16	SCSM70223
27/64	.4219	2	3-3/8	SCSM70224
7/16	.4375	2-1/16	3-7/16	SCSM70225
29/64	.4531	2-1/8	3-9/16	SCSM70226
15/32	.4688	2-1/8	3-5/8	SCSM70227
31/64	.4844	2-3/16	3-11/16	SCSM70228
1/2	.5000	2-1/4	3-3/4	SCSM70229

1 per pack

WIRE GAGE

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK #
1	.2280	1-5/16	2-7/16	SCSM70301
2	.2210	1-5/16	2-7/16	SCSM70302
3	.2130	1-1/4	2-3/8	SCSM70303
4	.2090	1-1/4	2-3/8	SCSM70304
5	.2055	1-1/4	2-3/8	SCSM70305
6	.2040	1-1/4	2-3/8	SCSM70306
7	.2010	1-3/16	2-1/4	SCSM70307
8	.1990	1-3/16	2-1/4	SCSM70308
9	.1960	1-3/16	2-1/4	SCSM70309
10	.1935	1-3/16	2-1/4	SCSM70310
11	.1910	1-3/16	2-1/4	SCSM70311
12	.1890	1-3/16	2-1/4	SCSM70312
13	.1850	1-1/8	2-3/16	SCSM70313
14	.1820	1-1/8	2-3/16	SCSM70314
15	.1800	1-1/8	2-3/16	SCSM70315
16	.1770	1-1/8	2-3/16	SCSM70316
17	.1730	1-1/8	2-3/16	SCSM70317
18	.1695	1-1/16	2-1/8	SCSM70318
19	.1660	1-1/16	2-1/8	SCSM70319
20	.1610	1-1/16	2-1/8	SCSM70320
21	.1590	1-1/16	2-1/8	SCSM70321
22	.1570	1-1/16	2-1/8	SCSM70322
23	.1540	1	2-1/16	SCSM70323
24	.1520	1	2-1/16	SCSM70324
25	.1495	1	2-1/16	SCSM70325
26	.1470	1	2-1/16	SCSM70326
27	.1440	1	2-1/16	SCSM70327
28	.1405	15/16	1-15/16	SCSM70328

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK #
29	.1360	15/16	1-15/16	SCSM70329
30	.1285	15/16	1-15/16	SCSM70330
31	.1200	7/8	1-7/8	SCSM70331
32	.1160	7/8	1-7/8	SCSM70332
33	.1130	7/8	1-7/8	SCSM70333
34	.1110	7/8	1-7/8	SCSM70334
35	.1100	7/8	1-7/8	SCSM70335
36	.1065	13/16	1-13/16	SCSM70336
37	.1040	13/16	1-13/16	SCSM70337
38	.1015	13/16	1-13/16	SCSM70338
39	.0995	13/16	1-13/16	SCSM70339
40	.0980	13/16	1-13/16	SCSM70340
41	.0960	13/16	1-13/16	SCSM70341
42	.0935	3/4	1-3/4	SCSM70342
43	.0890	3/4	1-3/4	SCSM70343
44	.0860	3/4	1-3/4	SCSM70344
45	.0820	3/4	1-3/4	SCSM70345
46	.0810	3/4	1-3/4	SCSM70346
47	.0785	3/4	1-3/4	SCSM70347
48	.0760	11/16	1-11/16	SCSM70348
49	.0730	11/16	1-11/16	SCSM70349
50	.0700	11/16	1-11/16	SCSM70350
51	.0670	11/16	1-11/16	SCSM70351
52	.0635	11/16	1-11/16	SCSM70352
53	.0595	1/2	1-1/2	SCSM70353
54	.0550	1/2	1-1/2	SCSM70354
55	.0520	1/2	1-1/2	SCSM70355
56	.0465	1/2	1-1/2	SCSM70356

1 per pack

Solid Carbide Screw Machine Drills - Cont.

Micrograin Solid Carbide

MADE IN U. S. A.

Heavy Duty
135° Drill Point
Slow Helix

Features:
- Slow helix.
- Split point improves penetration.
- Shorter flute and overall length increases rigidity, resulting in less deflection, better hole accuracy, and longer drill life.
- Can withstand high drilling speeds and temperatures.
- Suited for materials such as nickel and chrome alloys, steel weldments, titanium alloys and stainless steel.

LETTER

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK #
A	.234	1-5/16	2-7/16	SCSM70401
B	.238	1-3/8	2-1/2	SCSM70402
C	.242	1-3/8	2-1/2	SCSM70403
D	.246	1-3/8	2-1/2	SCSM70404
E	.250	1-3/8	2-1/2	SCSM70405
F	.257	1-7/16	2-5/8	SCSM70406
G	.261	1-7/16	2-5/8	SCSM70407
H	.266	1-1/2	2-11/16	SCSM70408
I	.272	1-1/2	2-11/16	SCSM70409
J	.277	1-1/2	2-11/16	SCSM70410
K	.281	1-1/2	2-11/16	SCSM70411
L	.290	1-9/16	2-3/4	SCSM70412
M	.295	1-9/16	2-3/4	SCSM70413

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	ALFA USA STOCK #
N	.302	1-5/8	2-13/16	SCSM70414
O	.316	1-11/16	2-15/16	SCSM70415
P	.323	1-11/16	2-15/16	SCSM70416
Q	.332	1-11/16	3	SCSM70417
R	.339	1-11/16	3	SCSM70418
S	.348	1-3/4	3-1/16	SCSM70419
T	.358	1-3/4	3-1/16	SCSM70420
U	.368	1-13/16	3-1/8	SCSM70421
V	.377	1-7/8	3-1/4	SCSM70422
W	.386	1-7/8	3-1/4	SCSM70423
X	.397	1-15/16	3-5/16	SCSM70424
Y	.404	1-15/16	3-5/16	SCSM70425
Z	.413	2	3-3/8	SCSM70426

1 per pack

Solid Carbide Spade Drills

Micrograin Solid Carbide

MADE IN U. S. A.

118° Point

Features:
- Premium micrograin carbide.
- Performs well in hard to machine materials, high temperature alloys, glass and plastics
- Recommended for shallow hole drilling.
- Drilling depth should not exceed 2 times the drill diameter.

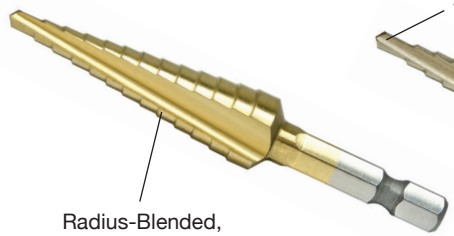
SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	WEB THICK AT POINT	POINT ANGLE	STOCK #
1/32	.0312	3/16	1-1/4	.010	6	SCSD0998
3/64	.0469	7/32	1-1/2	.012	10	SCSD0999
1/16	.0625	5/16	1-1/2	.015	10	SCSD1001
3/32	.0938	3/8	1-1/2	.016	12	SCSD1003
1/8	.1250	7/16	1-1/2	.020	14	SCSD1005
5/32	.1562	15/32	2	.025	16	SCSD1007
3/16	.1875	9/16	2	.028	18	SCSD1009
7/32	.2188	19/32	2	.030	18	SCSD1011
1/4	.2500	11/16	2	.035	18	SCSD1013
9/32	.2812	3/4	2-1/2	.038	18	SCSD1015
5/16	.3125	7/8	2-1/2	.040	18	SCSD1017
11/32	.3438	15/16	2-1/2	.042	18	SCSD1019
3/8	.3750	1	2-1/2	.046	18	SCSD1021
13/32	.4062	1	2-1/2	.048	20	SCSD1023
7/16	.4375	1-1/16	2-1/2	.050	20	SCSD1025
15/32	.4688	1-1/8	2-1/2	.055	21	SCSD1027
1/2	.5000	1-1/8	2-1/2	.060	21	SCSD1029

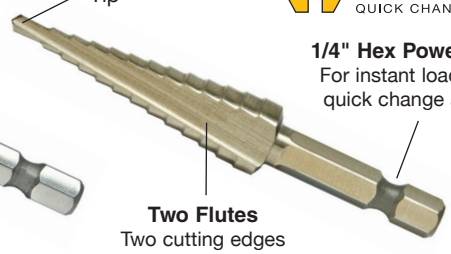
1 per pack

High-Speed Steel Professional Quality

1/4" Hex Power Shank
2 Flutes
Bright Finish,
TiN Coated Or Cobalt

Alfa Tools Patent #5466100





Monolock® QUICK CHANGE SYSTEM

1/4" Hex Power Shank
For instant loading into quick change adapter.

NEW & Exclusive

Features:

- Eliminates "walking" and the need for centerpunching.
- Non-skid tip gives instant start even on curved surfaces.

STYLE	NO. OF STEPS	SIZE RANGE	SHANK SIZE	OAL	BRIGHT FINISH STOCK # PACK	BRIGHT FINISH STOCK # CARDED	TiN COATED STOCK # PACK	TiN COATED STOCK # CARDED	COBALT STOCK # PACK	COBALT STOCK # CARDED
AH	13	**1/8" - 1/2"** in 1/32nds	1/4" Hex	3"	MBML13	MBML13C	MBML13TN	MBML13TNC	MBMLCO13	MBMLCO13C
BH	6	**3/16" - 1/2"** in 1/16ths	1/4" Hex	3-1/4"	MBML6	MBML6C	MBML6TN	MBML6TNC	MBMLCO6	MBMLCO6C
CH	9	**1/4" - 3/4"** in 1/16ths	1/4" Hex	2-13/16"	MBML9	MBML9C	MBML9TN	MBML9TNC	MBMLCO9	MBMLCO9C
KH	12	**3/16" - 7/8"** in 1/16ths	1/4" Hex	3"	MBML12	MBML12C	MBML12TN	MBML12TNC	—	—

1 per pack or card

Features:

- Hex Shank Step Drills are available in High-Speed Steel, TiN Coated High-Speed Steel and Heavy Duty Cobalt Steel.
- Packaged in hard body plastic case on a hang-up card.

SETS

In Plastic Case

PCS. PER SET	CONTENTS 1 Pc. Each	STOCK #
3	Style AH, BH, CH, HSS Bright Finish	MBML3W
3	Style AH, BH, CH, HSS TiN Coated	MBML3TNW
3	Style AH, BH, CH, Cobalt	MBMLCO3W

1/4" HEX SHANK ADAPTORS

Features:

- Converts Round Shank Bit into a Quick Change Bit

BARREL DIM.	OVERALL LENGTH	STOCK #
1/4"	3"	SA1014
5/16"	3"	SA1015
3/8"	3"	SA1016

6" ProBits™ EXTENSION

For long reach

HEX SHANK	OVERALL LENGTH	STOCK #
1/4"	6"	EXT61289

1 per pack

Step Drills Competitive Cross Reference

Size Range	No. of Steps	ALFA TOOLS	UNIBIT	LENOX	KLEIN	MAGNA	MILWAUKEE	GREENLEE
1/8" - 1/2"	13	AH	—	—	—	—	—	—
3/16" - 1/2"	6	BH	—	—	—	—	—	—
1/8" - 1/2"	13	A	1	VBI	59001	44685	48-89-9100	34401
3/16" - 1/2"	6	B	2	VB4	59005	44694	—	36402
1/4" - 3/4"	9	C	3	VB3	59003	44687	48-89-9105	—
1/2"	1	D	10	—	—	44690	48-89-9125	34410
7/8"	1	E	11	VB7	59008	44688	48-89-9115	344011
9/16" - 1"	8	F	20	VB2	59002	44686	48-89-9110	—
13/16" - 1-3/8"	10	G	21	VB12	59004	44695	—	—
3/8"	1	H	12	VB14	—	44689	48-89-9120	—
3/16" - 7/8"	12	K	4	—	—	44692	48-89-9130	34403
1/4" - 7/8" - 1-1/8"	3	M	9	VB11	59001	44691	48-89-9135	36413

ProBits RPM Chart

ProBit Style	Aluminum	Auto Body	Electrical Boxes	I-Beams	Sheet Metal	Stainless Elec. Boxes	Stainless Sinks
A	2,600	820	820	690	770	300	310
B	2,600	820	820	690	770	300	310
C	1,700	550	550	460	510	200	210
D	1,500	470	470	400	440	170	180
E	1,500	470	470	400	440	170	180
F	1,300	410	410	350	390	150	150
G	900	300	300	250	280	110	110
H	1,500	470	470	400	440	170	180
K	1,500	470	470	400	440	170	180
M	1,100	370	300	310	340	130	140

Suggested RPM's only

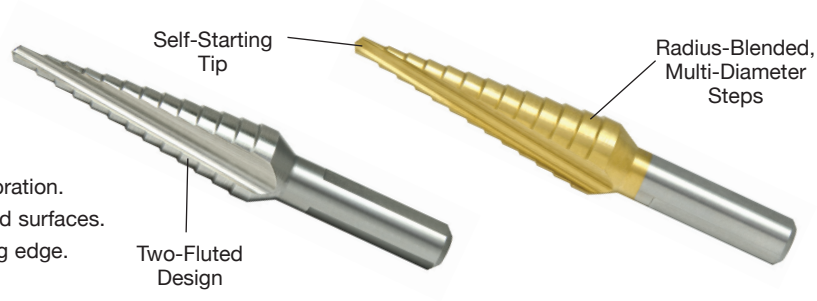
High-Speed Steel Professional Quality

SWISS MADE

An ideal tool for sheet metal working in various sectors of industry: electrical, sanitary, heating, automotive, mechanical engineering, switching systems and aviation.

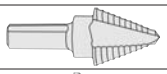
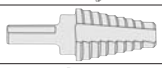
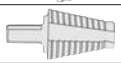
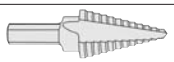
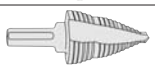
Tough and versatile ProBits are suitable for all standard materials: non-ferrous metal, special steels, thermoplastics and duroplastics as well as sheet metal up to 1/8" in thickness.

2 Flutes
Fractional Multi-Step Sizes
Bright Finish Or TiN Coated



Features:

- Drill up to 13 different hole sizes with one bit.
- Balanced double flute eliminates chatter and vibration.
- Self starting tip for easier drilling; even on curved surfaces.
- Holes automatically deburred by the next cutting edge.
- 3 flats on shank prevent slipping in drill chuck.
- Cutting edges can be resharpened.

SCHEMATIC CONFIGURATION	STYLE	NO. OF STEPS	SIZE RANGE	SHANK SIZE	OAL	BRIGHT FINISH STOCK # PACK	BRIGHT FINISH STOCK # CARDED	TiN COATED STOCK # PACK	TiN COATED STOCK # CARDED
	A	13	**1/8" - 1/2"** in 1/32nds	1/4"	3"	MB52501	MB52501C	MB52501TN	MB52501TNC
	B	6	**3/16" - 1/2"** in 1/16ths	1/4"	3-1/4"	MB52502	MB52502C	MB52502TN	MB52502TNC
	C	9	**1/4" - 3/4"** in 1/16ths	3/8"	2-13/16"	MB52503	MB52503C	MB52503TN	MB52503TNC
	D	1	**1/2"**	1/4"	1-7/8"	MB52504	MB52504C	MB52504TN	MB52504TNC
	E	1	**7/8"**	3/8"	2-5/16"	MB52505	MB52505C	MB52505TN	MB52505TNC
	*F	8	**9/16" - 1"** in 1/16ths	3/8"	2-13/16"	MB52506	MB52506C	MB52506TN	MB52506TNC
	**G	10	**13/16" - 1-3/8"** in 1/32nds	1/2"	3"	MB52507	—	MB52507TN	—
	H	1	**3/8"**	1/4"	1-3/4"	MB52508	MB52508C	MB52508TN	MB52508TNC
	K	12	**3/16" - 7/8"** in 1/16ths	3/8"	3"	MB52511	MB52511C	MB52511TN	MB52511TNC
	M	3	**1/4" - 7/8" - 1-1/8"**	3/8"	3"	MB52513	—	MB52513TN	—

1 per pack or card

* For hole enlarging, require 1/2" or larger pilot holes.
**For hole enlarging, require 3/4" or larger pilot holes.

NOTE: 7/8" ProBit (styles E/K/M) are ideal for 1/2" conduit
1-1/8" ProBit (style M) is ideal for 3/4" conduit

SETS

PCS. PER SET	CONTENTS 1 Pc. Each	STOCK #
SET IN HANDY POUCH		
3	Style A, B, C, Bright Finish Style A, B, C, TiN Coated	MBS3 MBS3TN
SETS IN PLASTIC CASE		
3	Style A, B, C, Bright Finish Style A, B, C, TiN Coated	MBS13 MBS13TN
4	Style A, E, F, K, Bright Finish Style A, E, F, K, TiN Coated	MBS14 MBS14TN
3	Style A, C, F, Bright Finish Style A, C, F, TiN Coated	MBS15 MBS15TN
6	Style A, E, F, C, K, M, Bright Finish Style A, E, F, C, K, M, TiN Coated	MBS16 MBS16TN
4	Style C, H, K, M, Bright Finish Style C, H, K, M, TiN Coated	MBS17 MBS17TN


MBS3

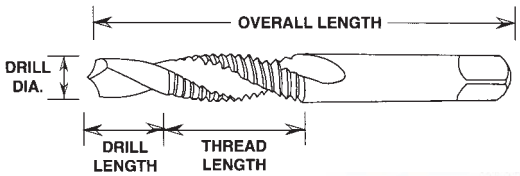

MBS13TN


MBS16TN

Premium High-Speed Steel

MADE IN U. S. A.

2 Flutes
135° Split Point
Bright Finish



Features:

- This combination tool drills and taps in a single pass, saving a complete set-up, no center drilling or punching required.
- Designed to drill and tap through holes up to 2X nominal diameter. The drill section must fully penetrate the material before tapping begins.
- Can be used on multi-spindle heads with reversing capability for tapping in most materials.

MACHINE SCREW & FRACTIONAL

SIZE	OVERALL LENGTH	DRILL LENGTH	DRILL SIZE	THREAD LENGTH	SHANK DIA.	LENGTH OF SQUARE	SIZE OF SQUARE	ALFA USA STOCK #
4-40 UNC	1-7/8	1/4	.0910	3/8	.1410	3/16	.110	DTH66101
4-48 UNF	1-7/8	1/4	.0945	3/8	.1410	3/16	.110	DTH66101A
5-40 UNC	1-15/16	9/32	.1040	13/32	.1410	3/16	.110	DTH66102
5-44 UNF	1-15/16	9/32	.1060	13/32	.1410	3/16	.110	DTH66102A
6-32 UNC	2	5/16	.1115	7/16	.1410	3/16	.110	DTH66103
6-40 UNF	2	5/16	.1170	7/16	.1410	3/16	.110	DTH66103A
8-32 UNC	2-1/8	3/8	.1375	1/2	.1680	1/4	.131	DTH66104
8-36 UNF	2-1/8	3/8	.1405	1/2	.1680	1/4	.131	DTH66104A
10-24 UNC	2-3/8	13/32	.1545	5/8	.1940	1/4	.152	DTH66105
10-32 UNF	2-3/8	13/32	.1635	5/8	.1940	1/4	.152	DTH66106
12-24 UNC	2-3/8	15/32	.1805	21/32	.2200	9/32	.165	DTH66106A
12-28 UNF	2-3/8	15/32	.1860	21/32	.2200	9/32	.165	DTH66106B
1/4-20 UNC	2-1/2	17/32	.2080	25/32	.2550	5/16	.191	DTH66107
1/4-28 UNF	2-1/2	17/32	.2200	25/32	.2550	5/16	.191	DTH66108
5/16-18 UNC	2-27/32	11/16	.2660	15/16	.3180	3/8	.238	DTH66109
5/16-24 UNF	2-27/32	11/16	.2770	15/16	.3180	3/8	.238	DTH66110
3/8-16 UNC	3-3/8	13/16	.3225	1-1/16	.3810	7/16	.286	DTH66111
3/8-24 UNF	3-3/8	13/16	.3395	1-1/16	.3810	7/16	.286	DTH66112
***7/16-14 UNC**	3-3/4	1	.3770	1-1/4	.3230	13/32	.242	DTH66113
***7/16-20 UNF**	3-3/4	1	.3955	1-1/4	.3230	13/32	.242	DTH66114
***1/2-13 UNC**	4-1/16	1-1/8	.4350	1-3/8	.3670	7/16	.275	DTH66115
***1/2-20 UNF**	4-1/16	1-1/8	.4580	1-3/8	.3670	7/16	.275	DTH66116

4 to 1/4", 12 per pack, 5/16" to 3/8", 6 per pack, 7/16" to 1/2", 3 per pack *110° Helical Point

DRILL & TAP SET

IN DELUXE METAL INDEX

SET QTY.	SIZES	ALFA USA STOCK #
16 Pc.	Contains one each size: 6-32, 8-32, 10-24, 10-32, 12-24, 12-28, 1/4"-20, 1/4"-28, 5/16"-18, 5/16"-24, 3/8"-16, 3/8"-24, 7/16"-14, 7/16"-20, 1/2"-13, 1/2"-20	DTH66120

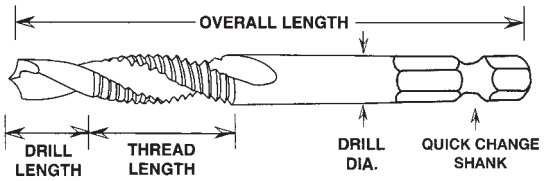
DTH66120

Available TiN coated. Details on request.

Premium High-Speed Steel

1/4" Hex Power Shank
2 Flutes
135° Split Point
Bright Finish

Monolock® QUICK CHANGE SYSTEM



Features:

- Drill Taps create the hole and thread in one pass, no center drilling or punching required.
- Point is self-centering.
- Designed to drill and tap through holes up to 2X nominal diameter. The drill section must fully penetrate the material before tapping begins.
- Spindle speeds should be set at normal speed for tapping specific material being machined; as with any tapping operation, a reversing spindle is required.
- Hex power shank makes it suitable for cordless drills.

MACHINE SCREW & FRACTIONAL

SIZE	PITCH	OVERALL LENGTH	THREAD LENGTH	DRILL LENGTH	DRILL DIAMETER	STOCK #
6	32 NC	3	7/16	5/16	.112	DTML66103
8	32 NC	3-1/8	1/2	3/8	.138	DTML66104
10	24 NC	3-3/8	5/8	13/32	.155	DTML66105
10	32 NF	3-3/8	5/8	13/32	.164	DTML66106
12	24 NC	3-3/8	21/32	15/32	.180	DTML66106A
12	28 NF	3-3/8	21/32	15/32	.180	DTML66106B
1/4	20 NC	3-1/2	25/32	17/32	.208	DTML66107
1/4	28 NF	3-1/2	25/32	17/32	.220	DTML66108
5/16	18 NC	3-27/32	15/16	11/16	.266	DTML66109
5/16	24 NF	3-27/32	15/16	11/16	.277	DTML66110
3/8	16 NC	4-3/8	1-1/16	13/16	.322	DTML66111
3/8	24 NF	4-3/8	1-1/16	13/16	.340	DTML66112
7/16	14 NC	4-3/4	1-1/4	1	.377	DTML66113
7/16	20 NF	4-3/4	1-1/4	1	.395	DTML66114
1/2	13 NC	5-1/16	1-3/8	1-1/8	.435	DTML66115
1/2	20 NF	5-1/16	1-3/8	1-1/8	.458	DTML66116
5/8	11 NC	6-1/16	1-3/4	1-1/2	.548	DTML66117

6 to 1/4", 12 per pack, 5/16" to 3/8", 6 per pack, 7/16" to 1/2", 3 per pack, 5/8", 1 per pack

DRILL & TAP SET

IN DELUXE METAL INDEX

SET QTY.	SIZES	STOCK #
16 Pc.	Contains one each size: 6-32, 8-32, 10-24, 10-32, 12-24, 12-28, 1/4"-20, 1/4"-28, 5/16"-18, 5/16"-24, 3/8"-16, 3/8"-24, 7/16"-14, 7/16"-20, 1/2"-13, 1/2"-20	DTML66120

DTML66120

Available TiN coated. Details on request.

Hex Shank Drills

High-Speed Steel

1/4" Hex Shank Drills
135° Split Point

Monolock® QUICK CHANGE SYSTEM

Features:
- High-Speed steel quickly penetrates wood, metal and plastic.
- 1/4" hex shanks are designed for use in power tools with quick change chucks and adapters. They also provide added stability when used in standard chucks.

FRACTIONAL

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	STOCK #
***1/16**	.0625	3/4	2-1/4	HSD51071
***5/64**	.0781	7/8	2-3/8	HSD51071A
***3/32**	.0938	1	2-1/2	HSD51072
***7/64**	.1094	1-1/16	2-5/8	HSD51072A
1/8	.1250	1-1/4	2-3/4	HSD51073
9/64	.1406	1-3/8	2-7/8	HSD51073A
5/32	.1562	1-3/8	3	HSD51074
11/64	.1719	1-5/8	3	HSD51074A
3/16	.1875	1-5/8	3-1/8	HSD51075
13/64	.2031	1-3/4	3-1/4	HSD51075A
7/32	.2188	1-7/8	3-3/8	HSD51076
15/64	.2344	2	3-1/2	HSD51076A
1/4	.2500	2-1/8	3-5/8	HSD51077
17/64	.2656	1-7/16	2-5/8	HSD51084
9/32	.2812	1-1/2	2-11/16	HSD51085

1/16" to 5/16", 12 per envelope, 21/64" to 1/2", 6 per envelope

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	STOCK #
19/64	.2969	1-9/16	2-3/4	HSD51086
5/16	.3125	1-5/8	2-13/16	HSD51087
21/64	.3281	1-11/16	2-15/16	HSD51088
11/32	.3438	1-11/16	3	HSD51089
23/64	.3594	1-3/4	3-1/4	HSD51090
3/8	.3750	1-13/16	3-1/8	HSD51091
25/64	.3906	1-7/8	3-1/4	HSD51092
13/32	.4062	1-15/16	3-5/16	HSD51093
27/64	.4219	2	3-3/8	HSD51094
7/16	.4375	2-1/16	3-7/16	HSD51095
29/64	.4531	2-1/8	3-9/16	HSD51096
15/32	.4688	2-1/8	3-5/8	HSD51097
31/64	.4844	2-3/16	3-11/16	HSD51098
1/2	.5000	2-1/4	3-3/4	HSD51099

*Not Split Point

HSD51081

1/4" HEX SHANK DRILL SETS

HSD51083

SET QTY.	SIZES	STOCK #
ON A HANG-UP CARD		
7 Pc.	**135° Split Point Set** Includes sizes 1/16", 3/32", 1/8", 5/32", 3/16", 7/32", 1/4"	HSD51081

SET QTY.	SIZES	STOCK #
IN STEEL INDEX		
13 Pc.	**135° Split Point Set** Includes sizes 1/16" - 1/4" by 64ths	HSD51083
29 Pc.	**135° Split Point Set** Includes sizes 1/16" - 1/2" by 64ths	HSD51051

Spotting Drills

High-Speed Steel

118° Point Angle
Bright Finish

Features:
- Used to locate the hole position for a larger drill.
- With short flutes and overall length and no body clearance, these drills have extreme rigidity and may be chucked close to the drill point for precise location.
- Ideal for shallow hole drilling.

DRILL SIZE	FLUTE LENGTH	OVERALL LENGTH	STOCK #
1/4	1	1-1/2	SCD52712
5/16	1	1-1/2	SCD52714
3/8	1	2	SCD52715
7/16	1	2	SCD52716
1/2	1	2	SCD52717
5/8	1-1/8	2-1/4	SCD52719
3/4	1-1/8	2-1/4	SCD52720
7/8	1-1/4	2-1/2	SCD52721
1	1-1/4	2-1/2	SCD52722

1 per pack

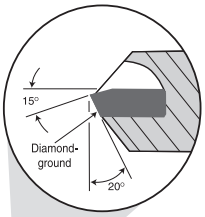
MegaDrill™ Multi-Purpose Drill Bits

Carbide Tipped For Rotary Drilling or Percussion

Black Oxide Finish

Highly effective drilling in a vast variety of materials:

- **Hard Metals & Alloys**
- **Cast Iron**
- **Concrete, Brick & Granite**
- **Cement Board**
- **Ceramic Tile**
- **Marble & Stone**
- **Wood & Plastics**
- **Glass, Crystal & Mirror**



Features:

- The MEGADRILL™ multi-purpose drill bits are specially developed for drilling in a wide variety of materials.
- Each tip is individually diamond ground to give sharp cutting angles required for multi-purpose drilling and produces excellent hole quality.
- Ideal for cordless drills, corded drills and drill presses.
- No centerpunch needed. Eliminates "walking."

Made in Germany

Can be used with and without percussion depending on the material:
Percussion must be used in concrete, brick, granite and stone.
Rotary must be used in metal, wood, marble, ceramic tile, glass & plastic.

FRACTIONAL

DRILL DIA.	DECIMAL EQUIV.	SHANK DIA.	FLUTE LENGTH	OVERALL LENGTH	STOCK #	
					BULK	TUBE
1/8	.1250	1/8	1-1/2	3	MD1005	MD1005P
5/32	.1562	5/32	1-1/2	3	MD1007	MD1007P
3/16	.1875	3/16	1-3/4	3-1/2	MD1015	MD1015P
7/32	.2188	7/32	2	3-3/4	MD1017	MD1017P
1/4	.2500	1/4	2-1/4	4-1/4	MD1025	MD1025P
1/4	.2500	1/4	3	6	MD1026	MD1026P
9/32	.2812	9/32	2-1/4	4-3/8	MD1027	MD1027P
5/16	.3125	5/16	2-3/4	4-1/2	MD1035	MD1035P
11/32	.3438	11/32	2-3/4	5	MD1037	MD1037P
3/8	.3750	3/8	2-7/8	5-3/8	MD1045	MD1045P
13/32	.4062	13/32	3-1/2	6	MD1047	MD1047P
7/16	.4375	7/16	3-1/2	6	MD1055	MD1055P
15/32	.4688	3/8	3-3/4	6	MD1057	MD1057P
1/2	.5000	3/8	3-1/4	6	MD1065	MD1065P
9/16	.5625	3/8	3-1/2	6	MD1075	MD1075P
5/8	.6250	3/8	3-1/2	6	MD1076	MD1076P
3/4	.7500	3/8	4	6	MD1090	MD1090P

Monolock® QUICK CHANGE SYSTEM

1/4" QUICK CHANGE SHANK

5/32	.1562	5/32	1-1/2	3	MDML1007	MDML1007T
3/16	.1875	3/16	1-3/4	3-1/2	MDML1015	MDML1015T
1/4	.2500	1/4	3	4-1/4	MDML1025	MDML1025T
5/16	.3125	5/16	2-3/4	4-1/2	MDML1035	MDML1035T
3/8	.3750	3/8	2-7/8	5-3/8	MDML1045	MDML1045T
1/2	.5000	3/8	3-1/4	6	MDML1065	MDML1065T

Bulk 1/8" to 5/16", 12 per pack, 11/32" to 1/2", 6 per pack, 9/16" and above, 1 per pack
Tube 1/8" to 3/4", 1 per tube

MD1098

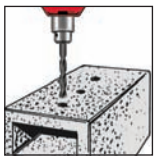
MD1099

SETS

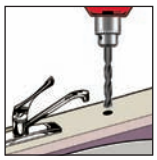
QTY.	SIZES	STOCK #
5 Pc.	In plastic case 1/8", 3/16", 1/4", 3/8", 1/2"	MD1098
13 Pc.	In metal index 1/8", 5/32", 3/16", 7/32", *1/4", 9/32", 5/16", 11/32", 3/8", 13/32", 7/16", 15/32", 1/2"	MD1099
Monolock® QUICK CHANGE SYSTEM		
5 Pc.	In plastic case 1/8", 3/16", 1/4", 3/8", 1/2"	MDML5

*1/4" drill is 4-1/4" OAL.

Hardened Steel & Cast Iron

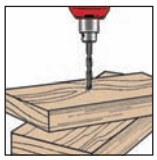


Concrete & Granite



Ceramic, Porcelain & Marble

Glass, Crystal & Mirror



Wood & Plastics

Drilling Guide & Speeds

Material	Mode of Operation	RPM up to 1/4" Dia.	RPM 5/16" to 1/2" Dia.
Granite / Stone	*With Rotary Percussion*	1500	1000
Brick	*Rotary or Rotary Percussion*	1500	1000
Marble	*Rotary or Rotary Percussion*	1500	1000
Cast Stone	*Rotary or Rotary Percussion*	1500	1000
Concrete	*Rotary or Rotary Percussion*	1500	1000
Ceramic Tile	*Rotary Only – Liquid coolant permitted.*	1800	1200
Porcelain	*Rotary Only – Liquid coolant permitted.*	1200	800

Material	Mode of Operation	RPM up to 1/4" Dia.	RPM 5/16" to 1/2" Dia.
Baked Ceramic	*Rotary Only – Liquid coolant permitted.*	1200	800
Glass / Crystal	*Rotary Only – Liquid coolant permitted.*	800	600
Plastic / Acrylic	*Rotary Only – Drill press.*	800	600
Cast Iron / Steel	*Rotary Only – Drill press, with oil coolant.*	1000	800
Soft Wood	*Rotary Only*	2500	1000
Hard Wood	*Rotary Only*	1600	800

Spot Weld Drills

Premium High-Speed Steel

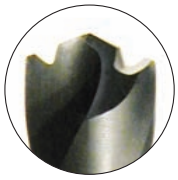
Right Hand Cut
HSS & Cobalt Steel

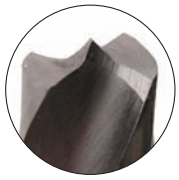
Features:

- Spot weld drills have been specially designed for drilling through spot welds on automotive panels. Pilot point and brad point spurs enable fast, clean holes.
- Used for fast, accurate removal of standard spot welds.
- Pilot centering point ensures precision drilling without the use of a guide bushing.
- Twin cutting spurs provide burr-free holes.

FINISH	DRILL DIA.	SPOT WELD SIZE	FLUTE LENGTH	OVERALL LENGTH	STOCK #
HSS DRILLS					
BLACK STEAM TEMPERED	5/16 (8 mm) 3/8 (9.5 mm)	5/16 3/8	1-5/8 1-13/16	2-13/16 3-1/8	SWC516 SWC38
COBALT DRILLS					
STRAW GOLD	6 mm 8 mm 10 mm	1/4 5/16 3/8	1-1/4 1-9/16 1-7/16	2-9/16 2-7/8 3-7/8	SWC6SMCO SWC8SMCO SWC10SMCO
	COBALT EURO POINT DRILLS				
	8 mm Flat on Shank	1/4	3/4	1-3/4	SWC8CO
	10 mm Flat on Shank	3/8	1-3/8	3-3/8	SWC10CO

1 per pack





EURO POINT

The Euro point spot weld drill has a "nib" pilot point and is available in Cobalt steel only. The sharp circumferential spurs give a clean burr-free hole.

Drills for Plastics - Acrylics

High-Speed Steel

60° Precision Point
Bright Finish

Features:

- High-speed steel, bright polished body, flute and point for maximum lubrication.
- Point is precision ground at 60° angle for gradual penetration to minimize cracking and chipping of plastic materials.
- 0° rake angle on the cutting edge eliminates grabbing as the drill comes through the plastic surface.

FRACTIONAL

DRILL SIZE	SHANK DIAMETER	FLUTE LENGTH	OVERALL LENGTH	STOCK #
1/8	1/8	1-5/8	2-3/4	PD70502
5/32	5/32	2	3-1/8	PD70506
3/16	3/16	2-5/16	3-1/2	PD70510
7/32	7/32	2-1/2	3-3/4	PD70512
1/4	1/4	2-3/4	4	PD70514
9/32	9/32	2-15/16	4-1/4	PD70516
5/16	5/16	3-3/16	4-3/8	PD70520
11/32	11/32	3-7/16	4-3/4	PD70522
3/8	3/8	3-5/8	5	PD70524
13/32	13/32	3-7/8	5-1/4	PD70526
7/16	7/16	4-1/16	5-1/2	PD70528
15/32	15/32	4-5/16	5-3/4	PD70530
1/2	1/2	4-1/2	6	PD70532

1/8" to 5/16", 12 per envelope, 11/32" to 1/2", 6 per envelope

High-Speed Steel

Heavy Duty
135° Split Point
Bright Finish, Black Oxide
Or TiN Coated

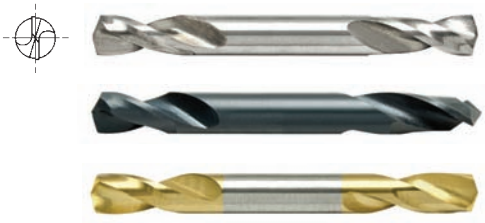
Features:

- Sturdy construction with 135° self-centering point for ease of penetration.
- Used for drilling truck and auto bodies, or any thin sheet metal and aluminum.

SINGLE END

DRILL SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	STOCK #	
				BRIGHT FINISH	BLACK OXIDE
7/64	.1094	1/2	1-7/8	SH50204SB	SH50204S
1/8	.1250	1/2	1-7/8	SH50205SB	SH50205S
9/64	.1406	1/2	2-1/16	SH50206SB	SH50206S
5/32	.1562	1/2	2-1/16	SH50207SB	SH50207S
3/16	.1875	1/2	2-3/16	SH50209SB	SH50209S
13/64	.2031	1/2	2	SH50210SB	SH50210S
7/32	.2188	1/2	2	SH50211SB	SH50211S
1/4	.2500	1/2	2-1/2	SH50213SB	SH50213S
#1	.2280	1/2	2	SH60301SB	SH60301S
#11	.1910	1/2	2	SH60311SB	SH60311S
#20	.1610	1/2	2	SH60320SB	SH60320S
#30	.1285	1/2	1-15/16	SH60330SB	SH60330S

12 per pack



DOUBLE END

DRILL SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	STOCK #		
				BRIGHT FINISH	BLACK OXIDE	TiN COATED
7/64	.1094	1/2	1-7/8	SH50204DB	SH50204D	SH50204DTN
1/8	.1250	1/2	2	SH50205DB	SH50205D	SH50205DTN
9/64	.1406	1/2	2	SH50206DB	SH50206D	SH50206DTN
5/32	.1562	1/2	2-1/16	SH50207DB	SH50207D	SH50207DTN
3/16	.1875	1/2	2-3/16	SH50209DB	SH50209D	SH50209DTN
13/64	.2031	1/2	2-3/16	SH50210DB	SH50210D	SH50210DTN
7/32	.2188	1/2	2-3/8	SH50211DB	SH50211D	SH50211DTN
1/4	.2500	1/2	2-1/2	SH50213DB	SH50213D	SH50213DTN
#1	.2280	1/2	2-1/4	SH60301DB	SH60301D	SH60301DTN
#10	.1935	1/2	2-1/4	SH60310DB	SH60310D	SH60310DTN
#11	.1910	1/2	2-1/4	SH60311DB	SH60311D	SH60311DTN
#20	.1610	1/2	2-1/8	SH60320DB	SH60320D	SH60320DTN
#21	.1590	1/2	2	SH60321DB	SH60321D	SH60321DTN
#30	.1285	1/2	2	SH60330DB	SH60330D	SH60330DTN
#40	.0980	1/2	2	SH60340DB	SH60340D	SH60340DTN

12 per pack

Premium High-Speed Steel

Straight Shank Straight Flute

Features:
- Chucking reamers are designed for precision reaming in a wide range of materials, using a variety of equipment.
- Shorter and deeper flutes than hand reamers and are designed for machine reaming in most materials and equipment including screw machines, turret lathes and drill presses.

FRACTIONAL

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	NO. OF FLUTES	STOCK #
1/8	.1250	7/8	3-1/2	6	CR54007
9/64	.1406	1	4	6	CR54008
5/32	.1562	1	4	6	CR54009
11/64	.1719	1-1/8	4-1/2	6	CR54010
3/16	.1875	1-1/8	4-1/2	6	CR54011
13/64	.2031	1-1/4	5	6	CR54012
7/32	.2188	1-1/4	5	6	CR54013
15/64	.2344	1-1/2	6	6	CR54014
1/4	.2500	1-1/2	6	6	CR54015
17/64	.2656	1-1/2	6	6	CR54016
9/32	.2812	1-1/2	6	6	CR54017
19/64	.2969	1-1/2	6	6	CR54018
5/16	.3125	1-1/2	6	6	CR54019
21/64	.3281	1-1/2	6	6	CR54020
11/32	.3438	1-1/2	6	6	CR54021
23/64	.3594	1-3/4	7	6	CR54022
3/8	.3750	1-3/4	7	6	CR54023
25/64	.3906	1-3/4	7	6	CR54024
13/32	.4062	1-3/4	7	6	CR54025
27/64	.4219	1-3/4	7	6	CR54026
7/16	.4375	1-3/4	7	6	CR54027
29/64	.4531	1-3/4	7	6	CR54028
15/32	.4688	1-3/4	7	6	CR54029
31/64	.4844	2	8	6	CR54030
1/2	.5000	2	8	6	CR54031
17/32	.5312	2	8	6	CR54033
9/16	.5625	2	8	6	CR54035
19/32	.5938	2	8	6	CR54037
5/8	.6250	2-1/4	8	6	CR54039
21/32	.6562	2-1/4	8	6	CR54041
11/16	.6875	2-1/4	9	8	CR54042
23/32	.7188	2-1/4	9	8	CR54044
3/4	.7500	2-1/2	9-1/2	8	CR54046
25/32	.7812	2-1/2	9-1/2	8	CR54048
13/16	.8125	2-1/2	9-1/2	8	CR54050
27/32	.8438	2-1/2	9-1/2	8	CR54052
7/8	.8750	2-5/8	10	8	CR54054
29/32	.9062	2-5/8	10	8	CR54056
15/16	.9375	2-5/8	10	8	CR54058
31/32	.9688	2-5/8	10	8	CR54060
1	1.0000	2-3/4	10-1/2	8	CR54062
1-1/16	1.0625	2-3/4	10-1/2	10	CR54064
1-1/8	1.1250	2-7/8	11	10	CR54066
1-3/16	1.1875	2-7/8	11	10	CR54068
1-1/4	1.2500	3	11-1/2	10	CR54070
1-5/16	1.3125	3	11-1/2	10	CR54072
1-3/8	1.3750	3-1/4	12	10	CR54074
1-7/16	1.4375	3-1/4	12	10	CR54076
1-1/2	1.5000	3-1/2	12-1/2	10	CR54078
1-9/16	1.5625	3-1/2	12-1/2	10	CR54080
1-5/8	1.6250	3-1/2	13	10	CR54082
1-3/4	1.7500	4	13-1/2	10	CR54086
1-7/8	1.8750	4	14	10	CR54090
2	2.0000	4	14	10	CR54094

1 per pack

LETTER

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	NO. OF FLUTES	STOCK #
A	.2340	1-1/2	6	6	CR54151
B	.2380	1-1/2	6	6	CR54152
C	.2420	1-1/2	6	6	CR54153
D	.2460	1-1/2	6	6	CR54154
E	.2500	1-1/2	6	6	CR54155
F	.2570	1-1/2	6	6	CR54156
G	.2610	1-1/2	6	6	CR54157
H	.2660	1-1/2	6	6	CR54158
I	.2720	1-1/2	6	6	CR54159
J	.2770	1-1/2	6	6	CR54160
K	.2810	1-1/2	6	6	CR54161
L	.2900	1-1/2	6	6	CR54162
M	.2950	1-1/2	6	6	CR54163
N	.3020	1-1/2	6	6	CR54164
O	.3160	1-1/2	6	6	CR54165
P	.3230	1-1/2	6	6	CR54166
Q	.3320	1-1/2	6	6	CR54167
R	.3390	1-1/2	6	6	CR54168
S	.3480	1-3/4	7	6	CR54169
T	.3580	1-3/4	7	6	CR54170
U	.3680	1-3/4	7	6	CR54171
V	.3770	1-3/4	7	6	CR54172
W	.3860	1-3/4	7	6	CR54173
X	.3970	1-3/4	7	6	CR54174
Y	.4040	1-3/4	7	6	CR54175
Z	.4130	1-3/4	7	6	CR54176

1 per pack

WIRE GAGE

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	NO. OF FLUTES	STOCK #
1	.2280	1-1/2	6	6	CR54101
2	.2210	1-1/2	6	6	CR54102
3	.2130	1-1/4	5	6	CR54103
4	.2090	1-1/4	5	6	CR54104
5	.2055	1-1/4	5	6	CR54105
6	.2040	1-1/4	5	6	CR54106
7	.2010	1-1/4	5	6	CR54107
8	.1990	1-1/4	5	6	CR54108
9	.1960	1-1/4	5	6	CR54109
10	.1935	1-1/4	5	6	CR54110
11	.1910	1-1/4	5	6	CR54111
12	.1890	1-1/8	4-1/2	6	CR54112
13	.1850	1-1/8	4-1/2	6	CR54113
14	.1820	1-1/8	4-1/2	6	CR54114
15	.1800	1-1/8	4-1/2	6	CR54115
16	.1770	1-1/8	4-1/2	6	CR54116
17	.1730	1-1/8	4-1/2	6	CR54117
18	.1695	1-1/8	4-1/2	6	CR54118
19	.1660	1-1/8	4-1/2	6	CR54119
20	.1610	1-1/8	4-1/2	6	CR54120
21	.1590	1-1/8	4-1/2	6	CR54121
22	.1570	1	4	6	CR54122
23	.1549	1	4	4	CR54123
24	.1520	1	4	4	CR54124
25	.1490	1	4	4	CR54125
26	.1470	1	4	4	CR54126
27	.1440	1	4	4	CR54127
28	.1405	1	4	4	CR54128
29	.1360	1	4	4	CR54129
30	.1285	7/8	3-1/2	4	CR54130
31	.1200	7/8	3-1/2	4	CR54131
32	.1160	7/8	3-1/2	4	CR54132

1 per pack

Metric Chucking Reamers

Premium High-Speed Steel

Straight Shank
Straight Flute

Features:
- Chucking reamers are designed for precision reaming in a wide range of materials, using a variety of equipment.
- Has shorter and deeper flutes than hand reamers and are designed for machine reaming in most materials and equipment including screw machines, turret lathes and drill presses.

METRIC

SIZE DIA. MM	FLUTE LENGTH MM	OVERALL LENGTH MM	NO. OF FLUTES	STOCK #
2.5	14	57	4	CR54701
3	15	61	4	CR54702
3.2	16	65	4	CR54703
3.5	18	70	4	CR54704
4	19	75	6	CR54705
4.5	21	80	6	CR54706
5	23	86	6	CR54707
6	26	93	6	CR54708
7	31	110	6	CR54709
8	33	117	6	CR54710
9	36	125	6	CR54711
10	38	133	6	CR54712
11	41	142	6	CR54713

SIZE DIA. MM	FLUTE LENGTH MM	OVERALL LENGTH MM	NO. OF FLUTES	STOCK #
12	44	151	6	CR54714
13	44	151	6	CR54715
14	47	160	6	CR54716
15	50	162	6	CR54717
16	52	170	8	CR54718
17	54	175	8	CR54719
18	56	182	8	CR54720
19	58	182	8	CR54721
20	60	195	8	CR54722
21	60	215	8	CR54723
22	60	225	8	CR54724
23	60	230	8	CR54725
24	60	240	8	CR54726

1 per pack

Solid Carbide Chucking Reamers

Solid Carbide

Straight Shank
Straight Flute

Features:
- Premium micrograin carbide provides excellent hardness, heat and wear resistance.
- Suitable for machine reaming applications in steel, cast iron, high temperature alloys and non-ferrous materials.

FRACTIONAL

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	STOCK #
1/16	.0625	3/8	1-1/2	CRC6001
5/64	.0781	1/2	1-3/4	CRC6002
3/32	.0938	1/2	2	CRC6003
7/64	.1094	5/8	2-1/4	CRC6004
1/8	.1250	5/8	2-1/4	CRC6005
9/64	.1406	3/4	2-1/4	CRC6006
5/32	.1562	3/4	2-1/4	CRC6007
11/64	.1719	7/8	2-3/4	CRC6008
3/16	.1875	7/8	2-3/4	CRC6009
13/64	.2031	1	3	CRC6010
7/32	.2188	1	3	CRC6011
15/64	.2344	1	3	CRC6012

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	STOCK #
1/4	.2500	1	3	CRC6013
17/64	.2656	1-1/8	3-1/4	CRC6014
9/32	.2812	1-1/8	3-1/4	CRC6015
19/64	.2969	1-1/8	3-1/4	CRC6016
5/16	.3125	1-1/8	3-1/4	CRC6017
21/64	.3281	1-1/4	3-1/2	CRC6018
11/32	.3438	1-1/4	3-1/2	CRC6019
23/64	.3594	1-1/4	3-1/2	CRC6020
3/8	.3750	1-1/4	3-1/2	CRC6021
13/32	.4062	1-1/4	3-1/2	CRC6022
7/16	.4375	1-3/8	4	CRC6023
1/2	.5000	1-1/2	4	CRC6024

1 per pack

Chucking Reamers Over / Under Size

High-Speed Steel

Straight Flute
Right Hand Cut

Features: • Over Size and Under Size Chucking Reamers provide a slightly tighter or looser fit for common fractional size chucking reamers.

INCH SIZE	OVERALL LENGTH	FLUTE LENGTH	SHANK DIA.	STOCK #
.1240	3-1/2	7/8	0.1190	CR99005
.1260	3-1/2	7/8	0.1190	CR99010
.1865	4-1/2	1-1/8	0.1805	CR99015
.1885	4-1/2	1-1/8	0.1805	CR99020
.2490	6	1-1/2	0.2405	CR99025
.2510	6	1-1/2	0.2405	CR99030
.3115	6	1-1/2	0.2792	CR99035

1 per pack

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	STOCK #
.3135	6	1-1/2	0.2792	CR99040
.3740	7	1-3/4	0.3105	CR99045
.3760	7	1-3/4	0.3105	CR99050
.4365	7	1-3/4	0.3730	CR99055
.4385	7	1-3/4	0.3730	CR99060
.4990	8	2	0.4355	CR99065
.5010	8	2	0.4355	CR99070

DESCRIPTION	STOCK #
14 Pc. Set – Includes one of each: .1240, .1260, .1865, .1885, .2490, .2510, .3115, .3135, .3740, .3760, .4365, .4385, .4990, .5010	CR99140

Bridge Reamers

High-Speed Steel

Taper Shank
Spiral Flute &
Straight Flute
Left Hand Helix
Right Hand Cut
Morse Taper Shank

Features:
- Commonly used in electric and pneumatic portable equipment, spiral flute bridge reamers are engineered for heavy duty work.
- Specially designed for use in structural iron/steel bridge building, erection and ship construction in aligning bolt or rivet holes.
- All sizes have five flutes for ease of penetration.

FRACTIONAL

SIZE DIA.	POINT DIA.	FLUTE LENGTH	OVERALL LENGTH	MORSE TAPER #	STOCK #	
					SPIRAL FLUTE	STRAIGHT FLUTE
5/16	11/64	4-3/8	8-1/4	2	BR54505	BR66505
13/32	7/32	4-3/8	8-1/4	2	BR54506	BR66506
7/16	17/64	4-3/8	8-1/4	2	BR54507	BR66507
15/32	9/32	5-1/8	9	2	BR54508	BR66508
1/2	5/16	5-1/8	9	2	BR54509	BR66509
17/32	11/32	5-1/8	9	2	BR54510	BR66510
9/16	3/8	5-1/8	9	2	BR54511	BR66511
5/8	25/64	6-1/8	10	2	BR54512	BR66512
11/16	13/32	7-1/8	11-3/4	3	BR54513	BR66513
3/4	15/32	7-3/8	12	3	BR54514	BR66514
13/16	35/64	7-3/8	12	3	BR54515	BR66515
7/8	39/64	7-3/8	12	3	BR54516	BR66516
15/16	43/64	7-3/8	12	3	BR54517	BR66517
1	47/64	7-3/8	12	3	BR54518	BR66518
1-1/16	13/16	7-3/8	12	3	BR54519	BR66519
1-1/8	55/64	7-3/8	12	3	BR54520	BR66520
1-3/16	59/64	7-3/8	12	3	BR54521	BR66521
1-1/4	63/64	7-3/8	13	4	BR54522	BR66522
1-5/16	1-1/16	7-3/8	13	4	BR54523	BR66523
1-3/8	1-1/8	7-3/8	13	4	BR54524	BR66524
1-7/16	1-3/16	7-3/8	13	4	BR54525	BR66525
1-1/2	1-1/4	7-3/8	13	4	BR54526	BR66526
1-9/16	1-1/4	7-3/8	13	4	BR54527	BR66527
1-5/8	1-3/8	7-3/8	13	4	BR54528	BR66528
1-11/16	1-3/8	7-3/8	13	4	BR54529	–
1-3/4	1-7/16	7-3/8	13	4	BR54530	–
1-13/16	1-7/16	7-3/8	13	4	BR54531	–
1-7/8	1-1/2	7-3/8	13	4	BR54532	–
1-15/16	1-1/2	7-3/8	13	4	BR54533	–
2	1-3/4	7-3/8	13	4	BR54534	–

1 per pack

High-Speed Steel Square Drive

Features:

- Used by hand for precision sizing and finishing of a predrilled hole.
- Square shank can be held firmly in a tap handle, reamer wrench or vise.
- Ground with a starting chamfer to provide easy entry of the reamer into the hole.

Applications:

Straight flute hand reamer is recommended for most hand reaming applications.

Straight Shank
Straight Flute
Right Hand Cut

SIZE DIA.	FLUTE LENGTH	OVERALL LENGTH	NO. OF FLUTES	STOCK #
1/8	1-1/2	3	4	HR74301
5/32	1-5/8	3-1/4	6	HR74302
11/64	1-3/4	3-1/2	6	HR74303
3/16	1-3/4	3-1/2	6	HR74304
7/32	1-7/8	3-3/4	6	HR74305
1/4	2	4	6	HR74306
9/32	2-1/8	4-1/4	6	HR74307
5/16	2-1/4	4-1/2	6	HR74308
11/32	2-3/8	4-3/4	6	HR74309
3/8	2-1/2	5	6	HR74310
25/64	2-1/2	4-3/4	6	HR74311
13/32	2-5/8	5-1/4	6	HR74312
7/16	2-3/4	5-1/2	6	HR74313
15/32	2-7/8	5-3/4	6	HR74314
31/64	3	6	6	HR74315
1/2	3	6	6	HR74316
17/32	3-1/8	6-1/4	6	HR74317
9/16	3-1/4	6-1/2	6	HR74318
19/32	3-3/8	6-3/4	6	HR74319
5/8	3-1/2	7	6	HR74320
21/32	3-11/16	7-3/8	8	HR74321
11/16	3-7/8	7-3/4	8	HR74322
23/32	4-1/16	8-1/8	8	HR74323
3/4	4-3/16	8-3/8	8	HR74324
25/32	4-3/8	8-3/4	8	HR74325
13/16	4-9/16	9-1/8	8	HR74326
27/32	4-11/16	9-3/8	8	HR74327
7/8	4-7/8	9-3/4	8	HR74328
29/32	5	10	8	HR74329
15/16	5-1/8	10-1/4	8	HR74330
31/32	5-5/16	10-5/8	8	HR74331
1	5-7/16	10-7/8	8	HR74332
1-1/16	5-5/8	11-1/4	10	HR74333
1-1/8	5-13/16	11-5/8	10	HR74334
1-3/16	6	12	10	HR74335
1-1/4	6-1/8	12-1/4	10	HR74336
1-5/16	6-1/4	12-1/2	10	HR74337
1-3/8	6-5/16	12-5/8	12	HR74338
1-7/16	6-7/16	12-7/8	12	HR74339
1-1/2	6-1/2	13	12	HR74340

1 per pack

Applications:

Left hand spiral flute design is recommended for applications where there is an interrupted cut such as a keyway.

Straight Shank,
Spiral Flute
Left Hand Helix
Right Hand Cut

SIZE DIA.	FLUTE LENGTH	OVERALL LENGTH	NO. OF FLUTES	STOCK #
1/8	1-1/2	3	4	HR74351
5/32	1-5/8	3-1/4	6	HR74352
3/16	1-3/4	3-1/2	6	HR74353
7/32	1-7/8	3-3/4	6	HR74354
1/4	2	4	6	HR74355
9/32	2-1/8	4-1/4	6	HR74356
5/16	2-1/4	4-1/2	6	HR74357
11/32	2-3/8	4-3/4	6	HR74358
3/8	2-1/2	5	6	HR74359
13/32	2-5/8	5-1/4	6	HR74360
7/16	2-3/4	5-1/2	6	HR74361
15/32	2-7/8	5-3/4	6	HR74362
31/64	3	6	6	HR74363
1/2	3	6	6	HR74364
17/32	3-1/8	6-1/4	6	HR74365
9/16	3-1/4	6-1/2	6	HR74366
19/32	3-3/8	6-3/4	6	HR74367
5/8	3-1/2	7	6	HR74368
21/32	3-11/16	7-3/8	8	HR74369
11/16	3-7/8	7-3/4	8	HR74370
23/32	4-1/16	8-1/8	8	HR74371
3/4	4-3/16	8-3/8	8	HR74372
25/32	4-3/8	8-3/4	8	HR74373
13/16	4-9/16	9-1/8	8	HR74374
27/32	4-11/16	9-3/8	8	HR74375
7/8	4-7/8	9-3/4	8	HR74376
29/32	5	10	8	HR74377
15/16	5-1/8	10-1/4	8	HR74378
31/32	5-5/16	10-5/8	8	HR74379
1	5-7/16	10-7/8	8	HR74380
1-1/16	5-5/8	11-1/4	10	HR74381
1-1/8	5-13/16	11-5/8	10	HR74382
1-3/16	6	12	10	HR74383
1-1/4	6-1/8	12-1/4	10	HR74384
1-5/16	6-1/8	12-1/2	10	HR74385
1-3/8	6-5/16	12-5/8	12	HR74386
1-7/16	6-7/16	12-7/8	12	HR74387
1-1/2	6-1/2	13	12	HR74388

1 per pack

Adjustable Hand Reamers

With High-Speed Steel Blades

Features:

- For sizing and finishing of existing holes.
- Each reamer is adjustable to precisely fit a range of sizes, eliminating the need for single purpose, special diameter reamers.
- Used widely for automotive, aircraft maintenance and railway repair.
- For hand use only.

SIZE DIA.	RANGE	OVERALL LENGTH	STOCK #
8A	1/4 to 9/32	3-1/4	HR54601
7A	9/32 to 5/16	3-1/2	HR54603
6A	5/16 to 11/32	4-1/8	HR54605
5A	11/32 to 3/8	4-3/8	HR54607
4A	3/8 to 13/32	4-3/4	HR54609
3A	13/32 to 7/16	5	HR54611
2A	7/16 to 15/32	5-1/4	HR54613
A	15/32 to 17/32	5-1/2	HR54615
B	17/32 to 19/32	5-3/4	HR54617
C	19/32 to 21/32	6-1/2	HR54619
D	21/32 to 23/32	6-3/4	HR54621

1 per pack

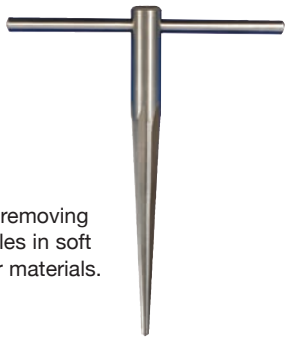
SIZE DIA.	RANGE	OVERALL LENGTH	STOCK #
E	23/32 to 25/32	7	HR54623
F	25/32 to 27/32	7-3/8	HR54625
G	27/32 to 15/16	8	HR54627
H	15/16 to 1-1/16	9	HR54629
I	1-1/16 to 1-3/16	10	HR54631
J	1-3/16 to 1-11/32	11	HR54633
K	1-11/32 to 1-1/2	12	HR54635
L	1-1/2 to 1-13/16	14	HR54637
M	1-13/16 to 2-7/32	16	HR54639
N	2-7/32 to 2-3/4	18	HR54641
O	2-3/4 to 3-11/32	18	HR54643

Mechanic's Reamers

Premium High-Speed Steel

REPAIRMAN'S REAMERS

HARDENED & GROUND



Features:

- A popular steel reamer for removing burrs or enlarging small holes in soft metals, plastics and similar materials.

SIZE RANGE	STOCK #	
	BULK	POUCHED
1/8" to 1/2"	MR54571	MR54571P
1/8" to 5/8"	MR54572	MR54572P
11/64" to 7/8"	MR54573	MR54573P
11/64" to 1-1/4"	MR54574	MR54574P

Bulk 1 per pack, **Pouch** 1 per pouch

PLUMBER'S REAMERS

WITH 1/2" ROUND SHANK

Features:

- For removing burrs from pipe, conduit, etc., and enlarging holes in metals, plastics and other materials.
- Ideal for plumbers, steam-fitters and other mechanics.

SIZE RANGE	STOCK #	
	BULK	POUCHED
1/4" to 1-1/2"	MR54575	MR54575P
3/8" to 2"	MR54577	MR54577P

Bulk 1 per pack, **Pouch** 1 per pouch

Taper Pin Reamers

High-Speed Steel
Right Hand

STRAIGHT FLUTE

SPIRAL FLUTE

HELICAL FLUTE

Features:

- Used for reaming holes into which standard taper pins will fit.
- Manufactured with a taper of 1/4" per foot.
- The straight flute design draws chips back toward power source.
- Spiral point used for hand reaming of difficult-to-ream materials.
- Helical flute reamers are suitable for use in machine reaming, because they throw chips forward.
- Suitable in a variety of normal ferrous, non-ferrous and non-metallic materials.

SIZE	FLUTE LENGTH	OAL	SHANK DIA.	SMALL END DIA.	LARGE END DIA.	STOCK #		
						STRAIGHT FLUTE	SPIRAL FLUTE	HELICAL FLUTE
5/0	1-3/16	2-3/16	7/64	0.0719	0.0966	TPR3012	–	–
4/0	1-5/16	2-5/16	1/8	0.0869	0.1142	TPR3013	TPR4013	–
3/0	1-5/16	2-5/16	9/64	0.1029	0.1302	TPR3014	TPR4014	–
2/0	1-9/16	2-9/16	5/32	0.1137	0.1462	TPR3015	TPR4015	–
0	1-11/16	2-15/16	11/64	0.1287	0.1638	TPR3016	TPR4016	TPR5016
1	1-11/16	2-15/16	3/16	0.1447	0.1798	TPR3017	TPR4017	TPR5017
2	1-15/16	3-3/16	13/64	0.1605	0.2006	TPR3018	TPR4018	TPR5018
3	2-5/16	3-11/16	15/64	0.1813	0.2294	TPR3019	TPR4019	TPR5019
4	2-9/16	4-1/16	17/64	0.2071	0.2604	TPR3020	TPR4020	TPR5020
5	2-13/16	4-5/16	5/16	0.2409	0.2994	TPR3021	TPR4021	TPR5021
6	3-11/16	5-7/16	23/64	0.2773	0.3540	TPR3022	TPR4022	TPR5022
7	4-7/16	6-5/16	13/32	0.3297	0.4220	TPR3023	TPR4023	TPR5023
8	5-3/16	7-3/16	7/16	0.3971	0.5050	TPR3024	TPR4024	TPR5024
9	6-1/16	8-5/16	9/16	0.4805	0.6066	TPR3025	TPR4025	TPR5025
10	6-13/16	9-5/16	5/8	0.5799	0.7216	TPR3026	TPR4026	TPR5026
11	8-1/4	11-1/4	3/4	0.7060	0.8780	TPR3027	TPR4027	TPR5027
12	10	13-5/8	7/8	0.8420	1.0500	TPR3028	TPR4028	TPR5028
13	12	16	1/1/4	1.0090	1.2590	TPR3029	TPR4029	TPR5029
14	14	18-1/4	1-1/2	1.2500	1.5420	TPR3030	TPR4030	TPR5030

1 per pack

Structural Reamers

High-Speed Steel
Left Hand Helix

Hex Nut Shank

Features:

- Specifically designed for enlarging and aligning existing holes in structural steel erection, automotive, truck / trailer manufacturing and maintenance work.
- Heavy hex nut shank reamers are engineered for use in either pneumatic rotary socket power tools (impact wrench) application or where only hand tools are available.
- Left hand helix enables quick chip removal.

REGULAR – GOLD FINISH

BLITZ – BLACK / GOLD FINISH

REAMER SIZE	WIDTH ACROSS FLATS	DIAMETER AT POINT DECIMAL EQUIVALENT	FLUTE LENGTH	OVERALL LENGTH	STOCK #	
					REGULAR	BLITZ
11/16	1-1/4	0.3661	4-1/2	6-1/2	CR54571	CRB54571
13/16	1-7/16	0.5000	5	7	CR54572	CRB54572
15/16	1-5/8	0.6299	5	7	CR54573	CRB54573
1-1/16	1-13/16	0.7480	5	7	CR54574	CRB54574
1-3/16	2	0.8661	5	7	CR54575	CRB54575
1-5/16	2-3/16	0.9843	5	7	CR54576	CRB54576

1 per pack

Car Alignment Reamers

High-Speed Steel Left Hand Helix

MADE IN U. S. A.

EU

Specifically designed for enlarging and aligning existing holes in structural steel erection, automotive, truck / trailer manufacturing and maintenance work.

1/2" Straight Shank With 3 Flats On Shank Black & Gold Finish

Features:

- Performs excellently in various types of metals – including stainless steel and tough alloys.
- Three flats on shank prevents slippage in three jaw chuck.
- Five flute.
- Deburrs welded and punched holes.
- Built-in collar prevents overpenetration.
- Sizes .652 and .776 are primarily designed for shoulder bolts used on truck frames.

BLITZ REAMERS

CRB10055

CR54555

BLITZ – BLACK & GOLD FINISH

ALFA USA ECO PRO

REAMER SIZE	DECIMAL EQUIV.	SHANK DIA.	POINT DIA. ALFA USA	POINT DIA. ECO PRO	FLUTE LENGTH	OVERALL LENGTH	STOCK # ALFA USA	STOCK # ECO PRO
1/4	.2500	1/2	—	5/32	2-1/2	4-3/8	—	CR54547
5/16	.3125	1/2	—	3/16	2-3/4	4-5/8	—	CR54548
3/8	.3750	3/8	13/64	15/64	3	5	CRB10049	CR54549
7/16	.4375	7/16	1/4	1/4	3-3/16	5-1/4	CRB10050	CR54550
1/2	.5000	1/2	1/4	5/16	3-5/8	5-15/16	CRB10051	CR54551
9/16	.5625	1/2	5/16	5/16	3-5/8	5-15/16	CRB10052	CR54552
5/8	.6250	1/2	3/8	5/16	4-1/4	6-9/16	CRB10053	CR54553
.652	.6520	1/2	3/8	5/16	4-1/4	6-9/16	CRB10053A	CR54553A
11/16	.6875	1/2	7/16	3/8	4-1/4	6-9/16	CRB10054	CR54554
3/4	.7500	1/2	1/2	1/2	4-9/16	7	CRB10055	CR54555
.776	.7760	1/2	1/2	1/2	4-9/16	7	CRB10055A	CR54555A
13/16	.8125	1/2	9/16	9/16	4-9/16	7	CRB10056	CR54556
7/8	.8750	1/2	5/8	5/8	4-9/16	7-1/4	CRB10057	CR54557
15/16	.9375	1/2	11/16	11/16	4-9/16	7-1/4	CRB10058	CR54558
1	1.0000	1/2	3/4	3/4	4-9/16	7-1/4	CRB10059	CR54559
1-1/16	1.0625	1/2	13/16	13/16	4-9/16	7-1/4	CRB10060	CR54560

1 per pack, 3/8" reamer has 3/8" shank, 7/16" reamer has 7/16" shank

5 PC. SETS
IN A HANDY ROLL

DESCRIPTION	STOCK #
ALFA USA Set includes sizes: 3/8", 1/2", 9/16", 5/8" & 3/4"	CRB10065
ECO PRO Set includes sizes: 3/8", 1/2", 9/16", 5/8" & 3/4"	CR54565

Car Alignment Reamers

High-Speed Steel Left Hand Helix

EU

Specifically designed for enlarging and aligning existing holes in structural steel erection, automotive, truck / trailer manufacturing and maintenance work.

Quick Change 7/16" Hex Shank Black & Gold Finish

Features:

- Performs excellently in various types of metals including stainless steel and tough alloys.
- Deburrs welded and punched holes.
- Built-in collar prevents over-penetration.
- Can be used with a Quick Change or regular chuck.

BLITZ REAMERS

Monolock® QUICK CHANGE SYSTEM

7/16" HEX SHANK

REAMER SIZE	DECIMAL EQUIV.	SHANK DIA.	POINT DIA.	FLUTE LENGTH	OVERALL LENGTH	STOCK #
3/8	.3750	7/16	15/64	3	5	CRML54549
7/16	.4375	7/16	1/4	3-3/16	5-1/4	CRML54550
1/2	.5000	7/16	5/16	3-5/8	5-15/16	CRML54551
9/16	.5625	7/16	5/16	3-5/8	5-15/16	CRML54552
5/8	.6250	7/16	5/16	4-1/4	6-9/16	CRML54553
11/16	.6875	7/16	3/8	4-1/4	6-9/16	CRML54554
3/4	.7500	7/16	1/2	4-9/16	7	CRML54555
13/16	.8125	7/16	9/16	4-9/16	7	CRML54556
7/8	.8750	7/16	5/8	4-9/16	7-1/4	CRML54557
15/16	.9375	7/16	11/16	4-9/16	7-1/4	CRML54558
1	1.0000	7/16	3/4	4-9/16	7-1/4	CRML54559

1 per pack

5 PC. SETS
IN A HANDY ROLL

DESCRIPTION	STOCK #
Blitz Black & Gold Finish Set includes sizes: 3/8", 1/2", 9/16", 5/8" & 3/4"	CRML54565

High-Speed Steel

Plain Type
60° Included Angle

Features:

- Combined drill & countersinks are used for producing center holes in metal workpieces which requires machining between centers.
- Plain type is most commonly used.

ALFA USA ECO PRO

HIGH-SPEED STEEL

ASA NO.	DRILL DIA.	BODY DIA.	OVERALL LENGTH	STOCK #	
				ALFA USA	ECO-PRO
000	0.020	1/8	1-1/4	CDHK50448	CDH50448
00	0.025	1/8	1-1/4	CDHK50449	CDH50449
0	1/32	1/8	1-1/4	CDHK50450	CDH50450
1	3/64	1/8	1-1/4	CDHK50451	CDH50451
2	5/64	3/16	1-7/8	CDHK50452	CDH50452
3	7/64	1/4	2	CDHK50453	CDH50453
4	1/8	5/16	2-1/8	CDHK50454	CDH50454
5	3/16	7/16	2-3/4	CDHK50455	CDH50455
6	7/32	1/2	3	CDHK50456	CDH50456
7	1/4	5/8	3-1/4	CDHK50457	CDH50457
8	5/16	3/4	3-1/2	CDHK50458	CDH50458

000 to 4, 12 per pack, 5 to 6, 6 per pack, 7 to 8, 3 per pack

Metric sizes are available on request.

High-Speed Steel

Long Length
Plain Type
60° Included Angle

Features:

- Plain type long length is used where extra reach is required.

ALFA USA ECO PRO

HIGH-SPEED STEEL

ASA NO.	DRILL DIA.	BODY DIA.	OVERALL LENGTH	STOCK #	
				ALFA USA	ECO-PRO
1	3/64	1/8	3	CDK50471	CD50471
1	3/64	1/8	4	CDK50472	CD50472
2	5/64	3/16	4	CDK50473	CD50473
2	5/64	3/16	5	CDK50474	CD50474
3	7/64	1/4	4	CDK50475	CD50475
3	7/64	1/4	5	CDK50476	CD50476
4	1/8	5/16	4	CDK50477	CD50477
4	1/8	5/16	5	CDK50478	CD50478
4	1/8	5/16	6	CDK50479	CD50479
5	3/16	7/16	5	CDK50480	CD50480
5	3/16	7/16	6	CDK50481	CD50481
6	7/32	1/2	5	CDK50482	CD50482
6	7/32	1/2	6	CDK50483	CD50483
7	1/4	5/8	6	CDK50484	CD50484
8	5/16	3/4	6	CDK50485	CD50485

1 to 4, 12 per pack, 5 to 8, 1 per pack

CDHK50465

HSS COMBINED DRILL & COUNTERSINK SET

IN A WOOD STAND

SET QTY.	SIZE RANGE	STOCK #
		ALFA USA
5 Pc.	**Set Includes 1 each:** Nos. 1, 2, 3, 4, 5	CDHK50465

Cobalt • Solid Carbide

Plain Type
60° Included Angle

Features:

- Used for making center holes in components.
- For workpieces requiring machining between centers.

ALFA USA COBALT M42 | ALFA USA SOLID CARBIDE

ASA NO.	DRILL DIA.	BODY DIA.	OVERALL LENGTH	STOCK #	
				ALFA USA	ALFA USA
000	0.020	1/8	1-1/4	CDCK50448	–
00	0.025	1/8	1-1/4	CDCK50449	–
0	1/32	1/8	1-1/4	CDCK50450	CDTC50450
1	3/64	1/8	1-1/4	CDCK50451	CDTC50451
2	5/64	3/16	1-7/8	CDCK50452	CDTC50452
3	7/64	1/4	2	CDCK50453	CDTC50453
4	1/8	5/16	2-1/8	CDCK50454	CDTC50454
5	3/16	7/16	2-3/4	CDCK50455	CDTC50455
6	7/32	1/2	3	CDCK50456	CDTC50456
7	1/4	5/8	3-1/4	CDCK50457	–
8	5/16	3/4	3-1/2	CDCK50458	–

1 per pack

TiN coating is available. Details on request.

MADE IN U. S. A. • **ALFA USA** drills are made in the United States.

ECO PRO • **ECO PRO** drills are made outside the United States to ALFA TOOLS' specifications.

High-Speed Steel

Fluteless Straight Shank

MADE IN U. S. A.

Features:
- High-speed steel tools offer unique designs and outstanding performance giving the workpiece an excellent finish.
- Clean, chatterless cutting qualities.
- Used in portable applications for multiple uses, including metal, plastic and wood

82° COUNTERSINK & DEBURRING TOOLS

DIAMETER OF CUT MIN.	DIAMETER OF CUT MAX.	SCREW SIZE	A	SHANK DIA. B	OVERALL LENGTH C	D	E	F	STYLE	STOCK #	WELDON EQUIV.
–	–	1/4	1/4	3/8	2	33/64	1	5/32	2	**CD98710**	CS8-1
–	–	1/4	17/64	3/8	2	33/64	1	5/32	2	**CD98712**	CS8-2
–	–	5/16	5/16	3/8	2-3/16	41/64	1-3/16	5/32	2	**CD98714**	CS10-1
–	–	5/16	21/64	3/8	2-3/16	41/64	1-3/16	5/32	2	**CD98716**	CS10-2
–	–	3/8	3/8	1/2	2-5/8	49/64	1-3/8	5/32	2	**CD98718**	CS12-1
–	–	3/8	25/64	1/2	2-5/8	49/64	1-3/8	5/32	2	**CD98720**	CS12-2
–	–	7/16	7/16	1/2	2-3/4	53/64	1-1/2	7/32	2	**CD98722**	CS14-1
–	–	7/16	29/64	1/2	2-3/4	53/64	1-1/2	7/32	2	**CD98724**	CS14-2
–	–	1/2	1/2	1/2	2-13/16	15/16	1-9/16	1/4	2	**CD98726**	CS16-1
–	–	1/2	33/64	1/2	2-13/16	15/16	1-9/16	1/4	2	**CD98728**	CS16-2
.073	15/64	–	–	1/4	1-3/4	–	–	–	3	**CD98810**	CS-3S
3/16	17/32	–	–	1/4	1-7/8	9/16	1	–	1	**CD98820**	CS-18
.307	25/32	–	–	1/2	2-5/8	13/16	1-3/8	–	1	**CD98824**	CS-26
.307	25/32	–	–	1/4	2-1/16	13/16	1-1/4	–	1	**CD98822**	CS-26A
.431	7/8	–	–	1/2	2-13/16	1-1/8	1-9/16	–	1	**CD98826**	CS-36
1/2	1-15/32	–	–	1/2	3-1/2	1-1/2	2-1/8	–	1	**CD98828**	CS-48
–	–	Nos. 4, 5	–	1/4	1-1/2	17/64	5/8	–	1	**CD98812**	CS-5S
–	–	No. 6	–	1/4	1-1/2	19/64	5/8	–	1	**CD98814**	CS-6S
–	–	No. 8	–	1/4	1-5/8	11/32	3/4	–	1	**CD98816**	CS-8S
–	–	No. 10	–	1/4	1-5/8	25/64	3/4	–	1	**CD98818**	CS-10S
1/4" HEX SHANK MONOLOCK®											
5/64	15/64	Nos. 2, 3, 4	–	Hex	1-27/32	1/4	3/4	–	5	**CD98831**	CS-3SH
1/8	11/32	Nos. 5, 6, 8	–	Hex	2	11/32	3/4	–	5	**CD98832**	CS-8SH
3/16	17/32	Nos. 10,12,14	–	Hex	2-5/16	9/16	1-1/16	–	5	**CD98833**	CS-18H

1 per pack

1/4" hex shanks are designed for use in power tools with quick change chucks and adapters.

EU

SET

SET QTY.	SIZES	STOCK #
5 Pc.	#0 - #4	CDT50510S

82° COUNTERSINK & DEBURRING TOOLS

SIZE	RANGE OF HOLE SMALL DIA.	RANGE OF HOLE LARGE DIA.	SHANK DIA.	STOCK # ENVELOPED	STOCK # CARDED
0 (DE)	1/16	15/64	1/4	CDT50500	CDT50500C
1 (SE)	5/32	13/32	1/4	CDT50501	CDT50501C
2 (SE)	3/16	17/32	1/4	CDT50502	CDT50502C
3 (SE)	5/16	25/32	1/2	CDT50503	CDT50503C
4 (SE)	9/16	1-1/16	1/2	CDT50504	–
5 (SE)	5/8	1-15/32	1/2	CDT50505	–
6 (SE)	3/4	1-3/4	5/8	CDT50506	–
7 (SE)	1	2	5/8	CDT50507	–
8 (SE)	1-1/4	2-1/2	3/4	CDT50508	–

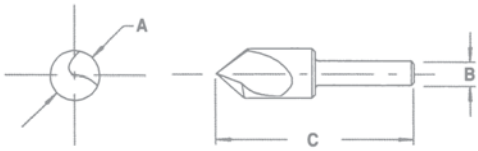
Bulk 0 to 3, 12 per pack, 4 and above, 1 per pack **Card** 0 to 3, 1 per card

High-Speed Steel • Right Hand Cut Straight Shank

MADE IN U. S. A.

Features:
- Large positive rake and single flute provide a smooth surface finish on many different materials.
- Suitable for general purpose countersinking applications.

Single Flute Countersink



ALFA USA SINGLE FLUTE

A BODY DIA.	B SHANK DIA.	C OVERALL LENGTH	ALFA USA STOCK #			
			82°	60°	90°	100°
1/8	1/8	1-1/4	CSF15001	CSF16001	CSF17001	CSF18001
3/16	3/16	1-3/8	CSF15002	CSF16002	CSF17002	CSF18002
1/4	1/4	1-1/2	CSF15003	CSF16003	CSF17003	CSF18003
3/8	1/4	1-3/4	CSF15004	CSF16004	CSF17004	CSF18004
1/2	1/4	2	CSF15005	CSF16005	CSF17005	CSF18005
5/8	3/8	2-1/4	CSF15006	CSF16006	CSF17006	CSF18006
3/4	1/2	2-5/8	CSF15007	CSF16007	CSF17007	CSF18007
1	1/2	2-3/4	CSF15008	CSF16008	CSF17008	CSF18008
1-1/4	1/2	2-3/4	CSF15009	CSF16009*	CSF17009	CSF18009
1-1/2	3/4	2-7/8	CSF15010	CSF16010*	CSF17010	CSF18010
1-3/4	3/4	3	CSF15011	CSF16011*	CSF17011	CSF18011
2	3/4	3-1/4	CSF15012	CSF16012*	CSF17012	CSF18012

1 per pack

*For 60°, OAL is 3", 3-1/4", 3-1/2" and 3-3/4".

ECO PRO SINGLE FLUTE

A BODY DIA.	B SHANK DIA.	C OVERALL LENGTH	ECO PRO STOCK #				
			82° ENVELOPED	82° CARDED	60°	90°	100°
3/16	3/16	1-1/2	CSF50521	CSF50521CD	CSF50521A	CSF50521B	CSF50521C
1/4	1/4	2	CSF50522	CSF50522CD	CSF50522A	CSF50522B	CSF50522C
5/16	1/4	2	CSF50523	CSF50523CD	CSF50523A	CSF50523B	CSF50523C
3/8	1/4	2	CSF50524	CSF50524CD	CSF50524A	CSF50524B	CSF50524C
1/2	1/4	2	CSF50525	CSF50525CD	CSF50525A	CSF50525B	CSF50525C
5/8	1/2	2-3/4	CSF50526	CSF50526CD	CSF50526A	CSF50526B	CSF50526C
3/4	1/2	2-3/4	CSF50527	CSF50527CD	CSF50527A	CSF50527B	CSF50527C
7/8	1/2	2-3/4	CSF50528	CSF50528CD	CSF50528A	CSF50528B	CSF50528C
1	1/2	2-3/4	CSF50529	CSF50529CD	CSF50529A	CSF50529B	CSF50529C
1-1/4	3/4	3-3/8	CSF50530	CSF50530CD	CSF50530A	CSF50530B	CSF50530C
1-1/2	3/4	3-1/2	CSF50531	CSF50531CD	CSF50531A	CSF50531B	CSF50531C
2	3/4	3-3/4	CSF50532	CSF50532CD	CSF50532A	CSF50532B	CSF50532C

1 per pack 1 per card

SETS

SET QTY.	SIZES	STOCK #			
		82°	60°	90°	100°
ALFA USA SINGLE FLUTE					
5 Pc.	1/4", 3/8", 1/2", 3/4", 1"	CSF15020	CSF16020	CSF17020	–
ECO PRO SINGLE FLUTE					
5 Pc.	1/4", 3/8", 1/2", 3/4", 1"	CSF50570	CSF50570A	CSF50570B	CSF50570C
9 Pc.	3/16", 1/4", 5/16", 3/8", 1/2", 5/8", 3/4", 7/8", 1"	CSF50571	CSF50571A	CSF50571B	CSF50571C
12 Pc.	3/16", 1/4", 5/16", 3/8", 1/2", 5/8", 3/4", 7/8", 1", 1-1/4", 1-1/2", 2"	CSF50572	CSF50572A	CSF50572B	CSF50572C

High-Speed Steel

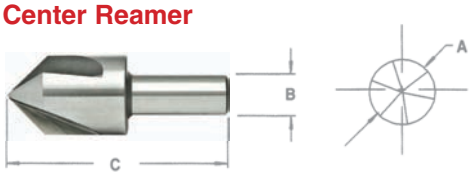
82°, 60° & 90° Point Angle Straight Shank

THREE FLUTE

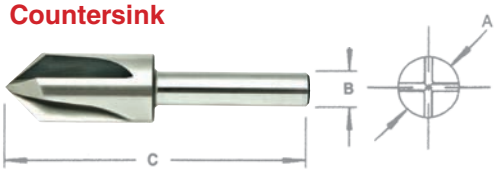
A BODY DIA.	B SHANK DIA.	C OVERALL LENGTH	STOCK # 82°	STOCK # 60°	STOCK # 90°
1/4	3/16	1-1/2	C3F50533	C3F50533A	C3F50533B
3/8	1/4	1-3/4	C3F50534	C3F50534A	C3F50534B
1/2	3/8	2	C3F50535	C3F50535A	C3F50535B
5/8	3/8	2-1/4	C3F50536	C3F50536A	C3F50536B
3/4	1/2	2-5/8	C3F50537	C3F50537A	C3F50537B
7/8	1/2	2-3/4	C3F50542	–	–
1	1/2	2-3/4	C3F50538	C3F50538A	C3F50538B
1-1/4	3/4	3	C3F50539	C3F50539A	C3F50539B
1-1/2	3/4	3	C3F50540	C3F50540A	C3F50540B
2	3/4	3-1/4	C3F50541	C3F50541A	C3F50541B
FOUR FLUTE					
1/2	1/2	3-7/8	C4F50542	C4F50542A	C4F50542B
5/8	1/2	4	C4F50543	C4F50543A	C4F50543B
3/4	1/2	4-1/8	C4F50544	C4F50544A	C4F50544B
7/8	1/2	4-1/4	C4F50545	C4F50545A	C4F50545B
1	1/2	4-3/8	C4F50546	C4F50546A	C4F50546B
SIX FLUTE					
1/4	1/4	2	C6F50547	C6F50547A	C6F50547B
5/16	1/4	2	C6F50548	C6F50548A	C6F50548B
3/8	1/4	2	C6F50549	C6F50549A	C6F50549B
1/2	1/4	2	C6F50550	C6F50550A	C6F50550B
5/8	1/2	2-3/4	C6F50551	C6F50551A	C6F50551B
3/4	1/2	2-3/4	C6F50552	C6F50552A	C6F50552B
7/8	1/2	2-3/4	C6F50553	C6F50553A	C6F50553B
1	1/2	2-3/4	C6F50554	C6F50554A	C6F50554B
1-1/4	3/4	3-3/8	C6F50555	C6F50555A	C6F50555B
1-1/2	3/4	3-1/2	C6F50556	C6F50556A	C6F50556B
1-3/4	1	4-1/4	C6F50557	C6F50557A	C6F50557B
2	1	4-3/8	C6F50558	C6F50558A	C6F50558B

1 per pack

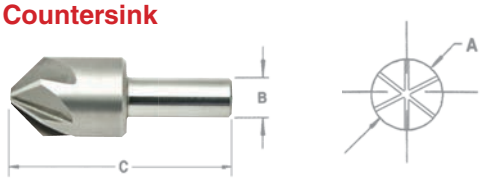
Three Flute Countersink/ Center Reamer



Four Flute Machine Countersink



Six Flute Chatterless Countersink



MONOLOCK® FIVE FLUTE

BODY DIA.	SHANK DIA.	STOCK # BULK	STOCK # CARDED
3/8	1/4" Hex	C5F50561	C5F50561C
1/2	1/4" Hex	C5F50562	C5F50562C
5/8	1/4" Hex	C5F50563	C5F50563C
3/4	1/4" Hex	C5F50564	C5F50564C

Bulk 1 per pack, **Card** 1 per card

Monolock® QUICK CHANGE SYSTEM

Five Flute 1/4" Hex Power Shank 82° Angle

SETS

SET QTY.	SIZES	STOCK # 82°	STOCK # 60°	STOCK # 90°
THREE FLUTE				
5 Pc.	1/4", 3/8", 1/2", 3/4", 1"	C3F50573	C3F50573A	C3F50573B
SIX FLUTE				
8 Pc.	1/4", 5/16", 3/8", 1/2", 5/8", 3/4", 7/8", 1"	C6F50574	C6F50574A	C6F50574B
10 Pc.	1/4", 5/16", 3/8", 1/2", 5/8", 3/4", 7/8", 1", 1-1/4", 1-1/2"	C6F50575	C6F50575A	C6F50575B
MONOLOCK® FIVE FLUTE				
4 Pc.	3/8", 1/2", 5/8", 3/4"	C5F50565	–	–

Carbide Countersinks

High Performance Solid Carbide

MADE IN U. S. A.

82°, 60° & 90° Point Angle
Straight Shank

Available in Single, 3 and 6 Flutes

A BODY DIA.	B SHANK DIA.	C OVERALL LENGTH	STOCK # 82°	STOCK # 60°	STOCK # 90°
SINGLE FLUTE					
1/8	1/8	1-1/2	CC1F68220	CC1F66020	CC1F69020
3/16	3/16	2	CC1F68221	CC1F66021	CC1F69021
1/4	1/4	2	CC1F68222	CC1F66022	CC1F69022
3/8	1/4	2-5/8	CC1F68224	CC1F66024	CC1F69024
1/2	1/4	2-7/8	CC1F68225	CC1F66025	CC1F69025
5/8	3/8	3	CC1F68226	CC1F66026	CC1F69026
3/4	1/2	3	CC1F68227	CC1F66027	CC1F69027
1	1/2	2-3/4	CC1F68229	CC1F66029	CC1F69029
THREE FLUTE					
1/8	1/8	1-1/2	CC3F68231	CC3F66031	CC3F69031
3/16	3/16	2	CC3F68232	CC3F66032	CC3F69032
1/4	1/4	2	CC3F68233	CC3F66033	CC3F69033
3/8	1/4	2-5/8	CC3F68234	CC3F66034	CC3F69034
1/2	1/4	2-7/8	CC3F68235	CC3F66035	CC3F69035
5/8	3/8	3	CC3F68236	CC3F66036	CC3F69036
3/4	1/2	3	CC3F68237	CC3F66037	CC3F69037
1	1/2	2-3/4	CC3F68238	CC3F66038	CC3F69038
SIX FLUTE					
1/8	1/8	1-1/2	CC6F68245	CC6F66045	CC6F69045
3/16	3/16	2	CC6F68246	CC6F66046	CC6F69046
1/4	1/4	2	CC6F68247	CC6F66047	CC6F69047
3/8	1/4	2-5/8	CC6F68249	CC6F66049	CC6F69049
1/2	1/4	2-7/8	CC6F68250	CC6F66050	CC6F69050
5/8	3/8	3	CC6F68251	CC6F66051	CC6F69051
3/4	1/2	3	CC6F68252	CC6F66052	CC6F69052
1	1/2	2-3/4	CC6F68254	CC6F66054	CC6F69054

1 per pack

Features:

- Wear-resistant, heat-resistant micrograin solid carbide provides increased tool life in production applications.
- Ideal for highly abrasive and hard to machine materials, e.g. cast iron, alloy steel and glass reinforced plastics. Not recommended for use in hardened steel.
- Suitable for chamfering, countersinking and deburring holes.

*Tools 3/8" and over have solid carbide heads on hardened steel shanks.

Cap Screw Counterbores

High-Speed Steel

EU

Features:

- Used to enlarge the end of a preformed hole to the head size of a cap screw.
- Three flute counterbore reduces chatter and improves finish.

Solid Pilot
Three Flutes
Straight Shank

FRACTIONAL

CAP SCREW SIZE	PILOT DIA.	CUTTER DIA.	SHANK DIA.	OVERALL LENGTH	STOCK #
#5	.141	.221	3/16	3	CSC55651
#6	.150	.242	7/32	3	CSC55652
#8	11/64	19/64	1/4	3	CSC55653
#10	13/64	21/64	5/16	3-1/2	CSC55654
1/4	9/32	13/32	3/8	5	CSC55655
5/16	11/32	1/2	7/16	5	CSC55656
3/8	13/32	19/32	1/2	6	CSC55657
7/16	15/32	11/16	1/2	7	CSC55658
1/2	17/32	25/32	1/2	7-1/2	CSC55659
1/2	17/32	25/32	3/4	7-1/2	CSC55660
1/2	9/16	13/16	3/4	7-1/2	CSC55661
5/8	21/32	31/32	3/4	7-1/2	CSC55662
5/8	11/16	1	3/4	7-1/2	CSC55663
3/4	13/16	1-3/16	1	8	CSC55664
7/8	15/16	1-3/8	1	8	CSC55665
1	1-1/16	1-9/16	1	10	CSC55666

1 per pack

METRIC

CAP SCREW SIZE MM	PILOT DIA. MM	CUTTER DIA. MM	SHANK DIA. MM	OVERALL LENGTH MM	STOCK #
M3	3.4	6	5.556	25.400	CSC55681
M4	4.5	8	7.938	25.400	CSC55682
M5	5.5	10	9.525	31.750	CSC55683
M6	6.6	11	11.112	34.925	CSC55684
M8	9	15	12.700	38.894	CSC55685
M10	11	18	12.700	44.450	CSC55686
M12	14	20	12.700	50.800	CSC55687

1 per pack

Sleeves & Keys

Morse Taper Shank Tools

DRILL SLEEVES

PRECISION MADE, HARDENED & GROUND

Features:

- Drill sleeves, also known as reducing sleeves, or shell sockets, are used to adapt taper shank tools where the drill shank is smaller than the machine spindle hole.

SIZE	MORSE TAPER		STOCK #
	INSIDE	OUTSIDE	
1 to 2	1	2	DS1601
1 to 3	1	3	DS1602
1 to 4	1	4	DS1603
1 to 5	1	5	DS1603A
2 to 3	2	3	DS1604
2 to 4	2	4	DS1605
2 to 5	2	5	DS1606
3 to 4	3	4	DS1607
3 to 5	3	5	DS1608
4 to 5	4	5	DS1609
4 to 6	4	6	DS1610
5 to 6	5	6	DS1611

1 per pack

EXTENSION SOCKETS

PRECISION MADE, HARDENED & GROUND

Features:

- Extension sockets are used to adapt taper shank tools where drill shank is larger than the machine spindle hole. They also provide additional reach necessary in some operations.

SIZE	MORSE TAPER		STOCK #
	INSIDE	OUTSIDE	
2 to 1	2	1	DS1651
1 to 2	1	2	DS1652
2 to 2	2	2	DS1653
3 to 2	3	2	DS1654
4 to 2	4	2	DS1655
1 to 3	1	3	DS1656
2 to 3	2	3	DS1657
3 to 3	3	3	DS1658
4 to 3	4	3	DS1659
1 to 4	1	4	DS1661
2 to 4	2	4	DS1662
3 to 4	3	4	DS1663
4 to 4	4	4	DS1664
5 to 4	5	4	DS1665
1 to 5	1	5	DS1665A
4 to 5	4	5	DS1667
5 to 5	5	5	DS1668
5 to 6	5	6	DS1671

1 per pack

DRILL DRIFTS

DROP FORGED / HARDENED

Style A **Style B**

Features:

- Drifts are used to safely eject taper shank tools from the holder or machine spindles.

SIZE	FITS MORSE TAPER	STOCK #
STYLE "A"		
1	1 M.T.	DDK2001
2	2 M.T.	DDK2002
3	3 M.T.	DDK2003
4	4 M.T.	DDK2004
5	5 M.T.	DDK2005
STYLE "B"		
1	1 M.T.	DDK2011
2	2 M.T.	DDK2014
3	3 M.T.	DDK2013
4	4 M.T.	DDK2014
5	5 M.T.	DDK2015

1 per pack

MORSE TAPER ADAPTORS

For adapting most taper shank tools to drills with 1/2" chuck.

Features:

- This unique adaptor was specially developed to make possible the use of a taper shank drill with a 3 jaw 1/2" chuck or collet.

ALFA TOOLS Exclusive

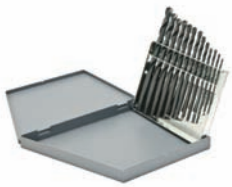
MORSE TAPER HOLE	SHANK DIA.	OVERALL LENGTH	STOCK #
2	1/2	5-3/4	DS1692
3	1/2	6-1/2	DS1693
4	1/2	7-7/8	DS1694

1 per pack

JOBBER LENGTH

13 Pc. Set

1/16"- 1/4"
by 64ths
in metal index



COATING / FINISH	POINT ANGLE	BRAND	STOCK #
HSS BLITZ® NITRIDE			
Black & Silver	135° Split Pt.	Alfa USA	BBN74594
HSS 3-FLATTED			
Black Oxide	135° Split Pt.	Alfa USA	SFL50194
HSS BLITZ BITS			
Black & Gold	135° Split Pt.	Alfa USA	BB74194
HIGH-SPEED STEEL			
Black Oxide	118° Point	Alfa USA	J150194
Bright Finish	118° Point	Alfa USA	J150194B
Black Oxide	135° Split Pt.	Alfa USA	S150194
Bright Finish	135° Split Pt.	Alfa USA	S150194B
Bright Finish	118° Pt. Left Hand	Alfa USA	JDL50194
HSS TiN COATED			
Gold Finish	118° Point	Alfa USA	J150194TN
Gold Finish	135° Split Pt.	Alfa USA	S150194TN
HSS TiN TIPPED			
TiN Tipped	135° Split Pt.	Eco Pro	S40194TT
COBALT			
Straw Gold	135° Split Pt.	Alfa USA	CO50194
Straw Gold	135° Sp Pt. Left Hand	Alfa USA	JDLCO93194
SOLID CARBIDE			
Bright Finish	118° Point	Alfa USA	ST50194

15 Pc. Set

1/16"- 1/2" by 32nds
in metal index

J150193

COATING / FINISH	POINT ANGLE	BRAND	STOCK #
HSS BLITZ® NITRIDE			
Black & Silver	135° Split Pt.	Alfa USA	BBN74593
HSS 3-FLATTED			
Black Oxide	135° Split Pt.	Alfa USA	SFL50193
HSS BLITZ BITS			
Black & Gold	135° Split Pt.	Alfa USA	BB74193
HIGH-SPEED STEEL			
Black Oxide	118° Point	Alfa USA	J150193
Bright Finish	118° Point	Alfa USA	J150193B
Black Oxide	135° Split Pt.	Alfa USA	S150193
Bright Finish	135° Split Pt.	Alfa USA	S150193B
Bright Finish	118° Pt. Left Hand	Alfa USA	JDL50193
HSS TiN COATED			
Gold Finish	118° Point	Alfa USA	J150193TN
Gold Finish	135° Split Pt.	Alfa USA	S150193TN
HSS TiN TIPPED			
TiN Tipped	135° Split Pt.	Eco Pro	S40193TT
COBALT			
Straw Gold	135° Split Pt.	Alfa USA	CO50193
Straw Gold	135° Sp Pt. Left Hand	Alfa USA	JDLCO93193
SOLID CARBIDE			
Bright Finish HD	118° Point	Alfa USA	ST50193

21 Pc. Set

1/16"- 3/8"
by 64ths
in metal index

COATING / FINISH	POINT ANGLE	BRAND	STOCK #
HSS BLITZ® NITRIDE			
Black & Silver	135° Split Pt.	Alfa USA	BBN74592
HSS 3-FLATTED			
Black Oxide	135° Split Pt.	Alfa USA	SFL50192
HSS BLITZ BITS			
Black & Gold	135° Split Pt.	Alfa USA	BB74192
HIGH-SPEED STEEL			
Black Oxide	118° Point	Alfa USA	J150192
Bright Finish	118° Point	Alfa USA	J150192B
Black Oxide	135° Split Pt.	Alfa USA	S150192
Bright Finish	135° Split Pt.	Alfa USA	S150192B
Bright Finish	118° Pt. Left Hand	Alfa USA	JDL50192
HSS TiN COATED			
Gold Finish	118° Point	Alfa USA	J150192TN
Gold Finish	135° Split Pt.	Alfa USA	S150192TN
HSS TiN TIPPED			
TiN Tipped	135° Split Pt.	Eco Pro	S40192TT
COBALT			
Straw Gold	135° Split Pt.	Alfa USA	CO50192
Straw Gold	135° Sp Pt. Left Hand	Alfa USA	JDLCO93192
SOLID CARBIDE			
Bright Finish	118° Point	Alfa USA	ST50192

26 Pc. Letter Size Set

A - Z
in metal index

COATING / FINISH	POINT ANGLE	BRAND	STOCK #
HSS BLITZ BITS®			
Black & Gold	135° Split Pt.	Alfa USA	BB74197
HIGH-SPEED STEEL			
Black Oxide	118° Point	Alfa USA	J150197
Bright Finish	118° Point	Alfa USA	J150197B
Black Oxide	135° Split Pt.	Alfa USA	S150197
Bright Finish	135° Split Pt.	Alfa USA	S150197B
HSS TiN COATED			
Gold Finish	118° Point	Alfa USA	J150197TN
Gold Finish	135° Split Pt.	Alfa USA	S150197TN
COBALT			
Straw Gold	135° Split Pt.	Alfa USA	CO50197

29 Pc. Set

1/16"- 1/2" by 64ths

in metal index

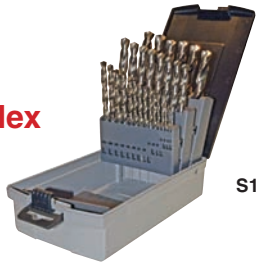
J250190

COATING / FINISH	POINT ANGLE	BRAND	STOCK #
HSS BLITZ® NITRIDE			
Black & Silver	135° Split Pt.	Alfa USA	BBN74590
HSS 3-FLATTED			
Black Oxide	135° Split Pt.	Alfa USA	SFL50190
HSS BLITZ BITS			
Black & Gold	135° Split Pt.	Alfa USA	BB74190
HIGH-SPEED STEEL			
Black Oxide	118° Point	Alfa USA	J150190
Bright Finish	118° Point	Alfa USA	J150190B
Black Oxide	135° Split Pt.	Alfa USA	S150190
Bright Finish	135° Split Pt.	Alfa USA	S150190B
Bright Finish	118° Pt. Left Hand	Alfa USA	JDL50190
HSS TiN COATED			
Gold Finish	118° Point	Alfa USA	J150190TN
Gold Finish	135° Split Pt.	Alfa USA	S150190TN
HSS TiN TIPPED			
TiN Tipped	135° Split Pt.	Eco Pro	S40190TT
COBALT			
Straw Gold	135° Split Pt.	Alfa USA	CO50190
Straw Gold	135° Sp Pt. Left Hand	Alfa USA	JDLCO93190
SOLID CARBIDE			
Bright Finish	118° Point	Alfa USA	ST50190
HSS BULLET PILOT POINT			
1/16" - 1/2" by 64ths		Eco Pro*	RS50186BD

*Sizes 1/16" - 11/64" are 135° Split Pt. Bright
*Sizes 25/64" to 1/2" have 3/8" Shank

29 Pc. Set In Plastic Index

1/16" - 1/2" by 64ths



S150190BPL

COATING / FINISH	POINT ANGLE	BRAND	STOCK #
HIGH-SPEED STEEL			
Black Oxide	135° Split Pt.	Alfa USA	S150190PL
Bright Finish	135° Split Pt.	Alfa USA	S150190BPL

60 Pc. Wire Gage Set

#1 - #60

in metal index

COATING / FINISH	POINT ANGLE	BRAND	STOCK #
HSS BLITZ BITS®			
Black & Gold	135° Split Pt.	Alfa USA	BB74191
HIGH-SPEED STEEL			
Black Oxide	118° Point	Alfa USA	J150191
Bright Finish	118° Point	Alfa USA	J150191B
Black Oxide	135° Split Pt.	Alfa USA	S150191
Bright Finish	135° Split Pt.	Alfa USA	S150191B
Bright Finish	118° Pt. Left Hand	Alfa USA	JDL50191
HSS TiN COATED			
Gold Finish	118° Point	Alfa USA	J150191TN
Gold Finish	135° Split Pt.	Alfa USA	S150191TN
HSS TiN TIPPED			
TiN Tipped	135° Split Pt.	Eco Pro	S40191TT
COBALT			
Straw Gold	135° Split Pt.	Alfa USA	CO50191

115 Pc. Set

1/16" - 1/2" by 64ths, #1 - #60, A - Z Letter Sizes

in metal index

CO50199

COATING / FINISH	POINT ANGLE	BRAND	STOCK #
HSS BLITZ BITS®			
Black & Gold	135° Split Pt.	Alfa USA	BB74199
HIGH-SPEED STEEL			
Black Oxide	118° Point	Alfa USA	J150199
Bright Finish	118° Point	Alfa USA	J150199B
Black Oxide	135° Split Pt.	Alfa USA	S150199
Bright Finish	135° Split Pt.	Alfa USA	S150199B
HSS TiN COATED			
Gold Finish	118° Point	Alfa USA	J150199TN
Gold Finish	135° Split Pt.	Alfa USA	S150199TN
COBALT			
Straw Gold	135° Split Pt.	Alfa USA	CO50199

20 Pc. Wire Gage Set

#61 - #80

in metal index

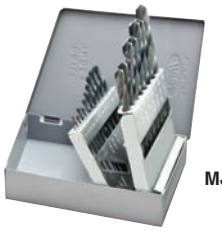
J150189

COATING / FINISH	POINT ANGLE	BRAND	STOCK #
HIGH-SPEED STEEL			
Black Oxide	118° Point	Alfa USA	J150189
Bright Finish	118° Point	Alfa USA	J150189B

19 Pc. Metric Set

1.0 - 10.0mm by .5mm

in metal index



MJ150198A

COATING / FINISH	POINT ANGLE	BRAND	STOCK #
HIGH-SPEED STEEL			
Black Oxide	118° Point	Alfa USA	MJ150198A
Black Oxide	118° Point	Eco Pro	MJ250198A
COBALT			
Straw Gold	135° Split Pt.	Alfa USA	COM50198A

25 Pc. Metric Set

1.0 - 13.0mm by .5mm

in metal index

COM50198

COATING / FINISH	POINT ANGLE	BRAND	STOCK #
HIGH-SPEED STEEL			
Black Oxide	118° Point	Alfa USA	MJ150198
Black Oxide	118° Point	Eco Pro	MJ250198
COBALT			
Straw Gold	135° Split Pt.	Alfa USA	COM50198

DRILL MUG

29 Pc. Drill Bit Index

MADE IN U. S. A.

- **4" diameter high-impact plastic resin storage index.**
- **Keeps drill bits secure, clean and accessible.**
- **Holds 29 drills from 1/16" to 1/2" in 1/64" increments.**
- **Drill sizes clearly marked to keep proper drill close at hand.**
- **Weather-resistant screwtop cap.**
- **Side-clip secures index to tool belts, work carts & tool boxes.**
- **Private label available.**

13 Pc. Dial-A-Drill Set

1/16" - 1/4" by 64ths

in Dial-A-Drill Case

S150195DB

COATING / FINISH	POINT ANGLE	BRAND	STOCK #
HIGH-SPEED STEEL			
Black Oxide	118° Point	Alfa USA	J150195D
Bright Finish	118° Point	Alfa USA	J150195DB
Black Oxide	135° Split Pt.	Alfa USA	S150195D
Bright Finish	135° Split Pt.	Alfa USA	S150195DB

21 Pc. Dial-A-Drill Set

1/16" - 3/8" by 64ths

in Dial-A-Drill Case

J160195D

COATING / FINISH	POINT ANGLE	BRAND	STOCK #
HIGH-SPEED STEEL			
Black Oxide	118° Point	Alfa USA	J160195D
Bright Finish	118° Point	Alfa USA	J160195DB
Black Oxide	135° Split Pt.	Alfa USA	S160195D
Bright Finish	135° Split Pt.	Alfa USA	S160195DB

29 Pc. Drill Mug Set

1/16" - 1/2" by 64ths

in handy holder

BBML74290DM

COATING / FINISH	POINT ANGLE	BRAND	STOCK #
BLITZ BITS® MECHANIC'S LENGTH			
Black & Gold	135° Split Pt.	Alfa USA	BBML74290DM
Black & Gold 3 Flats, 3/8" Red. Shank	135° Split Pt.	Alfa USA	BBML74290RDM
HSS BLITZ® NITRIDE			
Black & Silver	135° Split Pt.	Alfa USA	BBN74590DM
HSS 3-FLATTED			
Black Oxide	135° Split Pt.	Alfa USA	SFL50190DM
HSS BLITZ BITS®			
Black & Gold	135° Split Pt.	Alfa USA	BB74190DM
HIGH-SPEED STEEL			
Black Oxide	118° Point	Alfa USA	J150190DM
Bright Finish	118° Point	Alfa USA	J150190BDM
Black Oxide	135° Split Pt.	Alfa USA	S150190DM
Bright Finish	135° Split Pt.	Alfa USA	S150190BDM
HSS TiN COATED			
Gold Finish	118° Point	Alfa USA	J150190TNDM
Gold Finish	135° Split Pt.	Alfa USA	S150190TNDM
HSS TiN TIPPED			
TiN Tipped	135° Split Pt.	Eco Pro	S40190TTDM
COBALT			
Straw Gold	135° Split Pt.	Alfa USA	CO50190DM

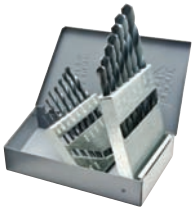
3/8" REDUCED SHANK MECHANIC'S LENGTH

BBML74290R

COATING / FINISH	POINT ANGLE	BRAND	STOCK #
HSS BLITZ BITS			
15 Pc. Set 1/16" - 1/2" by 32nds			
Black & Gold	135° Split Pt.	Alfa USA	BBML74293R
29 Pc. Set 1/16" - 1/2" by 64ths			
Black & Gold	135° Split Pt.	Alfa USA	BBML74290R

3/8" REDUCED SHANK JOBBER LENGTH

15 Pc. Set
1/16" - 1/2"
by 32nds
in metal index



RS150193

HIGH-SPEED STEEL			
Black Oxide	118° Point	Alfa USA	RS150193
Black Oxide	135° Split Pt.	Alfa USA	RSS150193
HSS BLITZ BITS			
Black & Gold	135° Split Pt.	Alfa USA	BBRS74193

29 Pc. Set
1/16" - 1/2"
by 64ths
in metal index

RSCO50186

HIGH-SPEED STEEL			
Black Oxide	118° Point	Alfa USA	RS150186
Black Oxide	135° Split Pt.	Alfa USA	RSS150186
HSS BLITZ BITS			
Black & Gold	135° Split Pt.	Alfa USA	BB74186

1/4" REDUCED SHANK JOBBER LENGTH

29 Pc. Set **1/16" - 1/2" by 64ths** in metal index

HIGH-SPEED STEEL			
Black Oxide	118° Point	Eco Pro	RS250187

1/2" REDUCED SHANK SILVER & DEMING

8 Pc. Set
9/16" - 1"
by 1/16ths
3 Flats on Shank
in metal index

SDCO50449A

COATING / FINISH	POINT ANGLE	BRAND	STOCK #
HIGH-SPEED STEEL			
Black Oxide	118° Point	Alfa USA	SD50449A
HSS BLITZ BITS			
Black & Gold	118° Split Pt.	Alfa USA	SDBB50449A
COBALT			
Straw Gold	118° Split Pt.	Alfa USA	SDCO50449A

33 Pc. Set
1/2" - 1"
by 64ths
3 Flats on Shank
in metal stand

SD50450

HIGH-SPEED STEEL			
Black Oxide	118° Point	Alfa USA	SD50450
HSS BLITZ BITS			
Black & Gold	118° Point	Alfa USA	SDBB50450
COBALT			
Straw Gold	118° Split Pt.	Alfa USA	SDCO50450

8 Pc. Set
9/16" - 1"
by 1/16ths
3 Flats on Shank
in plastic case

HIGH-SPEED STEEL			
Black Oxide	118° Point	Alfa USA	SD50449PL
HSS BLITZ BITS			
Black & Gold	118° Split Pt.	Alfa USA	SDBB50449PL
COBALT			
Straw Gold	118° Split Pt.	Alfa USA	SDCO50449PL

TAPER LENGTH DRILLS

16 Pc. Set
33/64" - 3/4"
by 64ths
in metal index

TLCO50393

SHANK TYPE	POINT ANGLE	STOCK #
HIGH-SPEED STEEL		
Straight Shank	118° Standard Point	TL50391
COBALT		
Straight Shank	135° Split Pt.	TLCO50391

16 Pc. Set in metal index
49/64" - 1" by 64ths

HIGH-SPEED STEEL		
Straight Shank	118° Standard Point	TL50392

29 Pc. Set in metal index
1/16" - 1/2" by 64ths

HIGH-SPEED STEEL		
Straight Shank	118° Standard Point	TL50393
COBALT		
Straight Shank	135° Split Pt.	TLCO50393

TAPER SHANK DRILLS

16 Pc. Set
33/64" - 3/4"
by 64ths
in metal index

COATING / FINISH	POINT ANGLE	SHANK TYPE	STOCK #
HIGH-SPEED STEEL			
Black Oxide	118° Point	Straight Shank	TS50098

16 Pc. Set
49/64" - 1" by 64ths
in metal index

HIGH-SPEED STEEL			
Black Oxide	118° Point	Straight Shank	TS50099

SCREW MACHINE LENGTH DRILLS

13 Pc. Set
1/16" - 1/4"
by 64ths
in metal index

COATING / FINISH	POINT ANGLE	BRAND	STOCK #
HIGH-SPEED STEEL			
Black Oxide	135° Split Pt.	Alfa USA	SM50294
HSS BLITZ BITS			
Black & Gold	135° Split Pt.	Alfa USA	BBSM50194

26 Pc. Set
Letter Sizes
in metal index

HIGH-SPEED STEEL			
Black Oxide	135° Split Pt.	Alfa USA	SM50297

29 Pc. Set
1/16" - 1/2"
by 64ths
in metal index

BBSM50190

HIGH-SPEED STEEL			
Black Oxide	135° Split Pt.	Alfa USA	SM50290
HSS BLITZ BITS			
Black & Gold	135° Split Pt.	Alfa USA	BBSM50190

60 Pc. Set
Wire Gage #1 - #60
in metal index

HIGH-SPEED STEEL			
Black Oxide	135° Split Pt	Alfa USA	SM50291

MECHANIC'S LENGTH DRILLS

BBML74290

COATING / FINISH	POINT ANGLE	BRAND	STOCK #
HSS BLITZ BITS			
13 Pc. Set 1/16" - 1/4" by 64ths			
Black & Gold	135° Split Pt.	Alfa USA	BBML74294
15 Pc. Set 1/16" - 1/2" by 32nds			
Black & Gold	135° Split Pt.	Alfa USA	BBML74293
21 Pc. Set 1/16" - 3/8" by 64ths			
Black & Gold	135° Split Pt.	Alfa USA	BBML74292
29 Pc. Set 1/16" - 1/2" by 64ths			
Black & Gold	135° Split Pt.	Alfa USA	BBML74290

COMBINATION DRILL & TAP SET

16 Pc. Set

in deluxe metal index

6-32, 8-32, 10-24, 10-32, 12-24, 12-28, 1/4"-20, 1/4"-28, 5/16"-18, 5/16"-24, 3/8"-16, 3/8"-24, 7/16"-14, 7/16"-20, 1/2"-13, 1/2"-20

DTH66120

COATING / FINISH	DESCRIPTION	STOCK #
HIGH-SPEED STEEL		
Bright finish	118° Split Pt., 2 flute	DTH66120

Monolock® QUICK CHANGE SYSTEM COMBINATION DRILL & TAP SET

16 Pc. Set

in deluxe metal index

6-32, 8-32, 10-24, 10-32, 12-24, 12-28, 1/4"-20, 1/4"-28, 5/16"-18, 5/16"-24, 3/8"-16, 3/8"-24, 7/16"-14, 7/16"-20, 1/2"-13, 1/2"-20

DTML66120

COATING / FINISH	DESCRIPTION	BRAND	STOCK #
HIGH-SPEED STEEL			
Bright finish 1/4" Hex Shank	135° Split Pt., 2 flute	Monolock®	DTML66120

Monolock® QUICK CHANGE SYSTEM 1/4" HEX SHANK DRILLS

7 Pc. Set

1/16", 3/32", 1/8", 5/32", 3/16", 7/32", 1/4"

on a hang-up card

HSD51081

COATING / FINISH	POINT ANGLE	BRAND	STOCK #
HIGH-SPEED STEEL			
Black Oxide 1/4" Hex Shank	135° Split Pt.	Monolock®	HSD51081

Monolock® QUICK CHANGE SYSTEM 1/4" HEX SHANK DRILLS

13 Pc. Set

1/16" - 1/4" by 64ths

in metal index

HSD51083

HIGH-SPEED STEEL			
Black Oxide 1/4" Hex Shank	135° Split Pt.	Monolock®	HSD51083

29 Pc. Set

1/16" - 1/2" by 64ths

in metal index

HSD51051

HIGH-SPEED STEEL			
Black Oxide 1/16" to 1/4" and Black & Gold 17/64" to 1/2" 1/4" Hex Shank	135° Split Pt.	Monolock®	HSD51051

Monolock® QUICK CHANGE SYSTEM

1/4" hex shanks are designed for use in power tools with quick change chucks and adapters.

CAR ALIGNMENT REAMERS

5 Pc. Set

3/8", 1/2", 9/16", 5/8" and 3/4"
in handy roll

CR54565

COATING / FINISH	SHANK TYPE	STOCK #
HSS BLITZ BITS		
Black & Gold Finish	ALFA USA 1/2" Shank	CRB10065
Black & Gold Finish	ECO PRO 1/2" Shank	CR54565
Black & Gold Finish	Monolock 7/16" Shank	CRML54565

MEGADRILL™ MULTI-PURPOSE DRILLS

13 Pc. Set

1/8", 5/32", 3/16", 7/32", 1/4", 9/32", 5/16", 11/32", 3/8", 13/32", 7/16", 15/32", 1/2"
in metal index

MD1099

COATING / FINISH	DESCRIPTION	STOCK #
HIGH-SPEED STEEL		
Black Oxide Finish	For Rotary & Rotary Percussion Drilling	MD1099

5 Pc. Set

1/8", 3/16", 1/4", 3/8", 1/2"
in plastic index

MD1098

COATING / FINISH	DESCRIPTION	STOCK #
HIGH-SPEED STEEL		
Black Oxide Finish	For Rotary & Rotary Percussion Drilling	MD1098
Black Oxide Finish	Monolock® QUICK CHANGE SYSTEM For Rotary & Rotary Percussion Drilling	MDML5

ProBits™ STEP DRILL SETS

2 Flute Fractional Multi-Step Sizes

SET QTY.	DESCRIPTION		STOCK #
HIGH-SPEED STEEL			
3	A, B, C	handy pouch	MBS3
3	A, B, C	plastic case	MBS13
4	A, E, F, K	plastic case	MBS14
3	A, C, F	plastic case	MBS15
6	A, C, E, F, K, M	plastic case	MBS16
4	C, H, K, M	plastic case	MBS17
HSS TiN COATED			
3	A, B, C	handy pouch	MBS3TN
3	A, B, C	plastic case	MBS13TN
4	A, E, F, K	plastic case	MBS14TN
3	A, C, F	plastic case	MBS15TN
6	A, C, E, F, K, M	plastic case	MBS16TN
4	C, H, K, M	plastic case	MBS17TN

Monolock® QUICK CHANGE SYSTEM

ProBits™ STEP DRILLS SETS WITH HEX SHANK

2 Flute Fractional Multi-Step Sizes

Styles AH, BH, CH in handy plastic case

SET QTY.	DESCRIPTION	STOCK #
HIGH-SPEED STEEL		
3	Bright Finish 1/4" Hex Power Shank	MBML3W
HSS TiN COATED		
3	Gold Finish 1/4" Hex Power Shank	MBML3TNW
COBALT		
3	Straw Gold Finish 1/4" Hex Power Shank	MBMLCO3W

Monolock® QUICK CHANGE SYSTEM

1/4" hex shanks are designed for use in power tools with quick change chucks and adapters.

HSS COMBINED DRILLS & COUNTERSINKS

5 Pc. Set

Nos. 1, 2, 3, 4, 5

in a wood stand

MADE IN U. S. A.

DESCRIPTION		STOCK #
HIGH-SPEED STEEL		
Plain type 60° Angle included	Alfa USA	CDHK50465

COUNTERSINKS & DEBURRING TOOLS

5 Pc. Set

Sizes #0 - #4

in a wood stand

EU

DESCRIPTION		STOCK #
HIGH-SPEED STEEL		
82° Countersink & Deburring tools	Eco Pro	CDT50510S

COUNTERSINKS

5 Pc. Single Flute Set

Sizes 1/4", 3/8", 1/2", 3/4", 1"

in a wood stand

MADE IN U. S. A.

EU

DESCRIPTION		STOCK #
HIGH-SPEED STEEL		
82° Countersink	Alfa USA	CSF15020
60° Countersink	Alfa USA	CSF16020
90° Countersink	Alfa USA	CSF17020
82° Countersink	Eco Pro	CSF50570
60° Countersink	Eco Pro	CSF50570A
90° Countersink	Eco Pro	CSF50570B
100° Countersink	Eco Pro	CSF50570C

9 Pc. Single Flute Set

Sizes 3/16", 1/4", 5/16", 3/8", 1/2", 5/8", 3/4", 7/8", 1"

EU

DESCRIPTION		STOCK #
HIGH-SPEED STEEL		
82° Countersink	Eco Pro	CSF50571
60° Countersink	Eco Pro	CSF50571A
90° Countersink	Eco Pro	CSF50571B
100° Countersink	Eco Pro	CSF50571C

12 Pc. Single Flute Set

Sizes 3/16", 1/4", 5/16", 3/8", 1/2", 5/8", 3/4", 7/8", 1", 1-1/4", 1-1/2", 2"

EU

DESCRIPTION		STOCK #
HIGH-SPEED STEEL		
82° Countersink	Eco Pro	CSF50572
60° Countersink	Eco Pro	CSF50572A
90° Countersink	Eco Pro	CSF50572B
100° Countersink	Eco Pro	CSF50572C

5 Pc. Three Flute Set

Sizes 1/4", 3/8", 1/2", 3/4", 1"

EU

DESCRIPTION		STOCK #
HIGH-SPEED STEEL		
82° Countersink	Eco Pro	C3F50573
60° Countersink	Eco Pro	C3F50573A
90° Countersink	Eco Pro	C3F50573B

8 Pc. Six Flute Set

Sizes 1/4", 5/16", 3/8", 1/2", 5/8", 3/4", 7/8", 1"

EU

DESCRIPTION		STOCK #
HIGH-SPEED STEEL		
82° Countersink	Eco Pro	C6F50574
60° Countersink	Eco Pro	C6F50574A
90° Countersink	Eco Pro	C6F50574B

10 Pc. Six Flute Set

Sizes 1/4", 5/16", 3/8", 1/2", 5/8", 3/4", 7/8", 1", 1-1/4", 1-1/2"

EU

DESCRIPTION		STOCK #
HIGH-SPEED STEEL		
82° Countersink	Eco Pro	C6F50575
60° Countersink	Eco Pro	C6F50575A
90° Countersink	Eco Pro	C6F50575B

Monolock® QUICK CHANGE SYSTEM

4 Pc. Five Flute Set

Sizes 3/8", 1/2", 5/8", 3/4"

EU

DESCRIPTION		STOCK #
HIGH-SPEED STEEL		
82° Countersink	Monolock Shank	C5F50565

MADE IN U. S. A.

POINT-OF-PURCHASE STOCKING DISPENSER

Fractional Drills – 300 Pc. Assortment

In metal display case (12-3/4" W x 14" D x 14-1/4" H)

Features:

- Assortment is complete with clear, plexiglass front cover for high visibility and shatterproof durability.
- Case stocks **29 fractional sizes – 1/16" thru 1/2" by 64ths.** – each size in a separate compartment.
- Steel drill gauge on top assures correct sizing of drills.
- Lockable with own set of keys.

300 Pcs. Per Case – Fractional Display Cabinet Contains:

SIZE	QTY.	SIZE	QTY.	SIZE	QTY.	SIZE	QTY.	SIZE	QTY.
1/16"	24	5/32"	18	1/4"	24	11/32"	3	7/16"	3
5/64"	12	11/64"	12	17/64"	3	23/64"	3	29/64"	2
3/32"	24	3/16"	24	9/32"	3	3/8"	6	15/32"	2
7/64"	24	13/64"	6	19/64"	3	25/64"	3	31/64"	2
1/8"	48	7/32"	12	5/16"	6	13/32"	2	1/2"	3
9/64"	18	15/64"	6	21/64"	3	27/64"	2		

Display Only (Without Drills)	STOCK # DIHGDCF

Jobber Length

DESCRIPTION	STOCK #
GENERAL PURPOSE 118° POINT	
Black Oxide 118° Point	GDCF300
Bright Finish 118° Point	GDCF300B
HEAVY DUTY 135° SPLIT POINT	
Black Oxide HD	GDCSF300
Black Oxide HD 3-Flat Shank	GDCSFLF300
BLITZ BITS PREMIUM HEAVY DUTY	
Black & Gold HD 135° Split Pt.	GDCBBF300
TiN COATED	
Gold Finish 135° Split Pt.	GDCSF300TN
COBALT	
Straw Gold Finish HD 135° Split Pt.	GDCCOF300

Mechanic's Length

BLITZ BITS PREMIUM HEAVY DUTY	
Black & Gold HD 135° Split Pt.	GDCBBMLF300

Drill Dispensers

A

Huot DISPENSER CABINETS WITH JOBBER DRILLS

Dimensions: 14-5/8" W x 7-3/8" D x 7-3/4" H • Metal Construction

DRILLS PER DISPENSER	DESCRIPTION	FINISH	STOCK #
	FRACTIONAL SIZES		
276 **Contains Fractional Size Drills:** 12 each of sizes 1/16" to 5/16"; 6 each of 21/64" to 1/2" in Three Drawer Dispenser Cabinet	**Alfa USA,** HSS General Purpose 118° Point	Black Oxide	DDJDF
	Alfa USA, HSS Heavy Duty 135° Split Point	Black Oxide	DDSPF
	Blitz Bits®, Heavy Duty 135° Split Point	Black/Gold	DDBBF
	Cobalt, Extra Heavy Duty 135° Split Point	Straw Gold	DDCOF

TOOLS INCLUDED
For empty cabinet dispensers
See Page A80

Master Drill Dispenser (Lockable)

MASTER DISPENSER CABINET WITH FRACTIONAL, LETTER & WIRE GAGE SIZE JOBBER DRILLS

Dimensions: 26" W x 12" D x 12-1/2" H • Metal Four Drawer Dispenser Cabinet

1236 **Fractional, Letter & Wire Gage Size Dispenser Cabinet Contains:** 12 each of sizes 1/16" to 5/16"; 6 each of 21/64" to 1/2"; 12 each of sizes #1 to #60 12 each of sizes A to N; 6 each of sizes O to Z and Lockable Dispenser Cabinet	**Alfa USA,** HSS General Purpose 118° Point	Black Oxide	MDDJD
	Alfa USA, HSS Heavy Duty 135° Split Point	Black Oxide	MDDSPD
	Blitz Bits®, Heavy Duty 135° Split Point	Black/Gold	MDDBB
	Cobalt, Extra Heavy Duty 135° Split Point	Straw Gold	MDDCO

Fractional

 # Sizes

Letter Sizes

Stackable
(Not Lockable)

DISPENSER CABINET WITH BLITZ BITS®, MECHANIC'S LENGTH

Dimensions: 14-5/8" W x 7-3/8" D x 7-3/4" H • Metal Three Drawer Dispenser Cabinet

276 **Contains Fractional Size Drills:** 12 each of sizes 1/16" to 5/16"; 6 each of 21/64" to 1/2"	**Blitz Bits®,** Mechanic's Length 135° Split Point	Black/Gold	DDBBM

METAL INDEXES & DISPENSER CABINETS - TOOLS NOT INCLUDED

MADE IN U. S. A.

ASSORTED METAL INDEXES

- Industrial complete metal construction.
- Durable baked on powder coat finish for rigorous use.
- Large legible markings.

DESCRIPTION	STOCK #
DRILL INDEX FOR JOBBER LENGTH	
13 Pc. 1/16" - 1/4" by 64ths **15 Pc.** 1/16" - 1/2" by 32nds **21 Pc.** 1/16" - 3/8" by 64ths **29 Pc.** 1/16" - 1/2" by 64ths	DIH13 DIH15 DIH21 DIH29
60 Pc. #1 - #60 **20 Pc.** #61 - #80	DIH60 DIH20
26 Pc. A - Z	DIH26
115 Pc. Master Set Fractional / Number / Letter	DIH115
25 Pc. Metric – 1mm - 13mm x .5mm	DIH25
PLASTIC DRILL MUG & INDEX	
29 Pc. Plastic Mug 1/16" - 1/2" by 64ths	DIH29DM
29 Pc. Plastic Drill Index 1/16" - 1/2" by 64ths	DIR29

DESCRIPTION	STOCK #
DRILL INDEX FOR SCREW MACHINE LENGTH	
29 Pc. 1/16" - 1/2" by 64ths	DIHSM29
DRILL INDEX FOR SILVER & DEMING	
8 Pc. 9/16" - 1" by 16ths	DIHSD8
DRILL INDEX FOR TAPER LENGTH & TAPER SHANK	
16 Pc. 33/64" - 3/4" by 64ths **16 Pc.** 49/64" - 1" by 64ths **29 Pc.** 1/16" - 1/2" by 64ths	DIHTS16A DIHTS16B DIHTL29
SCREW EXTRACTOR & DRILL INDEX	
10 Pc. index hold sizes: #1, #2, #3, #4, #5 Screw Extractors 5/64", 7/64", 5/32", 1/4", 19/64" Drills	DIADS10

DESCRIPTION	STOCK #
TAP & DRILL INDEX	
18 Pc. NC Plug Taps with Jobber Drills Slots fit 6-32 tap #36 drill 8-32 #29 10-24 #25 10-32 #21 1/4-20 #7 5/16-18 F 3/8-16 5/16 7/16-14 U 1/2-13 27/64	DIHTD18B
18 Pc. NF Plug Taps with Jobber Drills Slots fit 6-40 tap #33 drill 8-36 #29 10-24 #25 10-32 #21 1/4-28 #3 5/16-24 #1 3/8-24 Q 7/16-20 25/64 1/2-20 29/64	DIHTD18A
36 Pc. NC/NF Plug Taps with Jobber Drills Slots fit NC 6-32 tap #36 drill 8-32 #29 10-24 #25 12-24 #16 1/4"-20 #7 5/16"-18 F 3/8"-16 5/16" 7/16"-14 U 1/2"-13 27/64" Slots fit NF 6-40 tap #33 drill 8-36 #29 10-32 #21 12-28 #15 1/4"-28 #3 5/16"-24 #1 3/8"-24 Q 7/16"-20 25/64 1/2"-20 29/64	DIHTD36

DRILL DISPENSER CABINETS

Dimensions: 14-5/8" W x 7-3/8" D x 7-3/4" H

- Cost effective tool management & storage.
- Heavy gauge steel cabinets & drawers with vinyl dividers.
- Stackable models with full drawer extensions.
- Baked epoxy finish for long life.

DIH13

Drill Dispenser
DIHDF13000
Fractional

DIHDN13025
 # Sizes

DIHDL13050
Letter Sizes

Stackable
(Not Lockable)

DESCRIPTION	WEIGHT	STOCK #
FOR FRACTIONAL DRILLS 1/16" - 1/2" by 64ths Three drawers	10.25 lbs.	DIHDF13000
FOR NUMBER DRILLS #1 - #60 Five drawers	13.25 lbs.	DIHDN13025
FOR LETTER DRILLS A - Z Three drawers	10.25 lbs.	DIHDL13050
FOR METRIC DRILLS 1mm - 13mm x .5mm Three drawers	10.75 lbs.	DIHDM13075

MASTER DRILL DISPENSER

(Four Drawers)

Dimensions: 26" W x 12" D x 12-1/2" H

- Cost effective tool management & storage.
- Heavy gauge steel cabinet & drawers with vinyl dividers.
- Baked epoxy finish for long life.

DIHTD18B

Master Drill Dispenser
DIHDM13175
(Lockable)
with ball bearing slides

DESCRIPTION	WEIGHT	STOCK #
Top drawer holds fractional sizes 1/16" - 1/2" by 64ths, Second drawer holds wire gauge sizes #1 - #60 Third drawer holds letter sizes A - Z Fourth drawer is undivided for misc. tools **Lockable**	50 lbs.	DIHDM13175

A

Hole Saws
Annular Hole Cutters
Mini RotaCutters

Hole Saws

Annular Hole Cutters

RotaCutters

Mini RotaCutters

Industrial Bi-Metal Cobalt Hole Saws

MADE IN U. S. A.

Features:
- High-speed cobalt steel teeth are electron beam welded to a steel body. This process enables teeth to cut faster and stay sharper than standard teeth.
- High alloy steel body is shatter resistant for superior durability.
- Bi-metal design bonds M3 cutting edge to fatigue resistant backer.
- Positive rake teeth offer better chip clearance.
- 4 / 6 variable pitch reduces vibration and heat generation for smooth cutting.
- Cutting depth 1-1/2".
- Cuts holes in wood, plywood, plastic, fiberboard, or any machinable metal, including: nail-embedded wood, pipe, stainless steel, etc.

FRACTIONAL

DIA. INCH	DIA. MM	USE ARBOR TYPE	PIPE TAP SIZE	PIPE ENT. SIZE	R.P.M. STEEL	R.P.M. IRON	STOCK #
5/8	16	TYPE A HOSA62590			550	365	HOSA62502
3/4	19		1/2	3/8	460	300	HOSA62504
7/8	22		3/4	1/2	390	260	HOSA62506
1	25				350	235	HOSA62508
1-1/8	29		1	3/4	300	200	HOSA62510
1-1/4	32	TYPE B HOSA62591			275	180	HOSA62512
1-3/8	35			1	250	165	HOSA62514
1-1/2	38		1-1/4		230	150	HOSA62516
1-5/8	41				210	140	HOSA62518
1-3/4	44		1-1/2	1-1/4	195	130	HOSA62520
1-7/8	48				180	120	HOSA62522
2	51			1-1/2	170	115	HOSA62524
2-1/8	54				160	105	HOSA62526
2-1/4	57		2		150	100	HOSA62528
2-3/8	60				140	95	HOSA62530
2-1/2	64			2	135	90	HOSA62532
2-5/8	67		2-1/2		130	85	HOSA62534
2-3/4	70				125	80	HOSA62536
2-7/8	73				120	80	HOSA62538
3	76			2-1/2	115	75	HOSA62540
3-1/4	83		3		105	70	HOSA62544
3-1/2	89				95	65	HOSA62548
3-3/4	95		3-1/2		90	60	HOSA62552
4	102				85	55	HOSA62556
4-1/2	114			4	75	50	HOSA62560
5	127				65	45	HOSA62564
5-1/2	140				60	40	HOSA62568
6	152				55	35	HOSA62572

Pack: 1 per display box

TYPE A

TYPE B

For Arbors and Accessories, see page A86.

Specialty Bi-Metal Variable Pitch Hole Saw Kits

MADE IN U. S. A.

7 Pc. Mechanic's Kit

Stock # HOSA7
in strong molded plastic case

- Most used for applications in the automotive, construction and manufacturing industries.

Contains one hole saw each:
7/8", 1", 1-1/8", 1-1/4", 1-1/2"
Kit also includes 1 drill and 1 arbor.

8 Pc. Plumber's Kit

Stock # HOSA8P
in strong molded plastic case

- Designed for plumbers.
- This kit contains pipe tap sizes for pipe through 2".

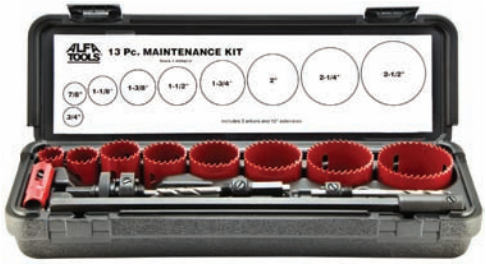
Contains one hole saw each:
3/4", 7/8", 1-1/8", 1-1/2", 1-3/4", 2-1/4"
Kit also includes 2 arbors.

8 Pc. Electrician's Kit

Stock # HOSA8E
in strong molded plastic case

- Designed for electricians.
- This kit contains pipe entrance sizes for pipe and conduit through 2".

Contains one hole saw each:
7/8", 1-1/8", 1-3/8", 1-3/4", 2", 2-1/2"
Kit also includes 2 arbors.



13 Pc. Maintenance Kit

Stock # HOSA13
in strong molded plastic case

- Designed for plumbers, electricians, industrial and general purpose maintenance.
- This kit contains 9 plumbing and electrical sizes for pipe and conduit through 2".

Contains one hole saw each:
3/4", 7/8", 1-1/8", 1-3/8", 1-1/2", 1-3/4", 2", 2-1/4" and 2-1/2"
Kit also includes 3 arbors and 12" extension.

Bi-Metal Hole Saw Cutting Speeds in RPM

Size Inches	Mild Steel	Cast Iron	Tool & S.S.	Brass	Alum.
9/16"	580	400	300	790	900
5/8"	550	365	275	730	825
11/16"	500	330	250	665	750
3/4"	460	300	230	600	690
13/16"	425	280	210	560	635
7/8"	390	260	195	520	585
15/16"	370	245	185	495	555
1"	350	235	175	470	525
1-1/16"	325	215	160	435	480
1-1/8"	300	200	150	400	450
1-3/16"	285	190	145	380	425
1-1/4"	275	180	140	360	410
1-5/16"	260	175	135	345	390
1-3/8"	250	165	125	330	375
1-7/16"	240	160	120	315	360
1-1/2"	230	150	115	300	345

Size Inches	Mild Steel	Cast Iron	Tool & S.S.	Brass	Alum.
1-9/16"	220	145	110	290	330
1-5/8"	210	140	105	280	315
1-11/16"	205	135	100	270	305
1-3/4"	195	130	95	260	295
1-13/16"	190	125	95	250	285
1-7/8"	180	120	90	240	270
2"	170	115	85	230	255
2-1/16"	165	110	80	220	245
2-1/8"	160	105	80	210	240
2-1/4"	150	100	75	200	225
2-5/16"	145	100	75	195	225
2-3/8"	140	95	70	190	220
2-1/2"	135	90	65	180	205
2-9/16"	130	85	65	175	200
2-5/8"	130	85	65	170	195
2-3/4"	125	80	60	160	185
2-7/8"	120	80	60	160	180

Size Inches	Mild Steel	Cast Iron	Tool & S.S.	Brass	Alum.
3"	115	75	55	150	170
3-1/8"	110	70	55	140	165
3-1/4"	105	70	50	140	155
3-3/8"	100	65	50	130	150
3-1/2"	95	65	45	130	145
3-5/8"	95	60	45	120	140
3-3/4"	90	60	45	120	135
3-7/8"	90	60	45	120	135
4"	85	55	40	110	130
4-1/8"	80	55	40	110	120
4-1/4"	80	55	40	110	120
4-1/2"	75	50	35	100	105
4-3/4"	75	50	35	95	95
5"	65	45	30	90	90
5-1/2"	60	40	25	85	85
5-3/4"	55	35	25	75	75
6"	55	35	25	75	75

Tungsten Carbide Tooth Tips

MADE IN U. S. A.

Features:

- Tungsten Carbide Tipped teeth provide highest wear resistance and longer life.
- 3 teeth per inch for better chip clearance and faster cutting.
- Cutting depth 1-7/8".
- Designed for sawing holes in abrasive materials such as fiberglass, particle board, asbestos board, cast iron, formica and ceramic tile.

Better chip clearance and faster cutting.

FRACTIONAL

DIA. INCH	DIA. MM	USE ARBOR TYPE	PIPE TAP SIZE	PIPE ENT. SIZE	STOCK #
3/4	19	TYPE A HOSA62590		3/8	HOSA73204
7/8	22		3/4	1/2	HOSA73206
1	25				HOSA73208
1-1/8	29		1	3/4	HOSA73210
1-1/4	32	TYPE B HOSA62591			HOSA73212
1-3/8	35			1	HOSA73214
1-1/2	38		1-1/4		HOSA73216
1-5/8	41				HOSA73218
1-3/4	44		1-1/2	1-1/4	HOSA73220
1-7/8	48				HOSA73222
2	51			1-1/2	HOSA73224
2-1/8	54				HOSA73226
2-1/4	57		2		HOSA73228
2-3/8	60				HOSA73230
2-1/2	64			2	HOSA73232
2-5/8	67		2-1/2		HOSA73234
2-3/4	70				HOSA73236
2-7/8	73				HOSA73238
3	76			2-1/2	HOSA73240
3-1/4	83		3		HOSA73244
3-1/2	89				HOSA73248
3-3/4	95		3-1/2		HOSA73252
4	102				HOSA73256
4-1/4	108			4	HOSA73260
4-1/2	114			4	HOSA73264
4-3/4	121		4-1/2		HOSA73266
5	127				HOSA73268
5-1/2	140				HOSA73270
6	152				HOSA73274

Pack: 1 per display box

TYPE A

TYPE B

For Arbors and Accessories, see page A94.

Tungsten Carbide Grains

Features:

- Tungsten carbide cutting edge.
- Cutting depth 1-1/2".
- 3/16" thick heavy duty backing plate.
- High heat and abrasion resistance.
- No teeth to dull or chip.
- Cuts extremely hard abrasive materials.
- Resists snagging.
- Eliminates need for drive plate.

Applications:

- Use for plumbing, construction, marine and aircraft applications.
- Recommended for cutting laminates, fiberglass, ceramic tile, marble and slate, cast iron and composites.

MADE IN U. S. A.

FRACTIONAL

DIA.	USE ARBOR TYPE	PIPE TAP SIZE	PIPE ENT. SIZE	STOCK #
3/4"		1/2"	3/8"	HOSA76004
7/8"	TYPE E	3/4"	1/2"	HOSA76006
1"	HOSA76061			HOSA76007
1-1/8"		1"	3/4"	HOSA76008
1-1/4"				HOSA76009
1-3/8"			1"	HOSA76010
1-1/2"		1-1/4"		HOSA76011
1-3/4"		1-1/2"	1-1/4"	HOSA76012
1-7/8"				HOSA76013
2"			1-1/2"	HOSA76014
2-1/8"				HOSA76015
2-1/4"		2"		HOSA76016
2-3/8"	TYPE F			HOSA76017
2-1/2"	HOSA76062		2"	HOSA76018
2-3/4"				HOSA76019
3"			2-1/2"	HOSA76020
3-1/4"			3"	HOSA76021
3-3/8"				HOSA76022
3-3/4"		3-1/2"		HOSA76023
4"				HOSA76024
4-1/2"			4"	HOSA76025
RECESSED LIGHTING HOLE SAWS				
6-3/8"	TYPE F			HOSA76040
6-5/8"	HOSA76062			HOSA76041
6-7/8"				HOSA76042

1 per box

Carbide grit bonded to heavy steel body.

TYPE E

TYPE F

For Arbors and Accessories, see page A86.

Carbide Grit® Hole Saw Operating Speeds

Hole Saw Size Inches	Hole Saw Size MM	Brick Ceramic	Slate	Reinforced Plastics	Fiber-Glass
5/8	16	620	1540	2140	920
3/4	19	510	1280	1790	770
–	20	470	1180	1660	715
7/8	22	430	1090	1530	660
1	25	380	960	1340	580
1-1/8	29	340	850	1190	510
1-1/4	32	310	770	1070	460
1-3/8	35	280	700	980	420
1-1/2	38	260	640	890	390
1-3/4	44	220	550	770	330
1-7/8	48	200	510	720	310
2	51	190	480	670	290

Hole Saw Size Inches	Hole Saw Size MM	Brick Ceramic	Slate	Reinforced Plastics	Fiber-Glass
2-1/8	54	180	450	630	280
2-1/4	57	170	430	600	270
2-3/8	60	160	400	570	250
2-1/2	64	150	380	540	230
2-3/4	70	140	350	500	210
3	76	130	320	450	190
3-1/4	83	120	295	415	180
3-3/8	86	115	285	400	175
3-3/4	95	102	255	350	160
4	102	95	240	330	150
4-1/2	114	82	215	290	125

Arbors Complete With Pilot Drills

MADE IN U. S. A.

Features:

- Durable, heavy duty steel.
- Pilot drill included.
- Several shank sizes.

TYPE A TYPE B TYPE E TYPE F

ARBORS FOR BI-METAL, CARBIDE TIPPED & CARBIDE GRIT-EDGE HOLE SAWS

DESCRIPTION	SHANK SIZE	THREAD SIZE	FITS HOLE SAWS	PILOT DRILL	CHUCK SIZE	STOCK #
Type A for Bi-Metal and Carbide Tipped Hole Saws	**1/4"** Round	1/2"-20	3/4" - 1-1/8"	HSS 1/4"	1/4"	HOSA62590
Type B for Bi-Metal and Carbide Tipped Hole Saws	**7/16"** Hex	5/8"-18	1-1/4" - 6"	HSS 1/4"	1/2"	HOSA62591
Type E for Carbide Grit Edge-Hole Saws	**3/8"** Hex	1/2"-20	3/4" - 1-1/8"	Carb. Tipped 1/4"	3/8" - 1/2"	HOSA76061
Type F for Carbide Grit-Edge Hole Saws	**3/8"** Hex	5/8"-18	1-1/4" - 6-7/8"	Carb. Tipped 1/4"	3/8" - 1/2"	HOSA76062

1 per pack

1/4" Pilot Drills For Use With Hole Saw Arbors

Features:

- High-speed Steel Pilot Drills for use with Bi-Metal and Carbon Steel hole saws.
- Carbide Tipped Pilot Drills for use with Carbide Tipped and Carbide Grit-Edge hole saws.
- For general cutting in wood, plastics, metals.

PD61801

PD61802

PD61803

DESCRIPTION	DIA.	OVERALL LENGTH	STOCK #	
			BULK	CARDED
HIGH-SPEED STEEL				
3 Whistle notches on shank for set screw	**1/4"**	4"	PD61801	PD61801C
3 Flats on shank	**1/4"**	4"	PD61802	PD61802C
CARBIDE TIPPED				
2 Flats on shank	**1/4"**	3-1/4"	PD61803	PD61803C

Bulk 12 per pack, **Card** 1 per card

12" EXTENSION

for 7/16" Shank Arbors

1 per pack

PD61810

Carbide Tipped

Diamond-Ground Tungsten Carbide Teeth

- Extremely powerful and durable.

Large Chip Clearance Slots

- Rapid, uninterrupted drilling rate.

Power-Change Adapter

- Fast and safe securing and releasing of pilot drill bit and holesaw with just one click.
- For use in drills with drill chuck or SDS-plus shank; only drill with rotary function, deactivate impact.

Recommended for working on:

- Soft and hard wood
- Plywood
- Wood core plywood
- Chipboard (raw-veneered)
- Laminate
- Sandwich materials
- Plastics
- Acrylic glass
- Masonry
- Wall tiles
- Brick
- Plasterboard and blocks
- Heraklith boards
- Eternit
- Aerated concrete
- Solid bricks
- Roofing tiles
- Vertically perforated bricks
- Limestone

CARBIDE TIPPED HOLE SAW

For Multi-Purpose Hole Making.

HOLE DIAMETER (Inch)	HOLE DIAMETER (Metric)	DEPTH OF CUT	NO. OF TEETH	STOCK #
3/4"	19	2-1/8	1	CTHS01
7/8"	22	2-1/8	1	CTHS02
1"	25	2-1/8	1	CTHS03
1-1/16"	27	2-1/8	1	CTHS04
1-3/16"	30	2-1/8	1	CTHS05
1-1/4"	32	2-1/8	2	CTHS06
1-3/8"	35	2-1/8	2	CTHS07
1-1/2"	38	2-1/8	2	CTHS08
1-9/16"	40	2-1/8	2	CTHS09
1-5/8"	41	2-1/8	2	CTHS10
1-3/4"	44	2-1/8	2	CTHS11
1-7/8"	48	2-1/8	2	CTHS12
2"	51	2-1/8	3	CTHS13
2-1/8"	54	2-1/8	3	CTHS14
2-1/4"	57	2-1/8	3	CTHS15
2-3/8"	60	2-1/8	3	CTHS16
2-1/2"	64	2-1/8	3	CTHS17
2-5/8"	67	2-1/8	3	CTHS18
2-3/4"	70	2-1/8	3	CTHS19
2-7/8"	73	2-1/8	3	CTHS20
3"	76	2-1/8	3	CTHS21

1 per pack

TYPE A

TYPE G

TYPE B

TYPE H

ARBORS FOR CARBIDE TIPPED, MULTI-PURPOSE HOLE SAWS

DESCRIPTION	SHANK TYPE	THREAD SIZE	FITS HOLE SAWS	PILOT DRILL	CHUCK SIZE	STOCK #
Type A for Bi-Metal and Carbide Tipped Hole Saws	**1/4"** Round	1/2"-20	3/4" - 1-3/16"	HSS 1/4"	1/4"	HOSA62590
Type B for Bi-Metal and Carbide Tipped Hole Saws	**7/16"** Hex	5/8"-18	1-1/4" - 3"	HSS 1/4"	1/2"	HOSA62591
Type G for Carbide Tipped Hole Saws	**SDS Plus**	1/2"-20	3/4" - 1-3/16"	M2 HSS 1/4"	–	HOSASDS1
Type H for Carbide Tipped Hole Saws	**SDS Plus**	5/8"-18	1-1/4" - 3"	M2 HSS 1/4"	–	HOSASDS2

1 per pack

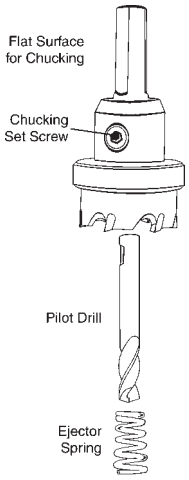
ECO PRO • **ECO PRO** Hole Saws are made outside the United States to ALFA TOOLS' specifications.

Industrial Quality For Professional Use

JAPAN

Features:

- For cutting construction steel plate, stainless steel, iron, aluminum, copper, cast iron and plastics.
- Ultra-hard tungsten carbide teeth have excellent wear and heat resistance.
- One piece construction requires no assembly and provides stable, accurate drilling.
- HSS Pilot drill and ejector spring are standard, ejects plug automatically after cutting.
- Safety collar stop prevents over-penetration of workpiece.
- Three-flatted shank for firm chucking.
- Cuts dry, use MEGACUT® cutting fluid for even cleaner, precise cuts.
- Produces burr-free holes.
- Depth of cut up to 3/16".



DEPTH OF CUT 3/16"

DIA.	SHANK DIA.	STOCK #
9/16"	3/8"	CHC74350
5/8"	3/8"	CHC74351
11/16"	3/8"	CHC74352
3/4"	3/8"	CHC74353
13/16"	3/8"	CHC74354
7/8"	3/8"	CHC74355
15/16"	3/8"	CHC74356
1"	3/8"	CHC74357
1-1/16"	3/8"	CHC74358
1-1/8"	3/8"	CHC74359
1-3/16"	3/8"	CHC74360
1-1/4"	3/8"	CHC74361
1-5/16"	3/8"	CHC74362
1-3/8"	3/8"	CHC74363
1-7/16"	3/8"	CHC74364
1-1/2"	3/8"	CHC74365
1-9/16"	3/8"	CHC74366
1-5/8"	3/8"	CHC74367
1-11/16"	3/8"	CHC74368
1-3/4"	3/8"	CHC74369

DIA.	SHANK DIA.	STOCK #
1-13/16"	3/8"	CHC74370
1-7/8"	3/8"	CHC74371
1-15/16"	3/8"	CHC74372
2"	3/8"	CHC74373
2-1/16"	3/8"	CHC74374
2-1/8"	3/8"	CHC74375
2-3/16"	3/8"	CHC74376
2-1/4"	3/8"	CHC74377
2-5/16"	3/8"	CHC74378
2-3/8"	3/8"	CHC74379
2-7/16"	3/8"	CHC74380
2-1/2"	3/8"	CHC74381
2-9/16"	3/8"	CHC74382
2-5/8"	1/2"	CHC74383
2-11/16"	1/2"	CHC74384
2-3/4"	1/2"	CHC74385
2-13/16"	1/2"	CHC74386
2-7/8"	1/2"	CHC74387
2-15/16"	1/2"	CHC74388
3"	1/2"	CHC74389

1 per pack

3/16" DEPTH ACCESSORIES

DESCRIPTION	STOCK #
HSS Pilot Drill	CHC74390
Carbide Tipped Pilot Drill	CHC74391
Chucking Screw	CHC74392
Ejector Spring	CHC74393

HSS Pilot Drills are provided standard. Carbide Tipped Pilot Drills are recommended for working with very hard materials including those with a ceramic coating.

Speed Recommendation

SIZE	STEEL (RPM)	STAINLESS STEEL (RPM)
9/16" to 13/16"	700-1000	300-700
7/8" to 1-3/16"	500-800	200-450
1-1/4" to 1-9/16"	300-600	175-315
1-5/8" to 2"	200-500	120-225
2-1/16" to 2-3/8"	200-400	95-195
2-7/16" to 3"	150-300	80-150

16 PC. CARBIDE TIPPED HOLE CUTTERS

DISPLAY STOCK # CHC31616

Contains

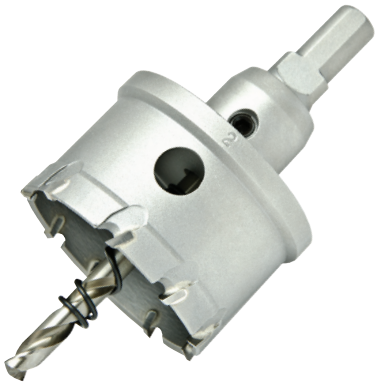
Qty.	Size	Stock #	Qty.	Size	Stock #
1	9/16"	CHC74350	1	1-1/8"	CHC74359
1	5/8"	CHC74351	1	1-1/4"	CHC74361
1	11/16"	CHC74352	1	1-3/8"	CHC74363
1	3/4"	CHC74353	1	1-1/2"	CHC74365
1	13/16"	CHC74354	1	1-5/8"	CHC74367
1	7/8"	CHC74355	1	1-3/4"	CHC74369
1	15/16"	CHC74356	1	1-7/8"	CHC74371
1	1"	CHC74357	1	2"	CHC74373

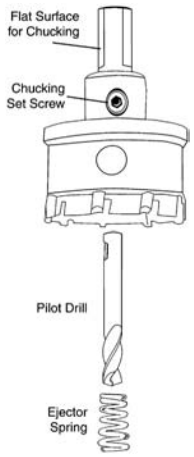
Industrial Quality For Professional Use

JAPAN

Features:

- For cutting steel plate, iron, aluminum, copper, cast iron, stainless steel, fiberglass and plastics.
- Ultra-hard tungsten carbide teeth have excellent wear and heat resistance.
- One piece construction requires no assembly and provides stable, accurate drilling.
- HSS Pilot drill and ejector spring are standard, ejects plug automatically after cutting.
- Safety collar stop prevents over-penetration of workpiece.
- Three-flatted shanks for firm chucking.
- Cuts dry, use MEGACUT® cutting fluid for even cleaner, precise cuts.
- Produces burr-free holes.
- Depth of cut up to 1".





DEPTH OF CUT 1"

DIA.	SHANK DIA.	STOCK #
9/16"	3/8"	CHC74450
5/8"	3/8"	CHC74451
11/16"	3/8"	CHC74452
3/4"	3/8"	CHC74453
13/16"	3/8"	CHC74454
7/8"	3/8"	CHC74455
15/16"	3/8"	CHC74456
1"	3/8"	CHC74457
1-1/16"	3/8"	CHC74458
1-1/8"	3/8"	CHC74459
1-3/16"	3/8"	CHC74460
1-1/4"	3/8"	CHC74461
1-5/16"	3/8"	CHC74462
1-3/8"	3/8"	CHC74463
1-7/16"	3/8"	CHC74464
1-1/2"	3/8"	CHC74465

DIA.	SHANK DIA.	STOCK #
1-9/16"	3/8"	CHC74466
1-5/8"	3/8"	CHC74467
1-11/16"	3/8"	CHC74468
1-3/4"	3/8"	CHC74469
1-13/16"	3/8"	CHC74470
1-7/8"	3/8"	CHC74471
1-15/16"	3/8"	CHC74472
2"	1/2"	CHC74473
2-1/8"	1/2"	CHC74475
2-1/4"	1/2"	CHC74477
2-3/8"	1/2"	CHC74479
2-1/2"	1/2"	CHC74481
2-5/8"	1/2"	CHC74483
2-3/4"	1/2"	CHC74485
2-7/8"	1/2"	CHC74487
3"	1/2"	CHC74489

1 per pack

16 PC. CARBIDE TIPPED HOLE CUTTERS

DISPLAY STOCK # CHC12316

Contains

Qty.	Size	Stock #	Qty.	Size	Stock #
1	9/16"	CHC74450	1	1-1/8"	CHC74459
1	5/8"	CHC74451	1	1-1/4"	CHC74461
1	11/16"	CHC74452	1	1-3/8"	CHC74463
1	3/4"	CHC74453	1	1-1/2"	CHC74465
1	13/16"	CHC74454	1	1-5/8"	CHC74467
1	7/8"	CHC74455	1	1-3/4"	CHC74469
1	15/16"	CHC74456	1	1-7/8"	CHC74471
1	1"	CHC74457	1	2"	CHC74473

1" DEPTH ACCESSORIES

DESCRIPTION	STOCK #
HSS Pilot Drill	CHC74490
Carbide Tipped Pilot Drill	CHC74491
Chucking Screw	CHC74392
Ejector Spring	CHC74393

HSS Pilot Drills are provided standard. Carbide Tipped Pilot Drills are recommended for working with very hard materials including those with a ceramic coating.

Annular Hole Cutter High-Speed Steel

Patented Chipbreaker Tooth Design
Patent # GB2278793 and GB23197393

U.K.

3/4" Weldon Shank

Features:

- Manufactured from heat treated high-speed steel.
- Available in 1", 2" and 3" cutting depths.
- Designed for cutting large diameter holes accurately, cleanly and effortlessly.
- Annular cutting is instantaneous.
- Spring loaded pilot ejects the center as a slug of steel.
- Faster feed, lower thrust, longer tool life.

Applications:

- Steel fabrication and welding.
- Construction, bridge and highway maintenance.
- Mining.
- Truck and trailer manufacturing, ship building and railroad.
- Plant maintenance and elevator repair.

FRACTIONAL

CUTTER DIA.	STOCK #		
	1" DEPTH OF CUT	2" DEPTH OF CUT	3" DEPTH OF CUT
7/16	RCHS84300	RCHS84350	–
1/2	RCHS84301	RCHS84351	–
9/16	RCHS84302	RCHS84352	–
5/8	RCHS84303	RCHS84353	–
11/16	RCHS84304	RCHS84354	–
3/4	RCHS84305	RCHS84355	–
13/16	RCHS84306	RCHS84356	RCHS84406
7/8	RCHS84307	RCHS84357	RCHS84407
15/16	RCHS84308	RCHS84358	RCHS84408
1	RCHS84309	RCHS84359	RCHS84409
1-1/16	RCHS84310	RCHS84360	RCHS84410
1-1/8	RCHS84311	RCHS84361	RCHS84411
1-3/16	RCHS84312	RCHS84362	RCHS84412
1-1/4	RCHS84313	RCHS84363	RCHS84413
1-5/16	RCHS84314	RCHS84364	RCHS84414
1-3/8	RCHS84315	RCHS84365	RCHS84415
1-7/16	RCHS84316	RCHS84366	RCHS84416
1-1/2	RCHS84317	RCHS84367	RCHS84417
1-9/16	RCHS84318	RCHS84368	RCHS84418
1-5/8	RCHS84319	RCHS84369	RCHS84419
1-3/4	RCHS84320	RCHS84370	RCHS84420
1-7/8	RCHS84321	RCHS84371	RCHS84421
1-15/16	RCHS84322	RCHS84372	RCHS84422
2	RCHS84323	RCHS84373	RCHS84423
2-1/8	RCHS84324	RCHS84375	RCHS84425
2-3/16	RCHS84326	RCHS84376	RCHS84426
2-1/4	RCHS84327	RCHS84377	RCHS84427

1 per pack

Also available TiN coated. Details on request.

Ejector Pilots Sold Separately.

EJECTOR PILOTS

TYPE	LENGTH	SIZE	STOCK #
FOR 7/16" DIA. CUTTERS ONLY			
For 1" Depth of Cut	SHORT	3/16" x 3"	RC76006
For 2" Depth of Cut	LONG	3/16" x 4"	RC76007
FOR ALL OTHER CUTTERS 1/2" TO 2-1/4"			
For 1" Depth of Cut	SHORT	1/4" x 3"	RC74331
For 2" Depth of Cut	LONG	1/4" x 4"	RC74374
For 3" Depth of Cut	EXTRA LONG	1/4" x 5"	RC74397

1 per pack

SETS

SET QTY.	SIZES	STOCK #
IN STEEL INDEX		
7 Pc.	1" depth x 9/16, 5/8, 11/16, 15/16, 7/8, 1. 1 Ejector Pilot	RCHS84346
IN WOOD BLOCK		
6 Pc.	1" depth x 9/16, 11/16, 13/16, 15/16, 1-1/16. 1 Ejector Pilot	RCHS84347
6 Pc.	2" depth x 9/16, 11/16, 13/16, 15/16, 1-1/4. 1 Ejector Pilot	RCHS84396

STOCK #
ROTA100

100 PC. ROTACUTTER™ HSS M2 DISPLAY

QTY.	DEPTH OF CUT	CUTTER DIAMETER
3 each	1"	1/2", 9/16", 5/8", 11/16", 3/4" 13/16", 7/8", 15/16", 1", 1-1/16"
20 each	1"	Ejector Pilot Pins
3 each	2"	1/2", 9/16", 5/8", 11/16", 3/4" 13/16", 7/8", 15/16", 1", 1-1/16"
20 each	2"	Ejector Pilot Pins

Annular Hole Cutter
Cobalt Premium High-Speed Steel

Patented Chipbreaker Tooth Design
Patent # GB2278793 and GB23197393

U.K.

3/4" Weldon Shank

Features:

- Manufactured from heat treated Cobalt high-speed steel.
- Available in 1", 2" and 3" cutting depths.
- Designed for cutting large diameter holes accurately, cleanly and effortlessly.
- Annular cutting is instantaneous.
- Spring loaded pilot ejects the center as a slug of steel.
- Faster feed, lower thrust, longer tool life.

Applications:

- Steel fabrication and welding.
- Construction, bridge and highway maintenance.
- Mining.
- Truck and trailer manufacturing, ship building and railroad.
- Plant maintenance and elevator repair.

FRACTIONAL

CUTTER DIA.	STOCK #		
	1" DEPTH OF CUT	2" DEPTH OF CUT	3" DEPTH OF CUT
7/16	RCCO74300	RCCO74350	–
1/2	RCCO74301	RCCO74351	–
9/16	RCCO74302	RCCO74352	–
5/8	RCCO74303	RCCO74353	–
11/16	RCCO74304	RCCO74354	–
3/4	RCCO74305	RCCO74355	–
13/16	RCCO74306	RCCO74356	RCCO74406
7/8	RCCO74307	RCCO74357	RCCO74407
15/16	RCCO74308	RCCO74358	RCCO74408
1	RCCO74309	RCCO74359	RCCO74409
1-1/16	RCCO74310	RCCO74360	RCCO74410
1-1/8	RCCO74311	RCCO74361	RCCO74411
1-3/16	RCCO74312	RCCO74362	RCCO74412
1-1/4	RCCO74313	RCCO74363	RCCO74413
1-5/16	RCCO74314	RCCO74364	RCCO74414
1-3/8	RCCO74315	RCCO74365	RCCO74415
1-7/16	RCCO74316	RCCO74366	RCCO74416
1-1/2	RCCO74317	RCCO74367	RCCO74417
1-9/16	RCCO74318	RCCO74368	RCCO74418
1-5/8	RCCO74319	RCCO74369	RCCO74419
1-3/4	RCCO74320	RCCO74370	RCCO74420
1-7/8	RCCO74321	RCCO74371	RCCO74421
1-15/16	RCCO74322	RCCO74372	RCCO74422
2	RCCO74323	RCCO74373	RCCO74423
2-1/8	RCCO74324	RCCO74375	RCCO74425
2-3/16	RCCO74326	RCCO74376	RCCO74426
2-1/4	RCCO74327	RCCO74377	RCCO74427

1 per pack

Also available TiN coated. Details on request.

SETS

SET QTY.	SIZES	STOCK #
IN STEEL INDEX		
7 Pc.	1" depth x 9/16, 5/8, 11/16, 15/16, 7/8, 1. 1 Ejector Pilot	RCCO74346
IN WOOD BLOCK		
6 Pc.	1" depth x 9/16, 11/16, 13/16, 15/16, 1-1/16. 1 Ejector Pilot	RCCO74347
6 Pc.	2" depth x 9/16, 11/16, 13/16, 15/16, 1-1/4. 1 Ejector Pilot	RCCO74396

METRIC

CUTTER DIA. MM	STOCK #	
	1" DEPTH OF CUT	2" DEPTH OF CUT
13	RCCO74710	RCCO74810
14	RCCO74711	RCCO74811
15	RCCO74712	RCCO74812
16	RCCO74713	RCCO74813
17	RCCO74714	RCCO74814
18	RCCO74715	RCCO74815
19	RCCO74716	RCCO74816
20	RCCO74717	RCCO74817
21	RCCO74718	RCCO74818
22	RCCO74719	RCCO74819
23	RCCO74720	RCCO74820
24	RCCO74721	RCCO74821
25	RCCO74722	RCCO74822
26	RCCO74723	RCCO74823
27	RCCO74724	RCCO74824
28	RCCO74725	RCCO74825
29	RCCO74726	RCCO74826
30	RCCO74727	RCCO74827
31	RCCO74728	RCCO74828
32	RCCO74729	RCCO74829
33	RCCO74730	RCCO74830
34	RCCO74731	RCCO74831
35	RCCO74732	RCCO74832
36	RCCO74733	RCCO74833
37	RCCO74734	RCCO74834
38	RCCO74735	RCCO74835
39	RCCO74736	RCCO74836
40	RCCO74737	RCCO74837
41	RCCO74738	RCCO74838
42	RCCO74739	RCCO74839
43	RCCO74740	RCCO74840
44	RCCO74741	RCCO74841
45	RCCO74742	RCCO74842
46	RCCO74743	RCCO74843
47	RCCO74744	RCCO74844
48	RCCO74745	RCCO74845
49	RCCO74746	RCCO74846
50	RCCO74747	RCCO74847

1 per pack

STOCK #
ROTACO100

100 PC. ROTACUTTER™ COBALT M42 DISPLAY

QTY.	DEPTH OF CUT	CUTTER DIAMETER
3 each	1"	1/2", 9/16", 5/8", 11/16", 3/4" 13/16", 7/8", 15/16", 1", 1-1/16"
20 each	1"	Ejector Pilot Pins
3 each	2"	1/2", 9/16", 5/8", 11/16", 3/4" 13/16", 7/8", 15/16", 1", 1-1/16"
20 each	2"	Ejector Pilot Pins

Tungsten Carbide Tipped

Made in Germany

3/4" Weldon Shank

- Specially designed for the toughest operating conditions and difficult to machine metals.
- For use on all portable or stationary drilling machines with cutting speed approximately 50% higher compared to high-speed steel tools.

FRACTIONAL

CUTTER DIA.	STOCK #	
	1-3/8" DEPTH OF CUT	2" DEPTH OF CUT
9/16	RCT74608	RCT74508
5/8	RCT74609	RCT74509
11/16	RCT74610	RCT74510
3/4	RCT74612	RCT74512
13/16	RCT74614	RCT74514
7/8	RCT74616	RCT74516
15/16	RCT74618	RCT74518
1	RCT74620	RCT74520
1-1/16	RCT74622	RCT74522
1-1/8	RCT74624	RCT74524
1-3/16	RCT74626	RCT74526
1-1/4	RCT74628	RCT74528
1-5/16	RCT74630	RCT74530
1-3/8	RCT74632	RCT74532
1-7/16	RCT74634	RCT74534
1-1/2	RCT74636	RCT74536
1-9/16	RCT74638	RCT74538
1-5/8	RCT74640	RCT74540
1-11/16	RCT74642	RCT74542
1-3/4	RCT74644	RCT74544
1-13/16	RCT74646	RCT74546
1-7/8	RCT74648	RCT74548
1-15/16	RCT74650	RCT74550
2	RCT74652	RCT74552

1 per pack

EJECTOR PILOTS

For 1-3/8" Cutting Depth	RCC74455
For 2" Cutting Depth	RCC74456

1 per pack

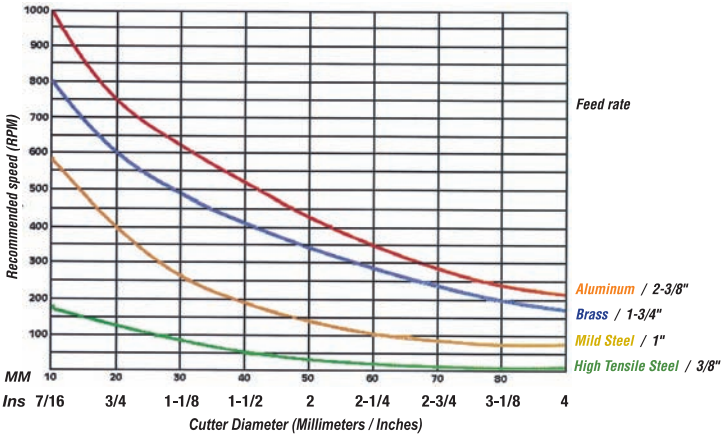
Feeds and Speeds

- The rate at which a cutter can penetrate material is measured in inches or millimeters per minute. Formula for calculating this is:

  Cutting rate per minute = **RPM x T x F**
  (RPM = revs per minute, T = number of teeth, F = feed per tooth in inches/mm)

- Formula for calculating RPM is: RPM = $\frac{1000S}{\pi D}$
  (S = cutting speed and D = diameter of cutter)
- N.B. cutting speed is the variable, as a general rule cutting speed for mild steel = **50 ft. / minute**
- Feed per rev = **Feed per tooth x Number of teeth**
- Feed = **RPM x Feed per rev**

Recommended speeds for cutters in different materials



Cobalt M42 Stack Cutters

3/4" Weldon Shank

U.K.

- Stack cutters have specially designed cutting teeth for boring composites or “stacked” work.
- They are available for consistent perfect thorough cutting.
- The regular annular cutter develops a “top hat” shaped slug and is suitable for boring into any single homogenous ferrous material.
- Other sizes are available on request.

1" DEPTH OF CUT

CUTTER DIAMETERS	SHANK WELDON	DEPTH OF CUT	OVERALL LENGTH	STOCK #
9/16	3/4	1	2	RCCO97552
5/8	3/4	1	2	RCCO97553
11/16	3/4	1	2	RCCO97554
3/4	3/4	1	2	RCCO97555
13/16	3/4	1	2	RCCO97556
7/8	3/4	1	2	RCCO97557
2-3/16	3/4	1	2	RCCO97558
15/16	3/4	1	2	RCCO97559
1	3/4	1	2	RCCO97560
1-1/16	3/4	1	2	RCCO97561

1 per pack

Cobalt M42 Tri-Step Annular Cutters

Cobalt M42

U.K.

- Unique Design: 3 Cutters in one allows three different diameter holes to be bored using one cutter.
- Special Adaptor enables using cutter with a portable power drill – not limited to availability of a mag-drill.
- Drill Adaptor allows 3/4" Weldon shank cutters to be used in standard 1/2" chuck machines.
- The 6 Pc. kit is ideal for the MRO Professional – bore 9 different hole sizes from 9/16" to 1-1/8" with RCK6 kit.
- Cobalt cutters individually available from stock.

FRACTIONAL

CUTTER DIAMETERS	SHANK WELDON	DEPTH OF CUT	OVERALL LENGTH	STOCK #
9/16	3/4	9/16	3-7/64	RCCO98381
11/16	3/4	9/16	3-7/64	
13/16	3/4	9/16	3-7/64	
5/8	3/4	9/16	3-7/64	RCCO98382
3/4	3/4	9/16	3-7/64	
7/8	3/4	9/16	3-7/64	
15/16	3/4	9/16	3-7/64	RCCO98383
1-1/16	3/4	9/16	3-7/64	
1-1/8	3/4	9/16	3-7/64	
EJECTOR PIN				
For Step Cutter		1/4 x 3-1/2		RCCO98384
DRILL ADAPTOR				
Adaptor converts 3/4" Weldon Shank to 1/2" dia.				RCA05

1 per pack

RCK6

SET

SET QTY.	SIZES	STOCK #
IN FITTED TOTE CASE		
6 Pc.	Contains set of Tri-Step Annular Cutters: RCCO98381, RCCO98382, RCCO98383 Ejector Pin: RCCO98384 Drill Adaptor: RCA05 4 oz. Megacut Cutting Fluid: TF7041	RCK6

U.K.

STRAIGHT SHANK EXTENSION ADAPTORS

RCA10 RCA08

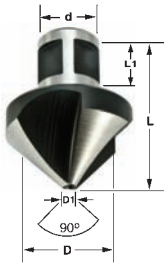
- For use in drill press.
- Adapts RotaCutter™ for use in shop where magnetic base machines are not necessary.

ADAPTOR SHANK	CUTTER SHANK	OAL	STOCK #
1/2"	3/4"	2-1/8"	RCA07
3/4"	3/4"	2"	RCA08
3/4"	3/4"	3"	RCA09
3/4"	3/4"	12"	RCA10

1 per pack

COUNTERSINKS

HIGH-SPEED STEEL
3/4" WELDON SHANKS

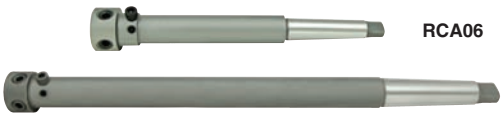


- For countersinking, chamfering and deburring work using the magnetic base boring machine.

D	D1	d	L	L1	STOCK #
1"	3/16"	3/4"	1-3/4"	15/16"	RC76001
1-1/4"	1/4"		1-7/8"		RC76002
1-1/2"	5/16"		2-1/16"		RC76003
2"	1/2"		2-1/2"		RC76004

1 per pack

MORSE TAPER EXTENSION ADAPTORS



RCA06

RCB12

MORSE TAPER	CUTTER SHANK	OAL	STOCK #
2	3/4"	2"	RCA02
2	3/4"	6"	RCA06
3	3/4"	2"	RCB02
3	3/4"	6"	RCB06
3	3/4"	12"	RCB12

1 per pack

KEYLESS DRILL CHUCK

- Chuck capacity 1/2".
- Precision chuck is necessary when using tools with straight shanks.

DESCRIPTION	STOCK #
Keyless Drill Chuck with 3/4" Weldon Shank for Drills	RCC34

1 per pack

MEGACUT® CUTTING FLUID

- Safe and odorless.
- Dramatically extends tool life.
- Controls chip form.
- Will not stain metal workpiece.
- Helps in achieving precision finish and close tolerances.

DESCRIPTION	STOCK #
MEGACUT® Cutting Fluid 4 oz. Spritzer Bottle	TF7041

12 per pack

MAGNETIC CHIP REMOVER

- Lightweight hand held magnetic tool for removing swarf and drill shavings from work areas.
- Cleans up metal residue by waving over metal debris and chips instantly stick to the magnet.
- Simply wave the wand over the scrap bin, pull the plunger and the chip collector releases the chips in the recycling bin.
- Length: 15-3/4", lifting capacity: 14 lbs.

DESCRIPTION	STOCK #
Magnetic Chip Remover Wand	MCR12

1 per pack

Sheet Metal Hole Cutters
M2 High-Speed Steel

1/4" Cutting Depth
Chip Breaker Design

For Portable Drills & Drill Presses

- HSS Hole Cutter – an ideal tool for cutting an accurate burr-free hole in ferrous / non-ferrous materials.
- Coated tools last longer than uncoated tools and can be run at higher feeds and speeds.
- Hole cutters and arbors (sold separately) are made of high-speed steel.
- Cutting depth is 1/4''. Arbors have a hex shank and come with a 2-1/8'' long 118° Split Point Pilot Drill.

(Separate Arbor required)

HOLE CUTTER	SIZE	ARBOR	STOCK #		
			HSS	TiN COATED	TiAIN COATED
	5/16''	A	MRC101	MRC101TN	MRC101TIAN
	3/8''	A	MRC102	MRC102TN	MRC102TIAN
	7/16''	A	MRC103	MRC103TN	MRC103TIAN
	1/2''	A	MRC104	MRC104TN	MRC104TIAN
	9/16''	A	MRC105	MRC105TN	MRC105TIAN
	5/8''	A	MRC106	MRC106TN	MRC106TIAN
	11/16''	A	MRC106A	MRC106ATN	MRC106ATIAN
	3/4''	A	MRC107	MRC107TN	MRC107TIAN
	13/16''	2A	MRC108	MRC108TN	MRC108TIAN
	7/8''	2A	MRC109	MRC109TN	MRC109TIAN
	15/16''	2A	MRC110	MRC110TN	MRC110TIAN
	1''	2A	MRC111	MRC111TN	MRC111TIAN
	1-1/16''	2A	MRC112	MRC112TN	MRC112TIAN
	1-1/8''	2A	MRC113	MRC113TN	MRC113TIAN
	1-3/16''	2A	MRC114	MRC114TN	MRC114TIAN
	1-1/4''	2A	MRC115	MRC115TN	MRC115TIAN
	1-5/16''	3A	MRC116	MRC116TN	MRC116TIAN
	1-3/8''	3A	MRC117	MRC117TN	MRC117TIAN
	1-7/16''	3A	MRC118	MRC118TN	MRC118TIAN
	1-1/2''	3A	MRC119	MRC119TN	MRC119TIAN
	1-9/16''	3A	MRC120	MRC120TN	MRC120TIAN
	1-5/8''	3A	MRC121	MRC121TN	MRC121TIAN
	1-11/16''	3A	MRC122	MRC122TN	MRC122TIAN
	1-3/4''	3A	MRC123	MRC123TN	MRC123TIAN
	1-13/16''	3A	MRC124	MRC124TN	MRC124TIAN
	1-7/8''	3A	MRC125	MRC125TN	MRC125TIAN
	2''	3A	MRC126	MRC126TN	MRC126TIAN
	2-1/16''	3A	MRC127	MRC127TN	MRC127TIAN
	2-1/8''	3A	MRC128	MRC128TN	MRC128TIAN
	2-1/4''	3A	MRC129	MRC129TN	MRC129TIAN
	2-3/8''	3A	MRC130	MRC130TN	MRC130TIAN
	2-1/2''	3A	MRC131	MRC131TN	MRC131TIAN
	2-9/16''	3A	MRC132	MRC132TN	MRC132TIAN

Pack: 1 Cutter per Pack, Arbors Sold Separately

- **HSS** (Bright) – For general purpose ferrous and non-ferrous applications.
- **TiN Coated** (Gold) – For heavy duty high-speed ferrous and non-ferrous applications.
- **TiAIN** (Purple) – For titanium and other super hardened alloys.

MRC7TN

7 Pc. Mini RotaCutter™ Kits

Each kit contains:

- 5/16", 3/8", 7/16", 1/2", 9/16", 5/8" and 3/4".
- Arbor with HSS Split Point Drill. (MRCA)
- Arbor with spring loaded ejector pin. (MRCB)
- 2 depth washers. Hex Key. (MRCK)
- 1 center punch. (MRCP)
- 2 spare ejector pcs. (MRCPP)

DESCRIPTION	STOCK #
HSS Cutters	MRC7
HSS TiN Coated Cutters	MRC7TN
HSS TiAIN Coated Cutters	MRC7TIAN

MRCA (Type A)

MRCB (Type B)

MRCC (Type 2A)

MRCD (Type 3A)

MRCE

MRCPP

MRCPP2

MRCK

MRCP

ARBORS

ARBOR TYPE	PILOT STYLE	HEX SHANK	HOLE CUTTER SIZES	STOCK #
A	Self-Starting Drill	3/8"	5/16" - 3/4"	MRCA
B	Spring Loaded Ejector Pin	3/8"	5/16" - 3/4"	MRCB
2A	Self-Starting Drill with Ejector Spring	3/8"	13/16" - 1-1/4"	MRCC
3A	Self-Starting Drill with Ejector Spring	1/2"	1-5/16" - 2-9/16"	MRCD

REPLACEMENT COMPONENT / ACCESSORIES

FOR ARBOR	DESCRIPTION	STOCK #
MRCA	Replacement Drill	MRCE
MRCB	Replacement Ejector Pin	MRCPP
MRCC MRCD	Replacement Drill and Ejector Spring	MRCPP2
—	Hex Key for All Arbors	MRCK
—	Center Punch for 7 Pc. Kits	MRCP

Taps, Dies Extractors, Thread Inserts Accessories

B

Taps

Multi-Purpose Taps

High Performance Taps

For Low Tensile Materials

For High Tensile Materials

B

Hand Taps

Spiral Pointed Taps

Spiral Fluted Taps

Special Purpose Taps

Pipe Taps

Dies

B

Taps, Dies Extractors, Thread Inserts Accessories

Carbon Steel Taps & Dies

Hand Taps

Dies

Tapping Tools & Accessories

Tapping Tools

Thread Files

Extractors & Extensions

Screw / Thread Inserts & Kits

Tap & Die Sets

Special Thread Taps

We offer special inch and metric HSS taps in a wide range of styles & types;

Straight flute, spiral flute and spiral point geometry.

- Shipment within 24-48 hours on most items.
- Available in bright finish.
- Coated taps are available with longer delivery time.
- Manufactured in the USA.
- Visit our website for more information.

Some of the Special Taps we offer include:

6mm x 1.0 D3 2 FL. Spiral Point	#8-32 NC +.005 2 FL. Spiral Point for Plating	8mm x 1.25 D3 2FL. Spiral Point	1/8"-27 NPT/F Taper Pipe Tap Spiral Flute
1/4-18 NPTF Interrupted Thread 5 FL. Taper Pipe x 6"	1/2-28 NEF H3 4 FL. Plug Tap	#4-40 NC L.H. Spiral Point	3/4"-20 NEF L.H. Hand Tap
5/16-24 NF H7 4 FL. Bottoming Tap	1"-8 NC H4 3 FL. Spiral Point	#8-36 NF Form Tap	2"-4-1/2 NC Hand Tap

For Stainless Steel and other applications

MADE IN U. S. A.

HSS-M4 Hi-Vanadium Steel
Ground Thread
Steam Oxide Finish
DIN Flute – ANSI Shank

Ultimate extra life taps for tougher jobs

Features:

- Specially designed for a wide range of materials.
- Steam oxide tempered surface finish.
- Ground thread.
- High wear resistant.
- Suitable for high strength steels, tool steels and stainless steels.
- For threading up to HRC40 hardened material.
- With thread relief to suit specific applications.
- 2B class of fit.

SPIRAL POINTED TAPS

HIGH-VANADIUM STEEL

PLUG CHAMFER

TAP SIZE	TPI	NO. OF FLUTES	GRIND LIMITS	STOCK #
MACHINE SCREW SIZES				
4	40	2	H2	HPMP90107
6	32	2	H3	HPMP90111
6	40	2	H2	HPMP90112
8	32	3	H3	HPMP90113
10	24	3	H3	HPMP90115
10	32	3	H3	HPMP90116
FRACTIONAL				
1/4"	20	3	H5	HPMP90130
1/4"	28	3	H4	HPMP90131
5/16"	18	3	H5	HPMP90132
5/16"	24	3	H4	HPMP90133
3/8"	16	3	H5	HPMP90134
3/8"	24	3	H4	HPMP90135
7/16"	14	3	H5	HPMP90136
7/16"	20	3	H5	HPMP90137
1/2"	13	3	H5	HPMP90138
1/2"	20	3	H5	HPMP90139
5/8"	11	4	H6	HPMP90142
5/8"	18	4	H5	HPMP90143
3/4"	10	4	H6	HPMP90146
3/4"	16	4	H5	HPMP90147
7/8"	9	4	H6	HPMP90149
7/8"	14	4	H6	HPMP90150
1"	8	4	H6	HPMP90153
1"	12	4	H6	HPMP90154

1 per pack

SPIRAL FLUTED TAPS

48° SPIRAL 8° - 10° HOOK

SEMI-BOTTOMING STYLE 2 - 2-1/2 THREAD CHAMFER

TAP SIZE	TPI	NO. OF FLUTES	GRIND LIMITS	STOCK #
MACHINE SCREW SIZES				
4	40	3	H2	HPMP70907
6	32	3	H3	HPMP70911
8	32	3	H3	HPMP70913
10	24	3	H3	HPMP70915
10	32	3	H3	HPMP70916
FRACTIONAL				
1/4"	20	3	H5	HPMP70930
1/4"	28	3	H4	HPMP70931
5/16"	18	3	H5	HPMP70932
5/16"	24	3	H4	HPMP70933
3/8"	16	3	H5	HPMP70934
3/8"	24	3	H4	HPMP70935
7/16"	14	3	H5	HPMP70936
7/16"	20	3	H5	HPMP70937
1/2"	13	3	H5	HPMP70938
1/2"	20	3	H5	HPMP70939
5/8"	11	3	H6	HPMP70942
5/8"	18	3	H5	HPMP70943
3/4"	10	3	H6	HPMP70946
3/4"	16	3	H5	HPMP70947
7/8"	9	4	H6	HPMP70949
7/8"	14	4	H6	HPMP70950
1"	8	4	H6	HPMP70953
1"	12	4	H6	HPMP70954

1 per pack

For Low Tensile Materials (Mild Steel)

MADE IN U. S. A.

HSS-M4 Hi-Vanadium Steel
Ground Thread
Steam Oxide Finish

With thread relief to suit specific applications

Features:

- Specially designed for low tensile materials, such as carbon steel 1010 or 1018.
- Steam oxide tempered surface finish.
- Ground thread.
- High wear resistant.
- For working on materials up to HRC-32.

SPIRAL POINTED TAPS

HIGH-VANADIUM STEEL

PLUG CHAMFER

TAP SIZE	TPI	NO. OF FLUTES	GRIND LIMITS	STOCK #
MACHINE SCREW SIZES				
4	40	2	H2	HPLT30707
6	32	2	H3	HPLT30711
6	40	2	H2	HPLT30712
8	32	3	H3	HPLT30713
10	24	3	H3	HPLT30715
10	32	3	H3	HPLT30716
FRACTIONAL				
1/4"	20	3	H5	HPLT30730
1/4"	28	3	H4	HPLT30731
5/16"	18	2	H5	HPLT30732
5/16"	24	3	H4	HPLT30733
3/8"	16	3	H5	HPLT30734
3/8"	24	3	H4	HPLT30735
7/16"	14	3	H5	HPLT30736
7/16"	20	3	H5	HPLT30737
1/2"	13	3	H5	HPLT30738
1/2"	20	3	H5	HPLT30739
5/8"	11	4	H5	HPLT30742
5/8"	18	4	H5	HPLT30743
3/4"	10	4	H5	HPLT30746
3/4"	16	4	H5	HPLT30747
7/8"	9	4	H6	HPLT30749
7/8"	14	4	H6	HPLT30750
1"	8	4	H6	HPLT30753
1"	12	4	H6	HPLT30754

1 per pack

SPIRAL FLUTED TAPS

50° SPIRAL 10° - 12° HOOK

SEMI-BOTTOMING STYLE
2 - 2-1/2 THREAD CHAMFER

TAP SIZE	TPI	NO. OF FLUTES	GRIND LIMITS	STOCK #
MACHINE SCREW SIZES				
4	40	3	H2	HPLT71107
6	32	3	H3	HPLT71111
8	32	3	H3	HPLT71113
10	24	3	H3	HPLT71115
10	32	3	H3	HPLT71116
FRACTIONAL				
1/4"	20	3	H5	HPLT71130
1/4"	28	3	H4	HPLT71131
5/16"	18	3	H5	HPLT71132
5/16"	24	3	H4	HPLT71133
3/8"	16	3	H5	HPLT71134
3/8"	24	3	H4	HPLT71135
7/16"	14	3	H5	HPLT71136
7/16"	20	3	H5	HPLT71137
1/2"	13	3	H5	HPLT71138
1/2"	20	3	H5	HPLT71139
5/8"	11	3	H5	HPLT71142
5/8"	18	3	H5	HPLT71143
3/4"	10	3	H5	HPLT71146
3/4"	16	3	H5	HPLT71147
7/8"	9	4	H6	HPLT71149
7/8"	14	4	H6	HPLT71150
1"	8	4	H6	HPLT71153
1"	12	4	H6	HPLT71154

1 per pack

For High Tensile Materials (Titanium & Nickel Alloys)

MADE IN U. S. A.

HSS-PM Sintered Metal Steel
Ground Thread
Steam Oxide Finish

With thread relief to suit specific applications

Features:

- Specially designed for high tensile materials.
- Steam oxide tempered surface finish.
- Ground thread.
- High wear resistant.
- For use on hardened materials up to HRC-44.
- Suitable for alloy steels, tool steels, nickel alloy and titanium alloy steel.

SPIRAL POINTED TAPS

HIGH-VANADIUM STEEL

PLUG CHAMFER

TAP SIZE	TPI	NO. OF FLUTES	GRIND LIMITS	STOCK #
MACHINE SCREW SIZES				
4	40	2	H2	HPHT90207
5	40	2	H2	HPHT90211
6	32	2	H3	HPHT90212
8	32	3	H3	HPHT90213
10	24	3	H3	HPHT90215
10	32	3	H3	HPHT90216
FRACTIONAL				
1/4"	20	3	H3	HPHT90230
1/4"	28	3	H3	HPHT90231
5/16"	18	3	H3	HPHT90232
5/16"	24	3	H3	HPHT90233
3/8"	16	3	H3	HPHT90234
3/8"	24	3	H3	HPHT90235
7/16"	14	3	H3	HPHT90236
7/16"	20	3	H3	HPHT90237
1/2"	13	3	H3	HPHT90238
1/2"	20	3	H3	HPHT90239
5/8"	11	4	H3	HPHT90242
5/8"	18	4	H3	HPHT90243
3/4"	10	4	H3	HPHT90246
3/4"	16	4	H3	HPHT90247

1 per pack

SPIRAL FLUTED TAPS

24° SPIRAL 8° - 10° HOOK

SEMI-BOTTOMING STYLE
2 - 2-1/2 THREAD CHAMFER

TAP SIZE	TPI	NO. OF FLUTES	GRIND LIMITS	STOCK #
MACHINE SCREW SIZES				
4	40	3	H2	HPHT71007
6	32	3	H3	HPHT71011
8	32	3	H3	HPHT71013
10	24	3	H3	HPHT71015
10	32	3	H3	HPHT71016
FRACTIONAL				
1/4"	20	3	H3	HPHT71030
1/4"	28	3	H3	HPHT71031
5/16"	18	3	H3	HPHT71032
5/16"	24	3	H3	HPHT71033
3/8"	16	3	H3	HPHT71034
3/8"	24	3	H3	HPHT71035
7/16"	14	3	H3	HPHT71036
7/16"	20	3	H3	HPHT71037
1/2"	13	3	H3	HPHT71038
1/2"	20	3	H3	HPHT71039
5/8"	11	3	H3	HPHT71042
5/8"	18	3	H3	HPHT71043
3/4"	10	3	H3	HPHT71046
3/4"	16	3	H3	HPHT71047

1 per pack

Super High-Speed Steel Ground Thread, Right Hand

MADE IN U. S. A.

Taper, Plug, Bottoming & Sets

Features:

- General purpose taps can be used by hand or under power, in through (open both ends) or blind holes (closed one end).
- Suitable for tapping most materials.
- Standard "H" limits provide adequate "class of fit."

- **Taper taps** (7 to 10 threads). Longest chamfer insures easier starting.
- **Plug taps** (3 to 5 threads). Most common chamfer. Used in through or blind holes.
- **Bottoming taps** (1 to 2 threads). Used for threading close to the bottom of a blind hole.

NC = National Coarse NF = National Fine NS = National Standard

TAP SIZE	THREADS PER INCH NC	NF	NS	NO. OF FLUTES	GRIND LIMITS	STOCK # TAPER	PLUG	BOTTOM	SET OF 3
MACHINE SCREW SIZES									
0	80	NF		2	H1	HTT170000	HTP170000	HTB170000	HTS170000
1	64	NC		2	H1	HTT170001	HTP170001	HTB170001	HTS170001
1	72	NF		2	H1	HTT170002	HTP170002	HTB170002	HTS170002
2	56	NC		3	H2	HTT170003	HTP170003	HTB170003	HTS170003
2	64	NF		3	H2	HTT170004	HTP170004	HTB170004	HTS170004
3	48	NC		3	H2	HTT170005	HTP170005	HTB170005	HTS170005
3	56	NF		3	H2	HTT170006	HTP170006	HTB170006	HTS170006
4	40	NC		3	H2	HTT170007	HTP170007	HTB170007	HTS170007
4	48	NF		3	H2	HTT170008	HTP170008	HTB170008	HTS170008
4	36	NS		3	H2	HTT170008A	HTP170008A	HTB170008A	HTS170008A
5	40	NC		3	H2	HTT170009	HTP170009	HTB170009	HTS170009
5	44	NF		3	H2	HTT170010	HTP170010	HTB170010	HTS170010
6	32	NC		3	H3	HTT170011	HTP170011	HTB170011	HTS170011
6	40	NF		3	H2	HTT170012	HTP170012	HTB170012	HTS170012
8	32	NC		4	H3	HTT170013	HTP170013	HTB170013	HTS170013
8	36	NF		4	H2	HTT170014	HTP170014	HTB170014	HTS170014
10	24	NC		4	H3	HTT170015	HTP170015	HTB170015	HTS170015
10	32	NF		4	H3	HTT170016	HTP170016	HTB170016	HTS170016
12	24	NC		4	H3	HTT170017	HTP170017	HTB170017	HTS170017
12	28	NF		4	H3	HTT170018	HTP170018	HTB170018	HTS170018
FRACTIONAL									
1/4"	20	NC		4	H3	HTT170030	HTP170030	HTB170030	HTS170030
1/4"	28	NF		4	H3	HTT170031	HTP170031	HTB170031	HTS170031
5/16"	18	NC		4	H3	HTT170032	HTP170032	HTB170032	HTS170032
5/16"	24	NF		4	H3	HTT170033	HTP170033	HTB170033	HTS170033
3/8"	16	NC		4	H3	HTT170034	HTP170034	HTB170034	HTS170034
3/8"	24	NF		4	H3	HTT170035	HTP170035	HTB170035	HTS170035
7/16"	14	NC		4	H3	HTT170036	HTP170036	HTB170036	HTS170036
7/16"	20	NF		4	H3	HTT170037	HTP170037	HTB170037	HTS170037
1/2"	13	NC		4	H3	HTT170038	HTP170038	HTB170038	HTS170038
1/2"	20	NF		4	H3	HTT170039	HTP170039	HTB170039	HTS170039
9/16"	12	NC		4	H3	HTT170040	HTP170040	HTB170040	HTS170040
9/16"	18	NF		4	H3	HTT170041	HTP170041	HTB170041	HTS170041
5/8"	11	NC		4	H3	HTT170042	HTP170042	HTB170042	HTS170042
5/8"	18	NF		4	H3	HTT170043	HTP170043	HTB170043	HTS170043
11/16"	11	NS		4	H3	HTT170044	HTP170044	HTB170044	HTS170044
11/16"	16	NS		4	H3	HTT170045	HTP170045	HTB170045	HTS170045
3/4"	10	NC		4	H3	HTT170046	HTP170046	HTB170046	HTS170046
3/4"	16	NF		4	H3	HTT170047	HTP170047	HTB170047	HTS170047
7/8"	9	NC		4	H4	HTT170048	HTP170048	HTB170048	HTS170048
7/8"	14	NF		4	H4	HTT170049	HTP170049	HTB170049	HTS170049
1"	8	NC		4	H4	HTT170050	HTP170050	HTB170050	HTS170050
1"	12	NF		4	H4	HTT170051	HTP170051	HTB170051	HTS170051
1"	14	NS		4	H4	HTT170052	HTP170052	HTB170052	HTS170052
1-1/8"	7	NC		4	H4	HTT170053	HTP170053	HTB170053	HTS170053
1-1/8"	12	NF		4	H4	HTT170054	HTP170054	HTB170054	HTS170054
1-1/4"	7	NC		4	H4	HTT170055	HTP170055	HTB170055	HTS170055
1-1/4"	12	NF		6	H4	HTT170056	HTP170056	HTB170056	HTS170056
1-3/8"	6	NC		4	H4	HTT170057	HTP170057	HTB170057	HTS170057
1-3/8"	12	NF		6	H4	HTT170058	HTP170058	HTB170058	HTS170058
1-1/2"	6	NC		4	H4	HTT170059	HTP170059	HTB170059	HTS170059
1-1/2"	12	NF		6	H4	HTT170060	HTP170060	HTB170060	HTS170060

Bulk 0 to 1/4", 12 per pack
5/16" to 1/2", 6 per pack
9/16" to 1", 3 per pack
1-1/8" to 1-1/2", 1 per pack

Sets 3 taps per box, 1 each Taper, Plug and Bottom per size

Super High-Speed Steel Ground Thread, Right Hand

Taper, Plug, Bottoming & Sets

Features:

- General purpose taps can be used by hand or under power, in through (open both ends) or blind holes (closed one end).
- Suitable for tapping most materials.
- Standard "H" limits provide adequate "class of fit."

- **Taper taps** (7 to 10 threads). Longest chamfer insures easier starting.
- **Plug taps** (3 to 5 threads). Most common chamfer. Used in through or blind holes.
- **Bottoming taps** (1 to 2 threads). Used for threading close to the bottom of a blind hole.

NC = National Coarse NF = National Fine NS = National Standard

TAP SIZE	THREADS PER INCH NC	NF	NS	NO. OF FLUTES	GRIND LIMITS	STOCK # TAPER	PLUG	BOTTOM	SET OF 3
MACHINE SCREW SIZES									
0	80	NF		2	H1	HTT270000	HTP270000	HTB270000	HTS270000
1	64	NC		2	H1	HTT270001	HTP270001	HTB270001	HTS270001
1	72	NF		2	H1	HTT270002	HTP270002	HTB270002	HTS270002
2	56	NC		3	H2	HTT270003	HTP270003	HTB270003	HTS270003
2	64	NF		3	H2	HTT270004	HTP270004	HTB270004	HTS270004
3	48	NC		3	H2	HTT270005	HTP270005	HTB270005	HTS270005
3	56	NF		3	H2	HTT270006	HTP270006	HTB270006	HTS270006
4	40	NC		3	H2	HTT270007	HTP270007	HTB270007	HTS270007
4	48	NF		3	H2	HTT270008	HTP270008	HTB270008	HTS270008
5	40	NC		3	H2	HTT270009	HTP270009	HTB270009	HTS270009
5	44	NF		3	H2	HTT270010	HTP270010	HTB270010	HTS270010
6	32	NC		3	H3	HTT270011	HTP270011	HTB270011	HTS270011
6	40	NF		3	H2	HTT270012	HTP270012	HTB270012	HTS270012
8	32	NC		4	H3	HTT270013	HTP270013	HTB270013	HTS270013
8	36	NF		4	H2	HTT270014	HTP270014	HTB270014	HTS270014
10	24	NC		4	H3	HTT270015	HTP270015	HTB270015	HTS270015
10	32	NF		4	H3	HTT270016	HTP270016	HTB270016	HTS270016
12	24	NC		4	H3	HTT270017	HTP270017	HTB270017	HTS270017
12	28	NF		4	H3	HTT270018	HTP270018	HTB270018	HTS270018
FRACTIONAL									
1/4"	20	NC		4	H3	HTT270030	HTP270030	HTB270030	HTS270030
1/4"	28	NF		4	H3	HTT270031	HTP270031	HTB270031	HTS270031
5/16"	18	NC		4	H3	HTT270032	HTP270032	HTB270032	HTS270032
5/16"	24	NF		4	H3	HTT270033	HTP270033	HTB270033	HTS270033
3/8"	16	NC		4	H3	HTT270034	HTP270034	HTB270034	HTS270034
3/8"	24	NF		4	H3	HTT270035	HTP270035	HTB270035	HTS270035
7/16"	14	NC		4	H3	HTT270036	HTP270036	HTB270036	HTS270036
7/16"	20	NF		4	H3	HTT270037	HTP270037	HTB270037	HTS270037
1/2"	13	NC		4	H3	HTT270038	HTP270038	HTB270038	HTS270038
1/2"	20	NF		4	H3	HTT270039	HTP270039	HTB270039	HTS270039
9/16"	12	NC		4	H3	HTT270040	HTP270040	HTB270040	HTS270040
9/16"	18	NF		4	H3	HTT270041	HTP270041	HTB270041	HTS270041
5/8"	11	NC		4	H3	HTT270042	HTP270042	HTB270042	HTS270042
5/8"	18	NF		4	H3	HTT270043	HTP270043	HTB270043	HTS270043
11/16"	11	NS		4	H3	HTT270044	HTP270044	HTB270044	HTS270044
11/16"	16	NS		4	H3	HTT270045	HTP270045	HTB270045	HTS270045
3/4"	10	NC		4	H3	HTT270046	HTP270046	HTB270046	HTS270046
3/4"	16	NF		4	H3	HTT270047	HTP270047	HTB270047	HTS270047
7/8"	9	NC		4	H4	HTT270048	HTP270048	HTB270048	HTS270048
7/8"	14	NF		4	H4	HTT270049	HTP270049	HTB270049	HTS270049
1"	8	NC		4	H4	HTT270050	HTP270050	HTB270050	HTS270050
1"	12	NF		4	H4	HTT270051	HTP270051	HTB270051	HTS270051
1"	14	NS		4	H4	HTT270052	HTP270052	HTB270052	HTS270052
1-1/8"	7	NC		4	H4	HTT270053	HTP270053	HTB270053	HTS270053
1-1/8"	12	NF		4	H4	HTT270054	HTP270054	HTB270054	HTS270054
1-1/4"	7	NC		4	H4	HTT270055	HTP270055	HTB270055	HTS270055
1-1/4"	12	NF		4	H4	HTT270056	HTP270056	HTB270056	HTS270056
1-3/8"	6	NC		4	H4	HTT270057	HTP270057	HTB270057	HTS270057
1-3/8"	12	NF		6	H4	HTT270058	HTP270058	HTB270058	HTS270058
1-1/2"	6	NC		4	H4	HTT270059	HTP270059	HTB270059	HTS270059
1-1/2"	12	NF		6	H4	HTT270060	HTP270060	HTB270060	HTS270060

Bulk 0 to 1/4", 10 per pack
5/16" to 1/2", 5 per pack
9/16" to 1", 3 per pack
1-1/8" to 1-1/2", 1 per pack

Sets 3 taps per box, 1 each Taper, Plug and Bottom per size

Super High-Speed Steel Ground Thread, Right Hand

Taper, Plug, Bottoming & Sets

Black oxide surface treatment provides extra lubricity, increases wear resistance and extends tool life.

MADE IN U. S. A.

Features:

- General purpose taps can be used by hand or under power, in through (open both ends) or blind holes (closed one end).
- Suitable for tapping most materials.
- For use in Oil Field, Pipe Line and Heat Exchanger Applications.
- Standard "H" limits provide adequate "class of fit."
- **Taper taps** (7 to 10 threads). Longest chamfer insures easier starting.
- **Plug taps** (3 to 5 threads). Most common chamfer. Used in through or blind holes.
- **Bottoming taps** (1 to 2 threads). Used for threading close to the bottom of a blind hole.

NC = National Coarse NF = National Fine NS = National Standard

TAP SIZE	THREADS PER INCH NC	NF	NS	NO. OF FLUTES	GRIND LIMITS	STOCK # TAPER	PLUG	BOTTOM	SET OF 3
MACHINE SCREW SIZES									
1	64		NC	2	H1	HTT80001	HTP80001	HTB80001	HTS80001
1	72		NF	2	H1	HTT80002	HTP80002	HTB80002	HTS80002
2	56		NC	3	H2	HTT80003	HTP80003	HTB80003	HTS80003
2	64		NF	3	H2	HTT80004	HTP80004	HTB80004	HTS80004
3	48		NC	3	H2	HTT80005	HTP80005	HTB80005	HTS80005
3	56		NF	3	H2	HTT80006	HTP80006	HTB80006	HTS80006
4	40		NC	3	H2	HTT80007	HTP80007	HTB80007	HTS80007
4	48		NF	3	H2	HTT80008	HTP80008	HTB80008	HTS80008
4	36		NS	3	H2	HTT80008A	HTP80008A	HTB80008A	HTS80008A
5	40		NC	3	H2	HTT80009	HTP80009	HTB80009	HTS80009
5	44		NF	3	H2	HTT80010	HTP80010	HTB80010	HTS80010
6	32		NC	3	H3	HTT80011	HTP80011	HTB80011	HTS80011
6	40		NF	3	H2	HTT80012	HTP80012	HTB80012	HTS80012
8	32		NC	4	H3	HTT80013	HTP80013	HTB80013	HTS80013
8	36		NF	4	H2	HTT80014	HTP80014	HTB80014	HTS80014
10	24		NC	4	H3	HTT80015	HTP80015	HTB80015	HTS80015
10	32		NF	4	H3	HTT80016	HTP80016	HTB80016	HTS80016
12	24		NC	4	H3	HTT80017	HTP80017	HTB80017	HTS80017
12	28		NF	4	H3	HTT80018	HTP80018	HTB80018	HTS80018
FRACTIONAL									
1/4"	20		NC	4	H3	HTT80030	HTP80030	HTB80030	HTS80030
1/4"	28		NF	4	H3	HTT80031	HTP80031	HTB80031	HTS80031
5/16"	18		NC	4	H3	HTT80032	HTP80032	HTB80032	HTS80032
5/16"	24		NF	4	H3	HTT80033	HTP80033	HTB80033	HTS80033
3/8"	16		NC	4	H3	HTT80034	HTP80034	HTB80034	HTS80034
3/8"	24		NF	4	H3	HTT80035	HTP80035	HTB80035	HTS80035
7/16"	14		NC	4	H3	HTT80036	HTP80036	HTB80036	HTS80036
7/16"	20		NF	4	H3	HTT80037	HTP80037	HTB80037	HTS80037
1/2"	13		NC	4	H3	HTT80038	HTP80038	HTB80038	HTS80038
1/2"	20		NF	4	H3	HTT80039	HTP80039	HTB80039	HTS80039
9/16"	12		NC	4	H3	HTT80040	HTP80040	HTB80040	HTS80040
9/16"	18		NF	4	H3	HTT80041	HTP80041	HTB80041	HTS80041
5/8"	11		NC	4	H3	HTT80042	HTP80042	HTB80042	HTS80042
5/8"	18		NF	4	H3	HTT80043	HTP80043	HTB80043	HTS80043
11/16"	11		NS	4	H3	HTT80044	HTP80044	HTB80044	HTS80044
11/16"	16		NS	4	H3	HTT80045	HTP80045	HTB80045	HTS80045
3/4"	10		NC	4	H3	HTT80046	HTP80046	HTB80046	HTS80046
3/4"	16		NF	4	H3	HTT80047	HTP80047	HTB80047	HTS80047
7/8"	9		NC	4	H4	HTT80048	HTP80048	HTB80048	HTS80048
7/8"	14		NF	4	H4	HTT80049	HTP80049	HTB80049	HTS80049
1"	8		NC	4	H4	HTT80050	HTP80050	HTB80050	HTS80050
1"	12		NF	4	H4	HTT80051	HTP80051	HTB80051	HTS80051
1"	14		NS	4	H4	HTT80052	HTP80052	HTB80052	HTS80052
1-1/8"	7		NC	4	H4	HTT80053	HTP80053	HTB80053	HTS80053
1-1/8"	12		NF	4	H4	HTT80054	HTP80054	HTB80054	HTS80054
1-1/4"	7		NC	4	H4	HTT80055	HTP80055	HTB80055	HTS80055
1-1/4"	12		NF	6	H4	HTT80056	HTP80056	HTB80056	HTS80056
1-3/8"	6		NC	4	H4	HTT80057	HTP80057	HTB80057	HTS80057
1-3/8"	12		NF	6	H4	HTT80058	HTP80058	HTB80058	HTS80058
1-1/2"	6		NC	4	H4	HTT80059	HTP80059	HTB80059	HTS80059
1-1/2"	12		NF	6	H4	HTT80060	HTP80060	HTB80060	HTS80060

Bulk 1 to 1/4", 12 per pack
5/16" to 1/2", 6 per pack
9/16" to 1", 3 per pack
1-1/8" to 1-1/2", 1 per pack

Sets 3 taps per box, 1 each Taper, Plug and Bottom per size

Super High-Speed Steel Ground Thread, Right Hand

Features:

- General purpose taps can be used by hand or under power, in through (open both ends) or blind holes (closed one end).
- Suitable for tapping most materials.
- Standard "H" limits provide adequate "class of fit."
- **Taper taps** (7 to 10 threads). Longest chamfer insures easier starting.
- **Plug taps** (3 to 5 threads). Most common chamfer. Used in through or blind holes.
- **Bottoming taps** (1 to 2 threads). Used for threading close to the bottom of a blind hole.

Any special thread pitch tap is available. Call for details.

TAPER / PLUG / BOTTOMING

PLEASE SPECIFY (T) TAPER / (P) PLUG / (B) BOTTOMING WHEN ORDERING i.e. HTSP **T** 71301

MACHINE SCREW & FRACTIONAL SIZES

TAP SIZE x TPI	STOCK #
6-36	HTSP 71301
6-48	HTSP 71302
8-24	HTSP 71303
8-40	HTSP 71304
8-48	HTSP 71305
10-28	HTSP 71306
10-36	HTSP 71307
10-40	HTSP 71308
10-48	HTSP 71309
12-32	HTSP 71310
12-36	HTSP 71311
12-40	HTSP 71312
12-48	HTSP 71313
1/4-24	HTSP 71314
1/4-32	HTSP 71315
1/4-36	HTSP 71316
1/4-40	HTSP 71317
5/16-20	HTSP 71318
5/16-22	HTSP 71319
5/16-32	HTSP 71320
5/16-36	HTSP 71321
5/16-40	HTSP 71322
3/8-14	HTSP 71323
3/8-18	HTSP 71324
3/8-20	HTSP 71325
3/8-32	HTSP 71326
3/8-40	HTSP 71327
7/16-24	HTSP 71328
7/16-27	HTSP 71329
7/16-28	HTSP 71330
1/2-12	HTSP 71331
1/2-14	HTSP 71332
1/2-16	HTSP 71333
1/2-18	HTSP 71334
1/2-24	HTSP 71335
1/2-28	HTSP 71336
1/2-32	HTSP 71337
1/2-40	HTSP 71338
9/16-16	HTSP 71339
9/16-20	HTSP 71340
9/16-24	HTSP 71341
9/16-27	HTSP 71342
9/16-28	HTSP 71343
9/16-30	HTSP 71344
9/16-32	HTSP 71345
9/16-40	HTSP 71346
5/8-12	HTSP 71347
5/8-14	HTSP 71348
5/8-16	HTSP 71349
5/8-20	HTSP 71350

TAP SIZE x TPI	STOCK #
5/8-24	HTSP 71351
5/8-26	HTSP 71352
5/8-27	HTSP 71353
5/8-28	HTSP 71354
5/8-32	HTSP 71355
5/8-36	HTSP 71356
5/8-40	HTSP 71357
11/16-12	HTSP 71358
11/16-18	HTSP 71359
11/16-20	HTSP 71360
11/16-24	HTSP 71361
11/16-27	HTSP 71362
11/16-32	HTSP 71363
3/4-12	HTSP 71364
3/4-14	HTSP 71365
3/4-18	HTSP 71366
3/4-20	HTSP 71367
3/4-24	HTSP71368
3/4-26	HTSP 71369
3/4-27	HTSP 71370
3/4-28	HTSP 71371
3/4-32	HTSP 71372
3/4-36	HTSP 71373
13/16-10	HTSP 71374
13/16-12	HTSP 71375
13/16-14	HTSP 71376
13/16-16	HTSP 71377
13/16-18	HTSP 71378
13/16-20	HTSP 71379
13/16-24	HTSP 71380
13/16-26	HTSP 71381
13/16-28	HTSP 71382
13/16-32	HTSP 71383
13/16-36	HTSP 71384
7/8-12	HTSP 71385
7/8-16	HTSP 71386
7/8-18	HTSP 71387
7/8-20	HTSP 71388
7/8-24	HTSP 71389
7/8-27	HTSP 71390
7/8-32	HTSP 71391
7/8-40	HTSP 71392
15/16-12	HTSP 71393
15/16-16	HTSP 71394
15/16-18	HTSP 71395
15/16-20	HTSP 71396
15/16-24	HTSP 71397
15/16-27	HTSP 71398
15/16-32	HTSP 71399
1-10	HTSP 71400

TAP SIZE x TPI	STOCK #
1-16	HTSP 71401
1-18	HTSP 71402
1-20	HTSP 71403
1-24	HTSP 71404
1-26	HTSP 71405
1-27	HTSP 71406
1-28	HTSP 71407
1-32	HTSP 71408
1-36	HTSP 71409
1-40	HTSP 71410
1 1/16-8	HTSP 71411
1 1/16-12	HTSP 71412
1 1/16-14	HTSP 71413
1 1/16-16	HTSP 71414
1 1/16-18	HTSP 71415
1 1/16-20	HTSP 71416
1 1/16-24	HTSP 71417
1 1/16-32	HTSP 71418
1 1/8-8	HTSP 71419
1 1/8-10	HTSP 71420
1 1/8-16	HTSP 71421
1 1/8-18	HTSP 71422
1 1/8-20	HTSP 71423
1 1/8-24	HTSP 71424
1 1/8-27	HTSP 71425
1 1/8-32	HTSP 71426
1 3/16-8	HTSP 71427
1 3/16-12	HTSP 71428
1 3/16-14	HTSP 71429
1 3/16-16	HTSP 71430
1 3/16-18	HTSP 71431
1 3/16-20	HTSP 71432
1 3/16-24	HTSP 71433
1 3/16-32	HTSP 71434
1 1/4-8	HTSP 71435
1 1/4-10	HTSP 71436
1 1/4-14	HTSP 71437
1 1/4-16	HTSP 71438
1 1/4-18	HTSP 71439
1 1/4-20	HTSP 71440
1 1/4-24	HTSP 71441
1 1/4-26	HTSP 71442
1 1/4-32	HTSP 71443
1 5/16-8	HTSP 71444
1 5/16-12	HTSP 71445
1 5/16-14	HTSP 71446
1 5/16-16	HTSP 71447
1 5/16-18	HTSP 71448
1 5/16-20	HTSP 71449
1 3/8-8	HTSP 71450

TAP SIZE x TPI	STOCK #
1 3/8-10	HTSP 71451
1 3/8-14	HTSP 71452
1 3/8-16	HTSP 71453
1 3/8-18	HTSP 71454
1 3/8-20	HTSP 71455
1 3/8-24	HTSP 71456
1 7/16-12	HTSP 71457
1 7/16-16	HTSP 71458
1 7/16-18	HTSP 71459
1 7/16-20	HTSP 71460
1 1/2-8	HTSP 71461
1 1/2-10	HTSP 71462
1 1/2-14	HTSP 71463
1 1/2-16	HTSP 71464
1 1/2-18	HTSP 71465
1 1/2-20	HTSP 71466
1 1/2-24	HTSP 71467
1 1/2-32	HTSP 71468
1 9/16-12	HTSP 71469
1 9/16-16	HTSP 71470
1 9/16-18	HTSP 71471
1 9/16-20	HTSP 71472
1 5/8-5-1/2	HTSP 71473
1 5/8-8	HTSP 71474
1 5/8-12	HTSP 71475
1 5/8-16	HTSP 71476
1 5/8-18	HTSP 71477
1 5/8-20	HTSP 71478
1 11/16-12	HTSP 71479
1 11/16-16	HTSP 71480
1 11/16-18	HTSP 71481
1 11/16-20	HTSP 71482
1 3/4-5	HTSP 71483
1 3/4-6	HTSP 71484
1 3/4-8	HTSP 71485
1 3/4-10	HTSP 71486
1 3/4-12	HTSP 71487
1 3/4-14	HTSP 71488
1 3/4-16	HTSP 71489
1 3/4-18	HTSP 71490
1 3/4-20	HTSP 71491
1 3/4-24	HTSP 71492
1 7/8-5	HTSP 71493
1 7/8-8	HTSP 71494
1 7/8-12	HTSP 71495
1 7/8-16	HTSP 71496
1 7/8-18	HTSP 71497
1 7/8-20	HTSP 71498
1 15/16-12	HTSP 71499
1 15/16-16	HTSP 71500

TAP SIZE x TPI	STOCK #
1 15/16-18	HTSP 71501
2-4 1/2	HTSP 71502
2-8	HTSP 71503
2-10	HTSP 71504
2-12	HTSP 71505
2-14	HTSP 71506
2-16	HTSP 71507
2-18	HTSP 71508
2-20	HTSP 71509
2 1/8-8	HTSP 71510
2 1/8-12	HTSP 71511
2 1/4-4 1/2	HTSP 71512
2 1/4-8	HTSP 71513
2 1/4-12	HTSP 71514
2 1/4-14	HTSP 71515
2 1/4-16	HTSP 71516
2 1/4-18	HTSP 71517
2 3/8-8	HTSP 71518
2 3/8-12	HTSP 71519
2 3/8-16	HTSP 71520
2 3/8-18	HTSP 71521
2 1/2-4	HTSP 71522
2 1/2-8	HTSP 71523
2 1/2-12	HTSP 71524
2 1/2-16	HTSP 71525
2 5/8-8	HTSP 71527
2 5/8-12	HTSP 71528
2 5/8-16	HTSP 71529
2 3/4-8	HTSP 71530
2 3/4-12	HTSP 71531
2 3/4-16	HTSP 71532
2 7/8-8	HTSP 71533
2 7/8-12	HTSP 71534
3-4	HTSP 71535
3-8	HTSP 71536
3-12	HTSP 71537
3-16	HTSP 71538
3-18	HTSP 71539
3 1/4-8	HTSP 71540
3 1/4-12	HTSP 71541
3 1/2-4	HTSP 71542
3 1/2-8	HTSP 71543
3 1/2-12	HTSP 71544
3 3/4-8	HTSP 71545
3 3/4-12	HTSP 71546
4-8	HTSP 71547
4-12	HTSP 71548

1 per pack

High-Speed Steel Ground Thread Right Hand

MADE IN U. S. A.

Features:

- General purpose taps can be used by hand or under power, in through (open both ends) or blind holes (closed one end).
- Suitable for tapping most materials.
- Standard "H" limits provide adequate "class of fit."

- **Taper taps** (7 to 10 threads). Longest chamfer insures easier starting.
- **Plug taps** (3 to 5 threads). Most common chamfer. Used in through or blind holes.
- **Bottoming taps** (1 to 2 threads). Used for threading close to the bottom of a blind hole.

TAP SIZE	PITCH	NO. OF FLUTES	GRIND LIMITS	STOCK #			
				TAPER	PLUG	BOTTOM	SET OF 3
2	**0.40**	3	D3	HSMTT171004	HSMTP171004	HSMTB171004	HSMTS171004
2.2	**0.45**	3	D3	HSMTT171006	HSMTP171006	HSMTB171006	HSMTS171006
2.5	**0.45**	3	D3	HSMTT171008	HSMTP171008	HSMTB171008	HSMTS171008
3	**0.50**	3	D3	HSMTT171010	HSMTP171010	HSMTB171010	HSMTS171010
3.5	**0.60**	3	D4	HSMTT171012	HSMTP171012	HSMTB171012	HSMTS171012
4	**0.70**	4	D4	HSMTT171014	HSMTP171014	HSMTB171014	HSMTS171014
4.5	**0.75**	4	D4	HSMTT171015	HSMTP171015	HSMTB171015	HSMTS171015
5	**0.80**	4	D4	HSMTT171016	HSMTP171016	HSMTB171016	HSMTS171016
6	**1.00**	4	D5	HSMTT171020	HSMTP171020	HSMTB171020	HSMTS171020
7	**1.00**	4	D5	HSMTT171023	HSMTP171023	HSMTB171023	HSMTS171023
8	**1.25**	4	D5	HSMTT171024	HSMTP171024	HSMTB171024	HSMTS171024
8	**1.00**	4	D5	HSMTT171025	HSMTP171025	HSMTB171025	HSMTS171025
10	**1.50**	4	D6	HSMTT171027	HSMTP171027	HSMTB171027	HSMTS171027
10	**1.25**	4	D5	HSMTT171028	HSMTP171028	HSMTB171028	HSMTS171028
12	**1.75**	4	D6	HSMTT171031	HSMTP171031	HSMTB171031	HSMTS171031
12	**1.25**	4	D6	HSMTT171033	HSMTP171033	HSMTB171033	HSMTS171033
14	**2.00**	4	D7	HSMTT171034	HSMTP171034	HSMTB171034	HSMTS171034
14	**1.50**	4	D6	HSMTT171035	HSMTP171035	HSMTB171035	HSMTS171035
16	**2.00**	4	D7	HSMTT171037	HSMTP171037	HSMTB171037	HSMTS171037
16	**1.50**	4	D6	HSMTT171038	HSMTP171038	HSMTB171038	HSMTS171038
18	**2.50**	4	D7	HSMTT171039	HSMTP171039	HSMTB171039	HSMTS171039
18	**1.50**	4	D6	HSMTT171042	HSMTP171042	HSMTB171042	HSMTS171042
20	**2.50**	4	D7	HSMTT171043	HSMTP171043	HSMTB171043	HSMTS171043
20	**1.50**	4	D6	HSMTT171044	HSMTP171044	HSMTB171044	HSMTS171044
22	**2.50**	4	D7	HSMTT171047	HSMTP171047	HSMTB171047	HSMTS171047
22	**1.50**	4	D6	HSMTT171048	HSMTP171048	HSMTB171048	HSMTS171048
24	**3.00**	4	D8	HSMTT171049	HSMTP171049	HSMTB171049	HSMTS171049
24	**2.00**	4	D7	HSMTT171050	HSMTP171050	HSMTB171050	HSMTS171050
27	**3.00**	4	D8	HSMTT171052	HSMTP171052	HSMTB171052	HSMTS171052
27	**2.00**	4	D7	HSMTT171053	HSMTP171053	HSMTB171053	HSMTS171053
30	**3.50**	4	D9	HSMTT171054	HSMTP171054	HSMTB171054	HSMTS171054
30	**2.00**	4	D7	HSMTT171055	HSMTP171055	HSMTB171055	HSMTS171055
33	**3.50**	4	D9	HSMTT171058	HSMTP171058	HSMTB171058	HSMTS171058
33	**2.00**	4	D7	HSMTT171059	HSMTP171059	HSMTB171059	HSMTS171059
36	**4.00**	4	D9	HSMTT171060	HSMTP171060	HSMTB171060	HSMTS171060

2 to 6mm, 12 per pack, 7 to 12mm, 6 per pack
14 to 27mm, 3 per pack, 30mm and above 1 per pack

Sets 3 taps per box, 1 each Taper, Plug and Bottom per size

High-Speed Steel Ground Thread Right Hand

Features:

- General purpose taps can be used by hand or under power, in through (open both ends) or blind holes (closed one end).
- Suitable for tapping most materials.
- Standard "H" limits provide adequate "class of fit."

- **Taper taps** (7 to 10 threads). Longest chamfer insures easier starting.
- **Plug taps** (3 to 5 threads). Most common chamfer. Used in through or blind holes.
- **Bottoming taps** (1 to 2 threads). Used for threading close to the bottom of a blind hole.

TAP SIZE	PITCH	NO. OF FLUTES	GRIND LIMITS	STOCK #			
				TAPER	PLUG	BOTTOM	SET OF 3
2	**0.40**	3	D3	HSMTT271004	HSMTP271004	HSMTB271004	HSMTS271004
2.2	**0.45**	3	D3	HSMTT271006	HSMTP271006	HSMTB271006	HSMTS271006
2.3	**0.40**	3	D3	HSMTT271007	HSMTP271007	HSMTB271007	HSMTS271007
2.5	**0.45**	3	D3	HSMTT271008	HSMTP271008	HSMTB271008	HSMTS271008
3	**0.50**	3	D3	HSMTT271010	HSMTP271010	HSMTB271010	HSMTS271010
3.5	**0.60**	3	D4	HSMTT271012	HSMTP271012	HSMTB271012	HSMTS271012
4	**0.50**	4	D3	HSMTT271013	HSMTP271013	HSMTB271013	HSMTS271013
4	**0.70**	4	D4	HSMTT271014	HSMTP271014	HSMTB271014	HSMTS271014
4.5	**0.75**	4	D4	HSMTT271015	HSMTP271015	HSMTB271015	HSMTS271015
5	**0.80**	4	D4	HSMTT271016	HSMTP271016	HSMTB271016	HSMTS271016
5	**0.90**	4	D4	HSMTT271017	HSMTP271017	HSMTB271017	HSMTS271017
5	**0.50**	4	D3	HSMTT271018	HSMTP271018	HSMTB271018	HSMTS271018
6	**1.00**	4	D5	HSMTT271020	HSMTP271020	HSMTB271020	HSMTS271020
6	**0.75**	4	D3	HSMTT271021	HSMTP271021	HSMTB271021	HSMTS271021
7	**1.00**	4	D5	HSMTT271023	HSMTP271023	HSMTB271023	HSMTS271023
8	**1.25**	4	D5	HSMTT271024	HSMTP271024	HSMTB271024	HSMTS271024
8	**1.00**	4	D5	HSMTT271025	HSMTP271025	HSMTB271025	HSMTS271025
9	**1.25**	4	D5	HSMTT271026	HSMTP271026	HSMTB271026	HSMTS271026
10	**1.50**	4	D6	HSMTT271027	HSMTP271027	HSMTB271027	HSMTS271027
10	**1.25**	4	D5	HSMTT271028	HSMTP271028	HSMTB271028	HSMTS271028
10	**1.00**	4	D5	HSMTT271029	HSMTP271029	HSMTB271029	HSMTS271029
11	**1.50**	4	D6	HSMTT271030	HSMTP271030	HSMTB271030	HSMTS271030
12	**1.75**	4	D6	HSMTT271031	HSMTP271031	HSMTB271031	HSMTS271031
12	**1.50**	4	D6	HSMTT271032	HSMTP271032	HSMTB271032	HSMTS271032
12	**1.25**	4	D6	HSMTT271033	HSMTP271033	HSMTB271033	HSMTS271033
14	**2.00**	4	D7	HSMTT271034	HSMTP271034	HSMTB271034	HSMTS271034
14	**1.50**	4	D6	HSMTT271035	HSMTP271035	HSMTB271035	HSMTS271035
14	**1.25**	4	D5	HSMTT271036	HSMTP271036	HSMTB271036	HSMTS271036
16	**2.00**	4	D7	HSMTT271037	HSMTP271037	HSMTB271037	HSMTS271037
16	**1.50**	4	D6	HSMTT271038	HSMTP271038	HSMTB271038	HSMTS271038
18	**2.50**	4	D7	HSMTT271039	HSMTP271039	HSMTB271039	HSMTS271039
18	**2.00**	4	D7	HSMTT271040	HSMTP271040	HSMTB271040	HSMTS271040
18	**1.00**	4	D5	HSMTT271041	HSMTP271041	HSMTB271041	HSMTS271041
18	**1.50**	4	D6	HSMTT271042	HSMTP271042	HSMTB271042	HSMTS271042
20	**2.50**	4	D7	HSMTT271043	HSMTP271043	HSMTB271043	HSMTS271043
20	**1.50**	4	D6	HSMTT271044	HSMTP271044	HSMTB271044	HSMTS271044
20	**1.00**	4	D5	HSMTT271045	HSMTP271045	HSMTB271045	HSMTS271045
20	**2.00**	4	D7	HSMTT271046	HSMTP271046	HSMTB271046	HSMTS271046
22	**2.50**	4	D7	HSMTT271047	HSMTP271047	HSMTB271047	HSMTS271047
22	**1.50**	4	D6	HSMTT271048	HSMTP271048	HSMTB271048	HSMTS271048
24	**3.00**	4	D8	HSMTT271049	HSMTP271049	HSMTB271049	HSMTS271049
24	**2.00**	4	D7	HSMTT271050	HSMTP271050	HSMTB271050	HSMTS271050
24	**1.50**	4	D6	HSMTT271051	HSMTP271051	HSMTB271051	HSMTS271051
27	**3.00**	4	D8	HSMTT271052	HSMTP271052	HSMTB271052	HSMTS271052
27	**2.00**	4	D7	HSMTT271053	HSMTP271053	HSMTB271053	HSMTS271053
30	**3.50**	4	D9	HSMTT271054	HSMTP271054	HSMTB271054	HSMTS271054
30	**2.00**	4	D7	HSMTT271055	HSMTP271055	HSMTB271055	HSMTS271055
30	**1.50**	4	D6	HSMTT271056	HSMTP271056	HSMTB271056	HSMTS271056
32	**2.00**	4	D7	HSMTT271057	HSMTP271057	HSMTB271057	HSMTS271057
33	**3.50**	4	D9	HSMTT271058	HSMTP271058	HSMTB271058	HSMTS271058
33	**2.00**	4	D7	HSMTT271059	HSMTP271059	HSMTB271059	HSMTS271059
36	**4.00**	4	D9	HSMTT271060	HSMTP271060	HSMTB271060	HSMTS271060

2 to 6mm, 10 per pack, 7 to 12mm, 5 per pack
14 to 27mm, 3 per pack, 30mm and above 1 per pack

Sets 3 taps per box, 1 each Taper, Plug and Bottom per size

ECO PRO • **ECO PRO** Taps are manufactured in Europe.

High-Speed Steel Ground Thread

Features:

- General purpose taps can be used by hand or under power, in through (open both ends) or blind holes (closed one end).
- Suitable for tapping most materials.
- Standard "H" limits provide adequate "class of fit."
- **Plug taps** (3 to 5 threads). Most common chamfer. Used in through or blind holes.
- **Bottoming taps** (1 to 2 threads). Used for threading close to the bottom of a blind hole.

PLUG / BOTTOMING CHAMFERS

TAP SIZE	PITCH	NO. OF FLUTES	GRIND LIMITS	STOCK # PLUG	STOCK # BOTTOM
2	0.25	3	D3	HSMTP72008	HSMTB72008
2	0.45	3	D3	HSMTP72009	HSMTB72009
2.5	0.50	3	D3	HSMTP72011	HSMTB72011
2.6	0.35	3	D3	HSMTP72012	HSMTB72012
2.6	0.45	3	D3	HSMTP72013	HSMTB72013
3	0.35	3	D3	HSMTP72014	HSMTB72014
3	0.60	3	D4	HSMTP72015	HSMTB72015
3.5	0.50	3	D3	HSMTP72016	HSMTB72016
4.5	0.50	4	D3	HSMTP72018	HSMTB72018
5	0.75	4	D4	HSMTP72020	HSMTB72020
5.5	0.70	4	D4	HSMTP72022	HSMTB72022
5.5	0.90	4	D4	HSMTP72023	HSMTB72023
6	0.50	4	D3	HSMTP72024	HSMTB72024
7	0.50	4	D4	HSMTP72026	HSMTB72026
7	0.75	4	D5	HSMTP72027	HSMTB72027
7	1.25	4	D5	HSMTP72028	HSMTB72028
8	0.50	4	D4	HSMTP72029	HSMTB72029
8	0.75	4	D5	HSMTP72030	HSMTB72030
8	1.50	4	D6	HSMTP72031	HSMTB72031
9	0.50	4	D4	HSMTP72032	HSMTB72032
9	0.75	4	D5	HSMTP72033	HSMTB72033
9	1.00	4	D5	HSMTP72034	HSMTB72034
10	0.50	4	D4	HSMTP72036	HSMTB72036
10	0.75	4	D5	HSMTP72037	HSMTB72037
11	0.50	4	D4	HSMTP72039	HSMTB72039
11	0.75	4	D5	HSMTP72040	HSMTB72040
11	1.00	4	D5	HSMTP72041	HSMTB72041
11	1.25	4	D5	HSMTP72042	HSMTB72042
12	0.50	4	D4	HSMTP72044	HSMTB72044
12	0.75	4	D5	HSMTP72045	HSMTB72045
12	1.00	4	D5	HSMTP72046	HSMTB72046
13	0.50	4	D4	HSMTP72048	HSMTB72048
13	1.00	4	D5	HSMTP72049	HSMTB72049
13	1.25	4	D5	HSMTP72050	HSMTB72050
13	1.50	4	D6	HSMTP72051	HSMTB72051
13	2.00	4	D7	HSMTP72052	HSMTB72052
14	0.50	4	D4	HSMTP72053	HSMTB72053
14	0.75	4	D5	HSMTP72054	HSMTB72054
14	1.00	4	D5	HSMTP72055	HSMTB72055
14	1.75	4	D6	HSMTP72057	HSMTB72057
15	0.50	4	D4	HSMTP72058	HSMTB72058
15	1.50	4	D6	HSMTP72059	HSMTB72059
15	1.00	4	D5	HSMTP72060	HSMTB72060
15	2.00	4	D7	HSMTP72061	HSMTB72061
16	0.50	4	D4	HSMTP72062	HSMTB72062
16	0.75	4	D5	HSMTP72063	HSMTB72063
16	1.00	4	D5	HSMTP72064	HSMTB72064
16	1.25	4	D5	HSMTP72065	HSMTB72065
17	0.50	4	D4	HSMTP72066	HSMTB72066
17	1.00	4	D5	HSMTP72067	HSMTB72067
17	1.50	4	D6	HSMTP72068	HSMTB72068
17	2.00	4	D7	HSMTP72069	HSMTB72069
18	0.50	4	D4	HSMTP72070	HSMTB72070
18	1.25	4	D5	HSMTP72072	HSMTB72072

TAP SIZE	PITCH	NO. OF FLUTES	GRIND LIMITS	STOCK # PLUG	STOCK # BOTTOM
18	1.75	4	D6	HSMTP72073	HSMTB72073
19	0.50	4	D4	HSMTP72075	HSMTB72075
19	1.00	4	D5	HSMTP72076	HSMTB72076
19	1.50	4	D6	HSMTP72077	HSMTB72077
19	2.00	4	D7	HSMTP72078	HSMTB72078
20	1.25	4	D5	HSMTP72080	HSMTB72080
21	1.00	4	D5	HSMTP72082	HSMTB72082
21	1.50	4	D6	HSMTP72083	HSMTB72083
21	2.00	4	D7	HSMTP72084	HSMTB72084
21	2.50	4	D7	HSMTP72085	HSMTB72085
22	1.00	4	D5	HSMTP72086	HSMTB72086
22	2.00	4	D7	HSMTP72087	HSMTB72087
23	1.00	4	D5	HSMTP72088	HSMTB72088
23	1.50	4	D6	HSMTP72089	HSMTB72089
23	2.00	4	D7	HSMTP72090	HSMTB72090
23	2.50	4	D7	HSMTP72091	HSMTB72091
23	3.00	4	D8	HSMTP72092	HSMTB72092
24	1.00	4	D5	HSMTP72093	HSMTB72093
25	1.00	4	D5	HSMTP72094	HSMTB72094
25	1.50	4	D6	HSMTP72095	HSMTB72095
25	2.00	4	D7	HSMTP72096	HSMTB72096
25	3.00	4	D8	HSMTP72097	HSMTB72097
26	1.50	4	D6	HSMTP72098	HSMTB72098
26	2.00	4	D7	HSMTP72099	HSMTB72099
27	1.00	4	D6	HSMTP72100	HSMTB72100
27	2.50	4	D8	HSMTP72101	HSMTB72101
28	1.50	4	D6	HSMTP72102	HSMTB72102
28	2.00	4	D7	HSMTP72103	HSMTB72103
30	1.00	4	D6	HSMTP72104	HSMTB72104
30	2.50	4	D8	HSMTP72106	HSMTB72106
30	3.00	4	D8	HSMTP72107	HSMTB72107
32	1.50	4	D6	HSMTP72108	HSMTB72108
33	1.50	4	D6	HSMTP72110	HSMTB72110
34	1.50	6	D6	HSMTP72112	HSMTB72112
35	1.50	6	D6	HSMTP72113	HSMTB72113
38	1.50	6	D6	HSMTP72114	HSMTB72114
39	1.50	6	D6	HSMTP72115	HSMTB72115
40	1.50	6	D6	HSMTP72116	HSMTB72116
42	1.50	6	D6	HSMTP72117	HSMTB72117
42	3.00	6	D8	HSMTP72118	HSMTB72118
42	4.50	6	D10	HSMTP72119	HSMTB72119
45	1.50	6	D6	HSMTP72120	HSMTB72120
45	3.00	6	D8	HSMTP72121	HSMTB72121
45	4.50	6	D10	HSMTP72122	HSMTB72122
48	1.50	8	D6	HSMTP72123	HSMTB72123
48	3.00	6	D8	HSMTP72124	HSMTB72124
48	4.50	6	D10	HSMTP72125	HSMTB72125
48	5.00	6	D10	HSMTP72126	HSMTB72126
50	1.50	8	D6	HSMTP72127	HSMTB72127
50	3.00	6	D8	HSMTP72128	HSMTB72128
52	1.50	8	D6	HSMTP72129	HSMTB72129
52	3.00	6	D8	HSMTP72130	HSMTB72130
52	5.00	6	D10	HSMTP72131	HSMTB72131

1 per pack

Hand Taps + .005 Oversize

High-Speed Steel Ground Thread

Features:

- Produces threads with a pitch diameter .005 larger than basic pitch diameter.
- Can be used by hand or under power, in through or blind holes.
- Used primarily on parts to be plated or heat treated after tapping, or where loss of size is anticipated for any reason.

PLUG CHAMFER

TAP SIZE	TPI	NO. OF FLUTES	STOCK
MACHINE SCREW SIZES			
4	40	3	HTO71407
5	40	3	HTO71409
6	32	3	HTO71411
6	40	3	HTO71412
8	32	4	HTO71413
8	36	4	HTO71414
10	24	4	HTO71415
10	32	4	HTO71416
FRACTIONAL			
1/4"	20	4	HTO71430
1/4"	28	4	HTO71431
5/16"	18	4	HTO71432
5/16"	24	4	HTO71433
3/8"	16	4	HTO71434
3/8"	24	4	HTO71435

4 to 1/4", 10 per pack, 5/16" to 1/2", 5 per pack
9/16" to 1", 3 per pack

TAP SIZE	TPI	NO. OF FLUTES	STOCK
FRACTIONAL			
7/16"	14	4	HTO71436
7/16"	20	4	HTO71437
1/2"	13	4	HTO71438
1/2"	20	4	HTO71439
9/16"	12	4	HTO71440
9/16"	18	4	HTO71441
5/8"	11	4	HTO71442
5/8"	18	4	HTO71443
3/4"	10	4	HTO71446
3/4"	16	4	HTO71447
7/8"	9	4	HTO71448
7/8"	14	4	HTO71449
1"	8	4	HTO71450
1"	12	4	HTO71451
1"	14	4	HTO71452

Hand Taps - Eight Pitch

High-Speed Steel Ground Thread

Features:

- Special eight thread taps feature eight threads per inch.
- Engineered specifically for liquid transmission equipment found in oil fields.

FRACTIONAL

TAP SIZE X PITCH	NO. OF FLUTES	GRIND LIMITS	STOCK #		
			TAPER	PLUG	BOTTOM
1-1/8"	8	4	HTSPT71419	HTSPP71419	HTSPB71419
1-1/4"	8	4	HTSPT71435	HTSPP71435	HTSPB71435
1-3/8"	8	4	HTSPT71450	HTSPP71450	HTSPB71450
1-1/2"	8	6	HTSPT71461	HTSPP71461	HTSPB71461
1-5/8"	8	6	HTSPT71474	HTSPP71474	HTSPB71474
1-3/4"	8	6	HTSPT71485	HTSPP71485	HTSPB71485
1-7/8"	8	6	HTSPT71494	HTSPP71494	HTSPB71494
2"	8	6	HTSPT71503	HTSPP71503	HTSPB71503
2-1/8"	8	6	HTSPT71510	HTSPP71510	HTSPB71510
2-1/4"	8	6	HTSPT71513	HTSPP71513	HTSPB71513
2-3/8"	8	6	HTSPT71518	HTSPP71518	HTSPB71518
2-1/2"	8	8	HTSPT71523	HTSPP71523	HTSPB71523
2-5/8"	8	8	HTSPT71527	HTSPP71527	HTSPB71527
2-3/4"	8	8	HTSPT71530	HTSPP71530	HTSPB71530
2-7/8"	8	8	HTSPT71533	HTSPP71533	HTSPB71533
3"	8	8	HTSPT71536	HTSPP71536	HTSPB71536
3-1/4"	8	8	HTSPT71540	HTSPP71540	HTSPB71540
3-1/2"	8	8	HTSPT71543	HTSPP71543	HTSPB71543
3-3/4"	8	8	HTSPT71545	HTSPP71545	HTSPB71545
4"	8	8	HTSPT71547	HTSPP71547	HTSPB71547

1 per pack

High-Speed Steel Ground Thread

Features:

- Specifically designed to cut threads with left hand rotation.
- Precision ground for a wide variety of applications.

PLUG CHAMFER

TAP SIZE	TPI	NO. OF FLUTES	GRIND LIMITS	STOCK #		
				TAPER	PLUG	BOTTOM
MACHINE SCREW SIZES						
6	32	3	H3	HTLT71111	HTLP71111	HTLB71111
8	32	4	H3	HTLT71113	HTLP71113	HTLB71113
10	24	4	H3	HTLT71115	HTLP71115	HTLB71115
10	32	4	H3	HTLT71116	HTLP71116	HTLB71116
FRACTIONAL						
1/4"	20	4	H3	HTLT71120	HTLP71120	HTLB71120
1/4"	28	4	H3	HTLT71121	HTLP71121	HTLB71121
5/16"	18	4	H3	HTLT71122	HTLP71122	HTLB71122
5/16"	24	4	H3	HTLT71123	HTLP71123	HTLB71123
3/8"	16	4	H3	HTLT71124	HTLP71124	HTLB71124
3/8"	24	4	H3	HTLT71125	HTLP71125	HTLB71125
7/16"	14	4	H3	HTLT71126	HTLP71126	HTLB71126
7/16"	20	4	H3	HTLT71127	HTLP71127	HTLB71127
1/2"	13	4	H3	HTLT71128	HTLP71128	HTLB71128
1/2"	20	4	H3	HTLT71129	HTLP71129	HTLB71129
9/16"	12	4	H3	HTLT71130	HTLP71130	HTLB71130
9/16"	18	4	H3	HTLT71131	HTLP71131	HTLB71131
5/8"	11	4	H3	HTLT71132	HTLP71132	HTLB71132
5/8"	18	4	H3	HTLT71133	HTLP71133	HTLB71133
3/4"	10	4	H3	HTLT71134	HTLP71134	HTLB71134
3/4"	16	4	H3	HTLT71135	HTLP71135	HTLB71135
7/8"	9	4	H4	HTLT71136	HTLP71136	HTLB71136
7/8"	14	4	H4	HTLT71137	HTLP71137	HTLB71137
1"	8	4	H4	HTLT71138	HTLP71138	HTLB71138
1"	12	4	H4	HTLT71139	HTLP71139	HTLB71139
1"	14	4	H4	HTLT71140	HTLP71140	HTLB71140
1-1/8"	7	4	H4	HTLT71141	HTLP71141	HTLB71141
1-1/8"	12	4	H4	HTLT71142	HTLP71142	HTLB71142
1-1/4"	7	4	H4	HTLT71143	HTLP71143	HTLB71143
1-1/4"	12	6	H4	HTLT71144	HTLP71144	HTLB71144
1-3/8"	6	4	H4	HTLT71145	HTLP71145	HTLB71145
1-3/8"	12	6	H4	HTLT71146	HTLP71146	HTLB71146
1-1/2"	6	4	H4	HTLT71147	HTLP71147	HTLB71147
1-1/2"	12	6	H4	HTLT71148	HTLP71148	HTLB71148

6 to 1/4", 10 per pack
5/16" to 1/2", 5 per pack
9/16" to 1", 3 per pack
1-1/8" to 1-1/2", 1 per pack

***Please note stock numbers HSHTL71111 to HSHTL71147 from catalog 03G have been revised.**

All taps available TiN coated. Details on request.

Metric Left Hand Taps

High-Speed Steel Ground Thread

Features:

- Specifically designed to cut threads with left hand rotation.
- Precision ground for a wide variety of applications.

PLUG CHAMFER

TAP SIZE	PITCH	CLASS OF FIT	NO. OF FLUTES	GRIND LIMITS	STOCK #
			METRIC		
3.5	**0.60**	6H	3	D4	HTLM81111
4	**0.70**	6H	4	D4	HTLM81113
4.5	**0.75**	6H	4	D4	HTLM81115
5	**0.80**	6H	4	D4	HTLM81116
6	**1.00**	6H	4	D5	HTLM81120
7	**1.00**	6H	4	D5	HTLM81123
8	**1.25**	6H	4	D5	HTLM81124
8	**1.00**	6H	4	D5	HTLM81125
10	**1.50**	6H	4	D6	HTLM81127
10	**1.25**	6H	4	D5	HTLM81128
12	**1.75**	6H	4	D6	HTLM81131
12	**1.25**	6H	4	D5	HTLM81133
14	**2.00**	6H	4	D7	HTLM81134
14	**1.50**	6H	4	D6	HTLM81135
16	**2.00**	6H	4	D7	HTLM81137
16	**1.50**	6H	4	D6	HTLM81138
18	**2.50**	6H	4	D7	HTLM81139
18	**1.50**	6H	4	D6	HTLM81142
20	**2.50**	6H	4	D7	HTLM81143
20	**1.50**	6H	4	D6	HTLM81144
22	**2.50**	6H	4	D7	HTLM81147
22	**1.50**	6H	4	D6	HTLM81148
24	**3.00**	6H	4	D8	HTLM81149
24	**2.00**	6H	4	D7	HTLM81150

3mm to 6mm, 10 per pack, 7mm to 12mm, 5 per pack
14mm to 24mm, 3 per pack

Tap Bits

High-Speed Steel 1/4" Power Shank

Monolock® QUICK CHANGE SYSTEM

Use with Hex Shank Driving Tool or Ratchet Handle Wrench.

ALFA TOOLS Exclusive

MACHINE SCREW & FRACTIONAL SIZES

TAP SIZE x TPI	NC/NF	OAL	STOCK #
6-32	NC	1-5/8"	HST70321
8-32	NC	1-5/8"	HST70322
10-24	NC	1-5/8"	HST70323
1/4"-20	NC	1-5/8"	HST70324
5/16"-18	NC	1-5/8"	HST70325
3/8"-16	NC	1-5/8"	HST70326
6-40	NF	1-5/8"	HST70341
8-36	NF	1-5/8"	HST70342
10-32	NF	1-5/8"	HST70343
1/4"-28	NF	1-5/8"	HST70344
5/16"-24	NF	1-5/8"	HST70345
3/8"-24	NF	1-5/8"	HST70346

1 per pack

- 1/4" hex shanks are designed for use in power tools with quick change chucks and adapters. Also provides added stability when used in standard drill chucks.

METRIC

TAP SIZE x TPI	OAL	STOCK #
4-0.70	1-5/8"	HST70351
5-0.80	1-5/8"	HST70352
6-1.00	1-5/8"	HST70353
8-1.25	1-5/8"	HST70354
10-1.25	1-5/8"	HST70355

1 per pack

High-Speed Steel, Ground Thread Right Hand Spiral, Bright Finish

Features:

- Specially designed for tapping deep through or blind holes where chips may collect at the bottom of the hole.
- Prevents clogging by forcing chips ahead of tap.
- Suitable for tapping most materials, especially those with high ductility.
- Also known as "gun taps" as chips are shot forward.

PLUG CHAMFER

TAP SIZE	TPI	NO. OF FLUTES	GRIND LIMITS	STOCK # ALFA USA	STOCK # ECO PRO
MACHINE SCREW SIZES					
0	80	2	H1	SPT170100	SPT270100
1	64	2	H1	SPT170101	SPT270101
1	72	2	H1	SPT170102	SPT270102
2	56	2	H2	SPT170103	SPT270103
2	64	2	H2	SPT170104	SPT270104
3	48	2	H2	SPT170105	SPT270105
3	56	2	H2	SPT170106	SPT270106
4	40	2	H2	SPT170107	SPT270107
4	48	2	H2	SPT170108	SPT270108
4	*36	2	H2	SPT170108A	SPT270108A
5	40	2	H2	SPT170109	SPT270109
5	44	2	H2	SPT170110	SPT270110
6	32	2	H3	SPT170111	SPT270111
6	40	2	H2	SPT170112	SPT270112
8	32	2	H3	SPT170113	SPT270113
8	36	2	H2	SPT170114	SPT270114
10	24	2	H3	SPT170115	SPT270115
10	32	2	H3	SPT170116	SPT270116
12	24	2	H3	SPT170117	SPT270117
12	28	2	H3	SPT170118	SPT270118
FRACTIONAL					
1/4"	20	2	H3	SPT170128	SPT270128
1/4"	28	2	H3	SPT170129	SPT270129
5/16"	18	2	H3	SPT170130	SPT270130
5/16"	24	2	H3	SPT170131	SPT270131
3/8"	16	3	H3	SPT170132	SPT270132
3/8"	24	3	H3	SPT170133	SPT270133
7/16"	14	3	H3	SPT170134	SPT270134
7/16"	20	3	H3	SPT170135	SPT270135
1/2"	13	3	H3	SPT170136	SPT270136
1/2"	20	3	H3	SPT170137	SPT270137
9/16"	12	3	H3	SPT170138	SPT270138
9/16"	18	3	H3	SPT170139	SPT270139
5/8"	11	3	H3	SPT170140	SPT270140
5/8"	18	3	H3	SPT170141	SPT270141
3/4"	10	3	H3	SPT170142	SPT270142
3/4"	16	3	H3	SPT170143	SPT270143
7/8"	9	3	H4	SPT170144	SPT270144
7/8"	14	3	H4	SPT170145	SPT270145
1"	8	3	H4	SPT170146	SPT270146
1"	12	3	H4	SPT170147	SPT270147
1"	*14	3	H4	SPT170148	SPT270148

0 to 1/4", 12 per pack, 5/16" to 1/2", 6 per pack, 9/16" to 3/4", 3 per pack, 7/8" to 1", 1 per pack *UNS

MADE IN U. S. A. • **ALFA USA** taps are made in the United States.

ECO PRO • **ECO PRO** taps are made in Europe.

High-Speed Steel, Ground Thread Right Hand Spiral

MADE IN U. S. A.

Features:

- Specially designed for tapping deep through or blind holes where chips may collect at the bottom of the hole.
- For use in Oil Field, Pipe Line and Heat Exchanger Applications.
- Prevents clogging by forcing chips ahead of tap.
- Suitable for tapping most materials, especially those with high ductility.
- Also known as "gun taps" as chips are shot forward.

Black oxide surface treatment provides extra lubricity, increases wear resistance and extends tool life.

NOT RECOMMENDED FOR NON-FERROUS MATERIALS.

PLUG CHAMFER

TAP SIZE	TPI	NO. OF FLUTES	GRIND LIMITS	STOCK # ALFA USA
MACHINE SCREW SIZES				
0	80	2	H1	SPTB170100
1	64	2	H1	SPTB170101
1	72	2	H1	SPTB170102
2	56	2	H2	SPTB170103
2	64	2	H2	SPTB170104
3	48	2	H2	SPTB170105
3	56	2	H2	SPTB170106
4	40	2	H2	SPTB170107
4	48	2	H2	SPTB170108
4	*36	2	H2	SPTB170108A
5	40	2	H2	SPTB170109
5	44	2	H2	SPTB170110
6	32	2	H3	SPTB170111
6	40	2	H2	SPTB170112
8	32	2	H3	SPTB170113
8	36	2	H2	SPTB170114
10	24	2	H3	SPTB170115
10	32	2	H3	SPTB170116
12	24	2	H3	SPTB170117
12	28	2	H3	SPTB170118
FRACTIONAL				
1/4"	20	2	H3	SPTB170128
1/4"	20	3	H3	SPTB170129
1/4"	28	2	H3	SPTB170130
5/16"	18	2	H3	SPTB170131
5/16"	24	2	H3	SPTB170132
3/8"	16	3	H3	SPTB170133
3/8"	24	3	H3	SPTB170134
7/16"	14	3	H3	SPTB170135
7/16"	20	3	H3	SPTB170136
1/2"	13	3	H3	SPTB170137
1/2"	20	3	H3	SPTB170138
9/16"	12	3	H3	SPTB170139
9/16"	18	3	H3	SPTB170140
5/8"	11	3	H3	SPTB170141
5/8"	18	3	H3	SPTB170142
3/4"	10	3	H3	SPTB170143
3/4"	16	3	H3	SPTB170144

0 to 1/4", 12 per pack, 5/16" to 1/2", 6 per pack, 9/16" to 3/4", 3 per pack *UNS

High-Speed Steel, Ground Thread Right Hand Spiral

METRIC SPIRAL POINTED TAPS

Features:

- Specially designed for tapping deep through or blind holes where chips may collect at the bottom of the hole.
- Prevents clogging by forcing chips ahead of tap.
- Suitable for tapping most materials, especially those with high ductility.
- Also known as "gun taps" as chips are shot forward.

PLUG CHAMFER

TAP SIZE	PITCH	D LIMIT	NO. OF FLUTES	THREAD LENGTH	STOCK #	
					ALFA USA	ECO PRO
1.6	**0.35**	3	2	5/16	SPTM170151	SPTM270151
1.8	**0.35**	3	2	3/8	SPTM170152	SPTM270152
2	**0.40**	3	2	7/16	SPTM170153	SPTM270153
2.2	**0.45**	3	2	7/16	SPTM170154	SPTM270154
2.5	**0.45**	3	2	1/2	SPTM170155	SPTM270155
3	**0.50**	3	2	5/8	SPTM170156	SPTM270156
3.5	**0.60**	4	2	11/16	SPTM170157	SPTM270157
4	**0.70**	4	2	3/4	SPTM170158	SPTM270158
4.5	**0.75**	4	2	7/8	SPTM170159	SPTM270159
5	**0.80**	4	2	7/8	SPTM170160	SPTM270160
6	**1.00**	5	2	1	SPTM170161	SPTM270161
6.3	**1.00**	5	2	1	–	SPTM270162
7	**1.00**	5	2	1-1/8	SPTM170163	SPTM270163
8	**1.25**	5	2	1-1/8	SPTM170164	SPTM270164
8	**1.00**	5	2	1-1/8	SPTM170165	SPTM270165
10	**1.50**	6	3	1-1/4	SPTM170166	SPTM270166
10	**1.25**	5	3	1-1/4	SPTM170167	SPTM270167
12	**1.75**	6	3	1-21/32	SPTM170168	SPTM270168
12	**1.25**	5	3	1-21/32	SPTM170169	SPTM270169
14	**2.00**	7	3	1-21/32	SPTM170170	SPTM270170
14	**1.50**	6	3	1-21/32	SPTM170171	SPTM270171
16	**2.00**	7	3	1-13/16	SPTM170172	SPTM270172
16	**1.50**	6	3	1-13/16	SPTM170173	SPTM270173
18	**2.50**	7	4	1-13/16	SPTM170174	SPTM270174
20	**2.50**	7	3	2	SPTM170175	SPTM270175
20	**2.50**	6	4	2	–	SPTM270176

1.6mm to 6mm, 12 per pack,
7mm to 12mm, 6 per pack, 14mm to 20mm, 3 per pack

MADE IN U. S. A. • **ALFA USA** taps are made in the United States.

ECO PRO • **ECO PRO** taps are made in Europe.

SPIRAL POINTED TAPS + .005 OVERSIZE

EU

Features:

- Produces threads with a pitch diameter .005 larger than basic pitch diameter.
- Used on parts to be plated or heat treated after tapping, or where loss of size is anticipated.

PLUG CHAMFER

TAP SIZE	TPI	NO. OF FLUTES	STOCK #
MACHINE SCREW SIZES			
6	32	2	SPTO71511
8	32	2	SPTO71513
10	24	2	SPTO71515
10	32	2	SPTO71516
FRACTIONAL			
1/4"	20	2	SPTO71528
1/4"	28	2	SPTO71529
5/16"	18	2	SPTO71530
5/16"	24	2	SPTO71531
3/8"	16	3	SPTO71532
3/8"	24	3	SPTO71533
7/16"	14	3	SPTO71534
1/2"	13	3	SPTO71536
1/2"	20	3	SPTO71537

5 per pack

SPIRAL POINTED TAPS TITANIUM NITRIDE COATED

MADE IN U. S. A.

Features:

- Titanium Nitride coating provides greater surface hardness and lubricity to promote longer tap life.
- Provides higher tapping speeds.

PLUG CHAMFER

TAP SIZE	TPI	NO. OF FLUTES	GRIND LIMITS	STOCK #
				ALFA USA
MACHINE SCREW SIZES				
4	40	2	H2	SPT170107TN
6	32	2	H3	SPT170111TN
8	32	2	H3	SPT170113TN
10	24	2	H3	SPT170115TN
10	32	2	H3	SPT170116TN
12	24	2	H3	SPT170117TN
FRACTIONAL				
1/4"	20	2	H3	SPT170128TN
1/4"	28	2	H3	SPT170129TN
5/16"	18	2	H3	SPT170130TN
5/16"	24	2	H3	SPT170131TN
3/8"	16	3	H3	SPT170132TN
3/8"	24	3	H3	SPT170133TN
7/16"	14	3	H3	SPT170134TN
7/16"	20	3	H3	SPT170135TN
1/2"	13	3	H3	SPT170136TN
1/2"	20	3	H3	SPT170137TN
5/8"	11	3	H3	SPT170140TN
5/8"	18	3	H3	SPT170141TN
3/4"	10	3	H3	SPT170142TN
3/4"	16	3	H3	SPT170143TN

1 per pack

High-Speed Steel Ground Thread

Fast Spiral

MADE IN U. S. A.

Features:

- Spiral fluted taps draw chips out of a tapped hole, thereby preventing clogging and recutting of chips.
- Will bridge a keyway or other slot inside a hole without binding.
- Can be used for tapping most materials, especially mild steel, aluminum, magnesium, copper and brass in blind holes.

Chamfer: Plug (3 to 5 threads) Bottoming (1 to 2 threads)

PLUG CHAMFER

TAP SIZE	TPI	NO. OF FLUTES	GRIND LIMITS	STOCK #
MACHINE SCREW SIZES				
3	48	2	H2	SFTP170905
3	56	2	H2	SFTP170906
4	40	2	H2	SFTP170907
4	48	2	H2	SFTP170908
5	40	2	H2	SFTP170909
5	44	2	H2	SFTP170910
6	32	2	H3	SFTP170911
6	40	2	H2	SFTP170912
8	32	2-3	H3	SFTP170913
8	36	2-3	H3	SFTP170914
10	24	2-3	H3	SFTP170915
10	32	2-3	H3	SFTP170916
12	24	2-3	H3	SFTP170917
12	28	2-3	H3	SFTP170918
FRACTIONAL				
1/4"	20	2-3	H3	SFTP170930
1/4"	28	2-3	H3	SFTP170931
5/16"	18	3	H3	SFTP170932
5/16"	24	3	H3	SFTP170933
3/8"	16	3	H3	SFTP170934
3/8"	24	3	H3	SFTP170935
7/16"	14	3-4	H3	SFTP170936
7/16"	20	3-4	H3	SFTP170937
1/2"	13	3-4	H3	SFTP170938
1/2"	20	3-4	H3	SFTP170939
9/16"	12	3-4	H3	SFTP170940
9/16"	18	3-4	H3	SFTP170941
5/8"	11	3-4	H3	SFTP170942
5/8"	18	3-4	H3	SFTP170943
3/4"	10	4	H3	SFTP170946
3/4"	16	4	H3	SFTP170947

3 to 1/4", 12 per pack, 5/16" to 1/2", 6 per pack
9/16" to 3/4", 3 per pack

BOTTOMING CHAMFER

TAP SIZE	TPI	NO. OF FLUTES	GRIND LIMITS	STOCK #
MACHINE SCREW SIZES				
3	48	2	H2	SFTB170905
3	56	2	H2	SFTB170906
4	40	2	H2	SFTB170907
4	48	2	H2	SFTB170908
5	40	2	H2	SFTB170909
5	44	2	H2	SFTB170910
6	32	2	H3	SFTB170911
6	40	2	H2	SFTB170912
8	32	2-3	H3	SFTB170913
8	36	2-3	H3	SFTB170914
10	24	2-3	H3	SFTB170915
10	32	2-3	H3	SFTB170916
12	24	2-3	H3	SFTB170917
12	28	2-3	H3	SFTB170918
FRACTIONAL				
1/4"	20	2-3	H3	SFTB170930
1/4"	28	2-3	H3	SFTB170931
5/16"	18	3	H3	SFTB170932
5/16"	24	3	H3	SFTB170933
3/8"	16	3	H3	SFTB170934
3/8"	24	3	H3	SFTB170935
7/16"	14	3-4	H3	SFTB170936
7/16"	20	3-4	H3	SFTB170937
1/2"	13	3-4	H3	SFTB170938
1/2"	20	3-4	H3	SFTB170939
9/16"	12	3-4	H3	SFTB170940
9/16"	18	3-4	H3	SFTB170941
5/8"	11	3-4	H3	SFTB170942
5/8"	18	3-4	H3	SFTB170943
3/4"	10	4	H3	SFTB170946
3/4"	16	4	H3	SFTB170947

3 to 1/4", 12 per pack, 5/16" to 1/2", 6 per pack
9/16" to 3/4", 3 per pack

Thread Forming Taps

High-Speed Steel Ground Thread

MADE IN U. S. A.

For internal threading in ductile materials

Features:

- Very effective in ductile materials such as aluminum, brass, stainless steel, copper, zinc, cast steel and alloy steel materials.

PLUG CHAMFER BOTTOMING CHAMFER

TAP SIZE	TPI	GRIND LIMITS	CLASS OF FIT	STOCK # PLUG	STOCK # BOTTOM
MACHINE SCREW SIZES					
0	80	H3	2B	–	TFB81700
1	64	H3	3B	–	TFB81701
1	72	H3	3B	–	TFB81702
2	56	H3	3B	–	TFB81703
2	64	H3	3B	–	TFB81704
3	48	H3	3B	–	TFB81705
3	56	H3	3B	–	TFB81706
4	40	H3	3B	TFP71707	TFB81707
4	48	H3	3B	TFP71708	TFB81708
5	40	H4	3B	TFP71709	TFB81709
5	44	H3	3B	TFP71710	TFB81710
6	32	H4	3B	TFP71711	TFB81711
6	40	H4	3B	TFP71712	TFB81712
8	32	H4	3B	TFP71713	TFB81713
8	36	H4	3B	TFP71714	TFB81714
10	24	H5	2B	TFP71715	TFB81715
10	32	H5	2B	TFP71716	TFB81716
12	24	H4	3B	TFP71717	TFB81717
12	28	H4	3B	TFP71718	TFB81718
FRACTIONAL					
1/4"	20	H6	2B	TFP71719	TFB81719
1/4"	28	H5	2B	TFP71720	TFB81720
5/16"	18	H6	2B	TFP71721	TFB81721
5/16"	24	H6	2B	TFP71722	TFB81722
3/8"	16	H7	2B	TFP71723	TFB81723
3/8"	24	H6	2B	TFP71724	TFB81724
7/16"	14	H6	3B	TFP71725	TFB81725
7/16"	20	H5	3B	TFP71726	TFB81726
1/2"	13	H8	2B	TFP71727	TFB81727
1/2"	20	H5	3B	TFP71728	TFB81728
9/16"	12	H6	3B	TFP71729	TFB81729
9/16"	18	H5	3B	TFP71730	TFB81730
5/8"	11	H8	2B	TFP71731	TFB81731
5/8"	18	H6	3B	TFP71732	TFB81732
3/4"	10	H8	2B	TFP71733	TFB81733
3/4"	16	H6	3B	TFP71734	TFB81734

1 per pack

Pulley Taps

High-Speed Steel Ground Thread

EU

Features:

- Specially designed to tap the set screw thread in pulley hubs.
- Also used as extension taps in many applications.
- Available in 6", 8", 10" & 12" overall lengths.

PLUG CHAMFER

TAP SIZE	TPI	OVERALL LENGTH	NO. OF FLUTES	GRIND LIMITS	STOCK #
MACHINE SCREW SIZES					
6	32	6	3	3	HSPUT70201
8	32	6	4	3	HSPUT70202
10	24	6	4	3	HSPUT70203
10	32	6	4	3	HSPUT70204
FRACTIONAL					
1/4"	20	6	4	3	HSPUT70205
1/4"	28	6	4	3	HSPUT70206
5/16"	18	6	4	3	HSPUT70207
5/16"	24	6	4	3	HSPUT70208
3/8"	16	6	4	3	HSPUT70209
3/8"	24	6	4	3	HSPUT70210
7/16"	14	6	4	3	HSPUT70211
7/16"	20	6	4	3	HSPUT70212
1/2"	13	6	4	3	HSPUT70213
1/2"	20	6	4	3	HSPUT70214
5/8"	11	6	4	3	HSPUT70215
5/8"	18	6	4	3	HSPUT70216
1/4"	20	8	4	3	HSPUT70230
1/4"	28	8	4	3	HSPUT70231
5/16"	18	8	4	3	HSPUT70232
5/16"	24	8	4	3	HSPUT70233
3/8"	16	8	4	3	HSPUT70234
3/8"	24	8	4	3	HSPUT70235
7/16"	14	8	4	3	HSPUT70236
1/2"	13	8	4	3	HSPUT70238
1/2"	20	8	4	3	HSPUT70239
5/8"	11	8	4	3	HSPUT70240
5/8"	18	8	4	3	HSPUT70241
3/4"	10	8	4	3	HSPUT70242
1"	8	8	4	3	HSPUT70243
3/8"	16	10	4	3	HSPUT70250
1/2"	13	10	4	3	HSPUT70254
5/8"	11	10	4	3	HSPUT70256
5/8"	18	10	4	3	HSPUT70257
3/4"	10	10	4	3	HSPUT70258
3/4"	16	10	4	3	HSPUT70259
1"	8	10	4	3	HSPUT70260
1/2"	13	12	4	4	HSPUT70270
5/8"	11	12	4	4	HSPUT70272
5/8"	18	12	4	4	HSPUT70273
3/4"	10	12	4	4	HSPUT70274
1"	8	12	4	4	HSPUT70276

1 per pack

Nut Taps

High-Speed Steel Ground Thread

EU

Features:

- Nut taps have long thread length, long chamfers & longer shanks.
- Long chamfers assist in centering the hole.
- May also be used to reach holes that would not be accessible with regular length taps.

TAP SIZE	TPI	GRIND LIMITS	NO. OF FLUTES	THREAD LENGTH	OVERALL LENGTH	STOCK #
1/4"	20	H3	4	1-5/8"	5	NT30230
5/16"	18	H3	4	1-13/16"	5-1/2	NT30232
3/8"	16	H3	4	2"	6	NT30234
1/2"	13	H3	**4**	2-1/2"	7	NT30238

1 per pack

High-Speed Steel Ground Thread

TAPER PIPE TAPS, NPT

Features:
- Used for tapping pipe and pipe fittings.
- Designed to produce threads where mated parts are not required to withstand high fluid and gas pressures, and where the use of a sealing compound or tape may be used to produce leakproof threads.

ALFA USA ECO PRO

TAP SIZE (PIPE)	TPI	THREAD LENGTH	NO. OF FLUTES	STOCK #	
				ALFA USA	ECO PRO
1/16"	27	11/16"	4	HSNPT170301	HSNPT270301
1/8"	27	3/4"	4	HSNPT170302	HSNPT270302
1/4"	18	1-1/16"	4	HSNPT170303	HSNPT270303
3/8"	18	1-1/16"	4	HSNPT170304	HSNPT270304
1/2"	14	1-3/8"	4	HSNPT170305	HSNPT270305
3/4"	14	1-3/8"	5	HSNPT170306	HSNPT270306
1"	11-1/2	1-3/4"	5	HSNPT170307	HSNPT270307
1-1/4"	11-1/2	1-3/4"	5	HSNPT170308	HSNPT270308
1-1/2"	11-1/2	1-3/4"	7	HSNPT170309	HSNPT270309
2"	11-1/2	1-3/4"	7	HSNPT170310	HSNPT270310
2-1/2"	8	2-9/16"	8	—	HSNPT270311
3"	8	2-5/8"	8	—	HSNPT270312
3-1/2"	8	2-11/16"	8	—	HSNPT270313
4"	8	2-3/4"	8	—	HSNPT270314

1 per pack

TAPER PIPE TAPS, NPTF (Dry Seal)

Features:
- Dry Seal Taps are used to tap fittings which give a pressure tight joint without the use of a sealer.
- Used where sealing compounds may fail due to high heat or high fluid and gas pressures.
- Suitable for carbon steels, leaded steels and die-cast parts.

ALFA USA ECO PRO

TAP SIZE	TPI	THREAD LENGTH	NO. OF FLUTES	STOCK #	
				ALFA USA	ECO PRO
1/16"	27	11/16"	4	HSNPT180321	HSNPT280321
1/8"	27	3/4"	4	HSNPT180322	HSNPT280322
1/4"	18	1-1/16"	4	HSNPT180323	HSNPT280323
3/8"	18	1-1/16"	4	HSNPT180324	HSNPT280324
1/2"	14	1-3/8"	4	HSNPT180325	HSNPT280325
3/4"	14	1-3/8"	5	HSNPT180326	HSNPT280326
1"	11-1/2	1-3/4"	5	HSNPT180327	HSNPT280327
1-1/4"	11-1/2	1-3/4"	5	HSNPT180328	HSNPT280328

1 per pack

TAPER PIPE TAPS, INTERRUPTED

Features:
- Suitable for threading both ferrous and nonferrous materials where chip disposal is a problem.
- The interrupted threads reduce drag while taper pipe threading.
- These pipe taps are standard, having an odd number of flutes.

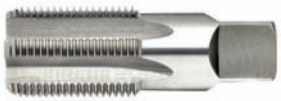
ALFA USA ECO PRO

TAP SIZE	TPI	NO. OF FLUTES	OVERALL LENGTH	LENGTH OF THREAD	STOCK #	
					ALFA USA	ECO PRO
1/16"	27	5	2-1/8"	11/16"	HSNPT76701	HSNPT26701
1/8"	27	5	2-1/8"	3/4"	HSNPT76702	HSNPT26702
1/4"	18	5	2-7/16"	1-1/16"	HSNPT76703	HSNPT26703
3/8"	18	5	2-9/16"	1-1/16"	HSNPT76704	HSNPT26704
1/2"	14	5	3-1/8"	1-3/8"	HSNPT76705	HSNPT26705
3/4"	14	5	3-1/4"	1-3/8"	HSNPT76706	HSNPT26706
1"	11-1/2	5	3-3/4"	1-3/4"	HSNPT76707	HSNPT26707
1-1/4"	11-1/2	5	4"	1-3/4"	HSNPT76708	—
1-1/2"	11-1/2	7	4"	1-3/4"	HSNPT76709	—
2"	11-1/2	7	4-1/2"	1-3/4"	HSNPT76710	—

1 per pack

Straight & Taper

U.K.



BSP BRITISH STANDARD PIPE TAPS

Features:
- Suitable for tapping holes or couplings for low pressure work.
- A sealant must be used to ensure a pressure-tight joint.

TAP SIZE	TPI	STOCK #	
		BSPP STRAIGHT	BSPT TAPER
1/8"	28	BSPP70452	BSPT70342
1/4"	19	BSPP70453	BSPT70343
3/8"	19	BSPP70454	BSPT70344
1/2"	14	BSPP70455	BSPT70345
3/4"	14	BSPP70456	BSPT70346
1"	11	BSPP70457	BSPT70347
1-1/4"	11	BSPP70458	BSPT70348
1-1/2"	11	BSPP70459	BSPT70349
2"	11	BSPP70460	BSPT70350

1 per pack

MADE IN U. S. A. • **ALFA USA** taps are made in the United States.

ECO PRO • **ECO PRO** taps are made in Europe.

Pipe Taps - Cont.

High-Speed Steel

MADE IN U. S. A.

STRAIGHT PIPE TAPS, NPS

Features:
- Suitable for tapping holes or couplings for low pressure work.
- Suitable for assembly with taper threaded pipe or fittings to secure tight joints when sealer is used.

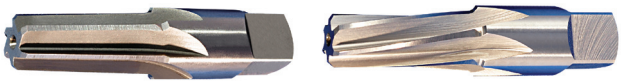
TAP SIZE	TPI	THREAD LENGTH	NO. OF FLUTES	STOCK # ALFA USA
1/16"	27	11/16"	4	HSNPS172321
1/8"	27	3/4"	4	HSNPS172323
1/4"	18	1-1/16"	4	HSNPS172324
3/8"	18	1-1/16"	4	HSNPS172325
1/2"	14	1-3/8"	4	HSNPS172326
3/4"	14	1-3/8"	5	HSNPS172327
1"	11-1/2	1-3/4"	5	HSNPS172328
1-1/4"	11-1/2	1-3/4"	5	HSNPS172329
1-1/2"	11-1/2	1-3/4"	7	HSNPS172330
2"	11-1/2	1-3/4"	7	HSNPS172331

1 per pack

Pipe Reamers

High-Speed Steel

EU



TAPER PIPE REAMERS

Features:
- 3/4" taper per foot.
- For reaming holes to be tapped with taper pipe taps.

NPT SIZE	SMALL DIA.	LARGE DIA.	OVERALL LENGTH	STOCK #
STRAIGHT FLUTE				
1/8"	.316	.362	2-1/8"	HSPR70341
1/4"	.406	.472	2-7/16"	HSPR70342
3/8"	.540	.606	2-9/16"	HSPR70343
1/2"	.665	.751	3-1/8"	HSPR70344
3/4"	.876	.962	3-1/4"	HSPR70345
1"	1.103	1.212	3-3/4"	HSPR70346
1-1/4"	1.444	1.553	4"	HSPR70347
1-1/2"	1.684	1.793	4-1/4"	HSPR70348
2"	2.159	2.268	4-1/2"	HSPR70349
SPIRAL FLUTE				
1/8"	.316	.362	2-1/8"	HSPR70351
1/4"	.406	.472	2-7/16"	HSPR70352
3/8"	.540	.606	2-9/16"	HSPR70353
1/2"	.665	.751	3-1/8"	HSPR70354
3/4"	.876	.962	3-1/4"	HSPR70355
1"	1.103	1.212	3-3/4"	HSPR70356
1-1/4"	1.444	1.553	4"	HSPR70357
1-1/2"	1.684	1.793	4-1/4"	HSPR70358
2"	2.159	2.268	4-1/2"	HSPR70359

1 per pack

Rethreading Taps

Carbon Steel

- Restores internal threads without undercutting.

MADE IN U. S. A.

THREAD SIZE	STOCK #
1/4" - 20	RTT70761
1/4" - 28	RTT70762
5/16" - 18	RTT70763
5/16" - 24	RTT70764
3/8" - 16	RTT70765
3/8" - 24	RTT70766
7/16" - 14	RTT70767
7/16" - 20	RTT70768
1/2" - 13	RTT70769
1/2" - 20	RTT70770
9/16" - 12	RTT70771
9/16" - 18	RTT70772

1 per pack

RETHREADING TAP SET

NO. OF PIECES	DESCRIPTION	STOCK #
4 pc.	1 each sizes: 1/4" - 20; 5/16" - 18; 3/8" - 16; 1/2" - 13	RTT70775

1 per pack

Acme Taps

High-Speed Steel Ground Thread

EU

Tandem Style, Single Pass

Features:
- Combines roughing and finishing operations in one pass for more economical production runs.
- No leadscrew required.
- Thread pitches are generally coarse relative to the diameter.

SIZE	FLUTE LENGTH	OVERALL LENGTH	STOCK #
1/2" - 10	2-9/16"	5"	AT66571
5/8" - 8	3-3/16"	6-1/4"	AT66572
3/4" - 6	4-5/16"	7-15/16"	AT66573
7/8" - 6	4-3/8"	8-5/8"	AT66574
1" - 5	5-1/4"	10-1/8"	AT66575
1-3/8" - 4	5-7/8"	12-1/4"	AT66578
1-1/2" - 4	5-7/8"	12-5/8"	AT66579

1 per pack

Round Adjustable Dies

High-Speed Steel Standard Thread

- Used for cutting external right hand threads.
- Ideal for precision threading with die adjustment made by set screws.
- Adjustment dies allow the user to under or over cut their threads.
- For threading where a high-speed steel round adjustable die is desired for improved wear life.

JAPAN

TAP SIZE	TPI NC, NF, NS	STOCK # 13/16" O.D.	1" O.D.	1-1/2" O.D.	2" O.D.	2-1/2" O.D.	3" O.D.	4" O.D.
MACHINE SCREW SIZES								
0	80	HSRD90391	–	–	–	–	–	–
1	64	HSRD90392	–	–	–	–	–	–
1	72	HSRD90393	–	–	–	–	–	–
2	56	HSRD90394	–	–	–	–	–	–
2	64	HSRD90395	–	–	–	–	–	–
3	48	HSRD90396	–	–	–	–	–	–
3	56	HSRD90397	–	–	–	–	–	–
4	40	HSRD90398	HSRD90414	–	–	–	–	–
4	48	HSRD90399	HSRD90415	–	–	–	–	–
5	40	HSRD90400	HSRD90416	–	–	–	–	–
5	44	HSRD90401	–	–	–	–	–	–
6	32	HSRD90402	HSRD90417	–	–	–	–	–
6	40	HSRD90403	HSRD90418	–	–	–	–	–
8	32	HSRD90404	HSRD90419	–	–	–	–	–
8	36	HSRD90405	HSRD90420	–	–	–	–	–
10	24	HSRD90406	HSRD90421	–	–	–	–	–
10	32	HSRD90407	HSRD90422	–	–	–	–	–
12	24	HSRD90408	HSRD90423	–	–	–	–	–
12	28	HSRD90409	HSRD90424	–	–	–	–	–
FRACTIONAL								
1/4"	20	HSRD90410	HSRD90425	HSRD90435	HSRD90453	–	–	–
1/4"	28	HSRD90411	HSRD90426	HSRD90436	HSRD90454	–	–	–
5/16"	18	HSRD90412	HSRD90427	HSRD90437	HSRD90455	–	–	–
5/16"	24	HSRD90413	HSRD90428	HSRD90438	HSRD90456	–	–	–
3/8"	16	–	HSRD90429	HSRD90439	HSRD90457	–	–	–
3/8"	24	–	HSRD90430	HSRD90440	HSRD90458	–	–	–
7/16"	14	–	HSRD90431	HSRD90441	HSRD90459	–	–	–
7/16"	20	–	HSRD90432	HSRD90442	HSRD90460	–	–	–
1/2"	13	–	HSRD90433	HSRD90443	HSRD90461	–	–	–
1/2"	20	–	HSRD90434	HSRD90444	HSRD90462	–	–	–
9/16"	12	–	–	HSRD90445	HSRD90463	–	–	–
9/16"	18	–	–	HSRD90446	HSRD90464	–	–	–
5/8"	11	–	–	HSRD90447	HSRD90465	–	–	–
5/8"	18	–	–	HSRD90448	HSRD90466	–	–	–
11/16"	11	–	–	HSRD90449	HSRD90467	–	–	–
11/16"	16	–	–	HSRD90450	HSRD90468	–	–	–
3/4"	10	–	–	HSRD90451	HSRD90469	–	–	–
3/4"	16	–	–	HSRD90452	HSRD90470	–	–	–
7/8"	9	–	–	–	HSRD90471	–	–	–
7/8"	14	–	–	–	HSRD90472	–	–	–
1"	8	–	–	–	HSRD90473	–	HSRD90484	–
1"	12	–	–	–	HSRD90474	–	HSRD90485	–
1"	14	–	–	–	HSRD90475	–	HSRD90486	–
1-1/8"	7	–	–	–	–	HSRD90476	HSRD90487	–
1-1/8"	12	–	–	–	–	HSRD90477	HSRD90488	–
1-1/4"	7	–	–	–	–	HSRD90478	HSRD90489	–
1-1/4"	12	–	–	–		HSRD90479	HSRD90490	–
1-3/8"	6	–	–	–	–	HSRD90480	HSRD90491	–
1-3/8"	12	–	–	–	–	HSRD90481	HSRD90492	–
1-1/2"	6	–	–	–	–	HSRD90482	HSRD90493	–
1-1/2"	12	–	–	–	–	HSRD90483	HSRD90494	–
1-3/4"	5	–	–	–	–	–	HSRD90495	–
1-3/4"	12	–	–	–	–	–	HSRD90496	–
2"	4-1/2	–	–	–	–	–	HSRD90497	–
2"	12	–	–	–	–	–	HSRD90498	–
NPT SIZES								
1/16"	27	–	HSRD90499	–	–	–	–	–
1/8"	27	–	HSRD90500	HSRD90501	–	–	–	–
1/4"	18	–	–	HSRD90502	HSRD90504	–	–	–
3/8"	18	–	–	HSRD90503	HSRD90505	–	–	–
1/2"	14	–	–	–	HSRD90506	–	–	–
3/4"	14	–	–	–	HSRD90507	–	–	–
1"	11-1/2	–	–	–	–	HSRD90508	–	–
1-1/4"	11-1/2	–	–	–	–	–	HSRD90509	–
1-1/2"	11-1/2	–	–	–	–	–	HSRD90510	HSRD90511
2"	11-1/2	–	–	–	–	–	–	HSRD90512

1 per pack

Note: Stock numbers have been changed from previous publication.

High-Speed Steel
Standard Thread

JAPAN

METRIC SIZES

TAP SIZE	TPI NC, NF, NS	STOCK #					
		13/16" O.D.	1" O.D.	1-1/2" O.D.	2" O.D.	2-1/2" O.D.	3" O.D.
1	**0.25**	HSRD90513	–	–	–	–	–
1.6	**0.35**	HSRD90514	–	–	–	–	–
2	**0.40**	HSRD90515	HSRD90523	–	–	–	–
2.2	**0.45**	–	HSRD90524	–	–	–	–
2.3	**0.40**	–	HSRD90525	–	–	–	–
2.5	**0.45**	HSRD90516	HSRD90526	–	–	–	–
2.6	**0.45**	–	HSRD90527	–	–	–	–
3	**0.50**	HSRD90517	HSRD90528	–	–	–	–
3.5	**0.60**	HSRD90518	HSRD90529	–	–	–	–
4	**0.50**	HSRD90519	–	–	–	–	–
4	**0.70**	HSRD90520	HSRD90530	–	–	–	–
4.5	**0.75**	–	HSRD90531	–	–	–	–
5	**0.80**	HSRD90521	HSRD90532	–	–	–	–
6	**1.00**	HSRD90522	HSRD90533	–	–	–	–
6.3	**1.00**	–	HSRD90534	–	–	–	–
7	**1.00**	–	HSRD90535	–	–	–	–
8	**1.00**	–	HSRD90536	–	–	–	–
8	**1.25**	–	HSRD90537	–	–	–	–
10	**1.25**	–	HSRD90538	HSRD90541	–	–	–
10	**1.50**	–	HSRD90539	HSRD90542	–	–	–
12	**1.25**	–	–	HSRD90543	–	–	–
12	**1.75**	–	HSRD90540	HSRD90544	–	–	–
14	**1.50**	–	–	HSRD90545	–	–	–
14	**2.00**	–	–	HSRD90546	–	–	–
16	**2.00**	–	–	HSRD90547	–	–	–
18	**1.50**	–	–	HSRD90548	–	–	–
18	**2.50**	–	–	HSRD90549	HSRD90552	–	–
20	**1.50**	–	–	HSRD90550	HSRD90553	–	–
20	**2.50**	–	–	HSRD90551	HSRD90554	–	–
22	**1.50**	–	–	–	HSRD90555	–	–
22	**2.50**	–	–	–	HSRD90556	–	–
24	**2.00**	–	–	–	HSRD90557	–	–
24	**3.00**	–	–	–	HSRD90558	–	–
27	**2.00**	–	–	–	HSRD90559	–	–
27	**3.00**	–	–	–	HSRD90560	–	–
30	**3.50**	–	–	–	HSRD90561	–	–
33	**2.00**	–	–	–	–	HSRD90562	–
45	**4.50**	–	–	–	–	–	HSRD90563

1 per pack

Note: Stock numbers have been changed from previous publication.

Round Adj. Dies - Special Thread

High-Speed Steel

JAPAN

Features:
- Provides improved wear life.
- Ideal for precision threading with adjustment of die by set screws.
- Allows the user to under or over cut threads.

INCH SIZES – MACHINE SCREW & FRACTIONAL

SIZE	STOCK #
1" O.D.	
4-36	RDSP74710
4-56	RDSP74711
4-60	RDSP74712
4-64	RDSP74713
5-48	RDSP74714
5-56	RDSP74715
5-64	RDSP74716
6-30	RDSP74717
6-36	RDSP74718
6-48	RDSP74719
6-56	RDSP74720
8-24	RDSP74721
8-30	RDSP74722
8-40	RDSP74723
8-48	RDSP74724
8-56	RDSP74725
10-26	RDSP74726
10-27	RDSP74727
10-28	RDSP74728
10-30	RDSP74729
10-36	RDSP74730
10-40	RDSP74731
10-48	RDSP74732
10-56	RDSP74733
12-26	RDSP74734
12-27	RDSP74735
12-30	RDSP74736
12-32	RDSP74737
12-36	RDSP74738
12-40	RDSP74739
12-48	RDSP74740
12-56	RDSP74741
14-27	RDSP74742
14-28	RDSP74743
14-30	RDSP74744
14-32	RDSP74745
14-48	RDSP74746
1/4-14	RDSP74747
1/4-16	RDSP74748
1/4-18	RDSP74749
1/4-22	RDSP74750
1/4-24	RDSP74751
1/4-26	RDSP74752
1/4-27	RDSP74753
1/4-30	RDSP74754
1/4-32	RDSP74755
1/4-36	RDSP74756
1/4-40	RDSP74757
1/4-48	RDSP74758
1/4-56	RDSP74759
5/16-16	RDSP74760
5/16-20	RDSP74761
5/16-22	RDSP74762
5/16-27	RDSP74763
5/16-28	RDSP74764

SIZE	STOCK #
1" O.D.	
5/16-30	RDSP74765
5/16-32	RDSP74766
5/16-36	RDSP74767
5/16-40	RDSP74768
5/16-48	RDSP74769
3/8-14	RDSP74770
3/8-18	RDSP74771
3/8-20	RDSP74772
3/8-22	RDSP74773
3/8-26	RDSP74774
3/8-27	RDSP74775
3/8-28	RDSP74776
3/8-30	RDSP74777
3/8-32	RDSP74778
3/8-36	RDSP74779
3/8-40	RDSP74780
3/8-48	RDSP74781
7/16-16	RDSP74782
7/16-18	RDSP74783
7/16-24	RDSP74784
7/16-27	RDSP74785
7/16-28	RDSP74786
7/16-30	RDSP74787
7/16-32	RDSP74788
7/16-36	RDSP74789
7/16-40	RDSP74790
1/2-12	RDSP74791
1/2-14	RDSP74792
1/2-16	RDSP74793
1/2-18	RDSP74794
1/2-22	RDSP74795
1/2-24	RDSP74796
1/2-27	RDSP74797
1/2-28	RDSP74798
1/2-30	RDSP74799
1/2-32	RDSP74800
1/2-36	RDSP74801
1/2-40	RDSP74802
1/2-48	RDSP74803

SIZE	STOCK #
1-1/2" O.D.	
1/4-22	RDSP74810
1/4-24	RDSP74811
1/4-27	RDSP74812
1/4-30	RDSP74813
1/4-32	RDSP74814
1/4-36	RDSP74815
1/4-40	RDSP74816
1/4-48	RDSP74817
5/16-16	RDSP74818
5/16-20	RDSP74819
5/16-22	RDSP74820
5/16-27	RDSP74821
5/16-28	RDSP74822
5/16-30	RDSP74823
5/16-32	RDSP74824
5/16-36	RDSP74825
5/16-40	RDSP74826
5/16-48	RDSP74827
3/8-14	RDSP74828
3/8-18	RDSP74829
3/8-20	RDSP74830
3/8-22	RDSP74831
3/8-26	RDSP74832
3/8-27	RDSP74833
3/8-28	RDSP74834
3/8-30	RDSP74835
3/8-32	RDSP74836
3/8-36	RDSP74837
3/8-40	RDSP74838
3/8-48	RDSP74839
7/16-12	RDSP74840
7/16-16	RDSP74841
7/16-18	RDSP74842
7/16-22	RDSP74843
7/16-24	RDSP74844
7/16-27	RDSP74845
7/16-28	RDSP74846
7/16-30	RDSP74847
7/16-32	RDSP74848
7/16-36	RDSP74849
7/16-40	RDSP74850
7/16-48	RDSP74851
15/32-32	RDSP74852
1/2-12	RDSP74853
1/2-14	RDSP74854
1/2-16	RDSP74855
1/2-18	RDSP74856
1/2-22	RDSP74857
1/2-24	RDSP74858
1/2-27	RDSP74859
1/2-28	RDSP74860
1/2-30	RDSP74861
1/2-32	RDSP74862
1/2-36	RDSP74863
1/2-40	RDSP74864

SIZE	STOCK #
1-1/2" O.D.	
1/2-48	RDSP74865
1/2-56	RDSP74866
9/16-14	RDSP74867
9/16-16	RDSP74868
9/16-20	RDSP74869
9/16-22	RDSP74870
9/16-24	RDSP74871
9/16-27	RDSP74872
9/16-28	RDSP74873
9/16-30	RDSP74874
9/16-32	RDSP74875
9/16-36	RDSP74876
9/16-40	RDSP74877
5/8-10	RDSP74878
5/8-12	RDSP74879
5/8-14	RDSP74880
5/8-16	RDSP74881
5/8-20	RDSP74882
5/8-22	RDSP74883
5/8-24	RDSP74884
5/8-26	RDSP74885
5/8-27	RDSP74886
5/8-28	RDSP74887
5/8-30	RDSP74888
5/8-32	RDSP74889
5/8-36	RDSP74890
5/8-40	RDSP74891
5/8-48	RDSP74892
11/16-12	RDSP74893
11/16-14	RDSP74894
11/16-18	RDSP74895
11/16-20	RDSP74896
11/16-24	RDSP74897
11/16-27	RDSP74898
11/16-30	RDSP74899
11/16-32	RDSP75000
3/4-12	RDSP75001
3/4-14	RDSP75002
3/4-18	RDSP75003
3/4-20	RDSP75004
3/4-24	RDSP75005
3/4-27	RDSP75006
3/4-28	RDSP75007
3/4-30	RDSP75008
3/4-32	RDSP75009
3/4-36	RDSP75010
3/4-40	RDSP75011
3/4-48	RDSP75012
13/16-10	RDSP75013
13/16-12	RDSP75014
13/16-16	RDSP75015
13/16-20	RDSP75016
13/16-24	RDSP75017
13/16-28	RDSP75018
13/16-32	RDSP75019

SIZE	STOCK #
2" O.D.	
7/16-18	RDSP75030
7/16-24	RDSP75031
1/2-12	RDSP75032
1/2-16	RDSP75033
1/2-18	RDSP75034
1/2-24	RDSP75035
1/2-27	RDSP75036
1/2-28	RDSP75037
1/2-30	RDSP75038
1/2-32	RDSP75039
9/16-14	RDSP75040
9/16-20	RDSP75041
9/16-24	RDSP75042
9/16-27	RDSP75043
9/16-28	RDSP75044
9/16-30	RDSP75045
9/16-32	RDSP75046
9/16-36	RDSP75047
5/8-10	RDSP75048
5/8-12	RDSP75049
5/8-14	RDSP75050
5/8-16	RDSP75051
5/8-20	RDSP75052
5/8-24	RDSP75053
5/8-27	RDSP75054
5/8-28	RDSP75055
5/8-30	RDSP75056
5/8-32	RDSP75057
5/8-40	RDSP75058
11/16-12	RDSP75059
11/16-14	RDSP75060
11/16-18	RDSP75061
11/16-20	RDSP75062
11/16-24	RDSP75063
11/16-27	RDSP75064
11/16-32	RDSP75065
11/16-36	RDSP75066
11/16-40	RDSP75067
3/4-12	RDSP75068
3/4-14	RDSP75069
3/4-18	RDSP75070
3/4-20	RDSP75071
3/4-24	RDSP75072
3/4-27	RDSP75073
3/4-28	RDSP75074
3/4-32	RDSP75075
3/4-36	RDSP75076
3/4-40	RDSP75077
13/16-10	RDSP75078
13/16-12	RDSP75079
13/16-14	RDSP75080
13/16-16	RDSP75081

Continued

High-Speed Steel

JAPAN

INCH SIZES – MACHINE SCREW & FRACTIONAL

SIZE	STOCK #
2" O.D.	
13/16-18	RDSP75082
13/16-20	RDSP75083
13/16-24	RDSP75084
13/16-27	RDSP75085
13/16-30	RDSP75086
13/16-32	RDSP75087
13/16-36	RDSP75088
13/16-40	RDSP75089
7/8-10	RDSP75090
7/8-12	RDSP75091
7/8-16	RDSP75092
7/8-18	RDSP75093
7/8-20	RDSP75094
7/8-24	RDSP75095
7/8-27	RDSP75096
7/8-28	RDSP75097
7/8-30	RDSP75098
7/8-32	RDSP75099
7/8-36	RDSP75100
7/8-40	RDSP75101
15/16-10	RDSP75102
15/16-12	RDSP75103
15/16-14	RDSP75104
15/16-16	RDSP75105
15/16-18	RDSP75106
15/16-20	RDSP75107
15/16-24	RDSP75108
15/16-27	RDSP75109
15/16-28	RDSP75110
15/16-30	RDSP75111
15/16-32	RDSP75112
1-10	RDSP75113
1-16	RDSP75114
1-18	RDSP75115
1-20	RDSP75116
1-24	RDSP75117
1-27	RDSP75118
1-28	RDSP75119
1-30	RDSP75120
1-32	RDSP75121
1-36	RDSP75122
1-40	RDSP75123
1-48	RDSP75124
1-56	RDSP75125

SIZE	STOCK #
2-1/2" O.D.	
1-10	RDSP75130
1-16	RDSP75131
1-18	RDSP75132
1-20	RDSP75133
1-24	RDSP75134
1-26	RDSP75135
1-27	RDSP75136
1-28	RDSP75137
1-32	RDSP75138
1-1/16-7	RDSP75139
1-1/16-8	RDSP75140
1-1/16-10	RDSP75141
1-1/16-12	RDSP75142
1-1/16-14	RDSP75143
1-1/16-16	RDSP75144
1-1/16-18	RDSP75145
1-1/16-20	RDSP75146
1-1/16-24	RDSP75147
1-1/16-28	RDSP75148
1-1/8-8	RDSP75149
1-1/8-10	RDSP75150
1-1/8-14	RDSP75151
1-1/8-16	RDSP75152
1-1/8-18	RDSP75153
1-1/8-20	RDSP75154
1-1/8-24	RDSP75155
1-1/8-26	RDSP75156
1-1/8-27	RDSP75157
1-1/8-28	RDSP75158
1-1/8-30	RDSP75159
1-1/8-32	RDSP75160
1-3/16-7	RDSP75161
1-3/16-8	RDSP75162
1-3/16-12	RDSP75163
1-3/16-14	RDSP75164
1-3/16-16	RDSP75165
1-3/16-18	RDSP75166
1-3/16-20	RDSP75167
1-3/16-24	RDSP75168
1-3/16-27	RDSP75169
1-3/16-28	RDSP75170
1-3/16-32	RDSP75171
1-1/4-8	RDSP75172
1-1/4-10	RDSP75173
1-1/4-14	RDSP75174
1-1/4-16	RDSP75175
1-1/4-18	RDSP75176
1-1/4-20	RDSP75177

SIZE	STOCK #
2-1/2" O.D.	
1-1/4-24	RDSP75178
1-1/4-26	RDSP75179
1-1/4-27	RDSP75180
1-1/4-28	RDSP75181
1-1/4-30	RDSP75182
1-1/4-32	RDSP75183
1-1/4-36	RDSP75184
1-1/4-40	RDSP75185
1-5/16-8	RDSP75186
1-5/16-12	RDSP75187
1-5/16-14	RDSP75188
1-5/16-16	RDSP75189
1-5/16-18	RDSP75190
1-5/16-20	RDSP75191
1-5/16-24	RDSP75192
1-5/16-27	RDSP75193
1-5/16-32	RDSP75194
1-3/8-7	RDSP75195
1-3/8-8	RDSP75196
1-3/8-10	RDSP75197
1-3/8-14	RDSP75198
1-3/8-16	RDSP75199
1-3/8-18	RDSP75200
1-3/8-20	RDSP75201
1-3/8-24	RDSP75202
1-3/8-27	RDSP75203
1-3/8-32	RDSP75204
1-7/16-6	RDSP75205
1-7/16-8	RDSP75206
1-7/16-12	RDSP75207
1-7/16-16	RDSP75208
1-7/16-18	RDSP75209
1-1/2-7	RDSP75210
1-1/2-8	RDSP75211
1-1/2-10	RDSP75212
1-1/2-14	RDSP75213
1-1/2-16	RDSP75214
1-1/2-18	RDSP75215
1-1/2-20	RDSP75216
1-1/2-24	RDSP75217
1-1/2-27	RDSP75218
1-1/2-30	RDSP75219
1-1/2-32	RDSP75220

SIZE	STOCK #
3" O.D.	
1-10	RDSP75230
1-16	RDSP75231
1-18	RDSP75232
1-20	RDSP75233
1-24	RDSP75234
1-1/16-8	RDSP75235
1-1/16-10	RDSP75236
1-1/16-12	RDSP75237
1-1/16-14	RDSP75238
1-1/16-16	RDSP75239
1-1/16-18	RDSP75240
1-1/16-20	RDSP75241
1-1/16-24	RDSP75242
1-1/8-8	RDSP75243
1-1/8-10	RDSP75244
1-1/8-14	RDSP75245
1-1/8-16	RDSP75246
1-1/8-18	RDSP75247
1-1/8-20	RDSP75248
1-1/8-24	RDSP75249
1-3/16-8	RDSP75250
1-3/16-12	RDSP75251
1-3/16-16	RDSP75252
1-1/4-6	RDSP75253
1-1/4-8	RDSP75254
1-1/4-10	RDSP75255
1-1/4-14	RDSP75256
1-1/4-16	RDSP75257
1-1/4-18	RDSP75258
1-1/4-20	RDSP75259
1-1/4-24	RDSP75260
1-5/16-8	RDSP75261
1-5/16-10	RDSP75262
1-5/16-12	RDSP75263
1-5/16-14	RDSP75264
1-5/16-16	RDSP75265
1-5/16-18	RDSP75266
1-5/16-20	RDSP75267
1-3/8-8	RDSP75268
1-3/8-10	RDSP75269
1-3/8-14	RDSP75270
1-3/8-16	RDSP75271
1-3/8-18	RDSP75272
1-3/8-20	RDSP75273
1-3/8-24	RDSP75274
1-7/16-6	RDSP75275
1-7/16-8	RDSP75276
1-7/16-12	RDSP75277
1-7/16-16	RDSP75278
1-7/16-18	RDSP75279
1-1/2-8	RDSP75280
1-1/2-10	RDSP75281

SIZE	STOCK #
3" O.D.	
1-1/2-14	RDSP75282
1-1/2-16	RDSP75283
1-1/2-18	RDSP75284
1-1/2-20	RDSP75285
1-1/2-24	RDSP75286
1-9/16-6	RDSP75287
1-9/16-8	RDSP75288
1-9/16-12	RDSP75289
1-9/16-16	RDSP75290
1-9/16-18	RDSP75291
1-5/8-5	RDSP75292
1-5/8-5-1/2	RDSP75293
1-5/8-6	RDSP75294
1-5/8-8	RDSP75295
1-5/8-10	RDSP75296
1-5/8-12	RDSP75297
1-5/8-14	RDSP75298
1-5/8-18	RDSP75299
1-5/8-20	RDSP75300
1-11/16-6	RDSP75301
1-11/16-8	RDSP75302
1-11/16-12	RDSP75303
1-11/16-16	RDSP75304
1-11/16-18	RDSP75305
1-3/4-5-1/2	RDSP75306
1-3/4-6	RDSP75307
1-3/4-8	RDSP75308
1-3/4-10	RDSP75309
1-3/4-14	RDSP75310
1-3/4-16	RDSP75311
1-3/4-20	RDSP75312
1-3/4-24	RDSP75313
1-7/8-5	RDSP75314
1-7/8-5-1/2	RDSP75315
1-7/8-6	RDSP75316
1-7/8-8	RDSP75317
1-7/8-10	RDSP75318
1-7/8-12	RDSP75319
1-7/8-14	RDSP75320
1-7/8-16	RDSP75321
1-7/8-18	RDSP75322
1-7/8-20	RDSP75323
2-4	RDSP75324
2-6	RDSP75325
2-8	RDSP75326
2-10	RDSP75327
2-14	RDSP75328
2-16	RDSP75329
2-18	RDSP75330
2-20	RDSP75331
2-24	RDSP75332

1 per pack

Round Adj. Dies - Special Thread - Metric

High-Speed Steel

Features:
- Provides improved wear life.
- Ideal for precision threading with adjustment of die by set screws.
- Allows the user to under or over cut threads.

JAPAN

METRIC SIZES

SIZE	STOCK #
1" O.D.	
3 x 0.35	RDSPM75320
3 x 0.60	RDSPM75321
3 x 0.75	RDSPM75322
3.5 x 0.35	RDSPM75323
3.5 x 0.50	RDSPM75324
4 x 0.50	RDSPM75325
4 x 0.35	RDSPM75326
4 x 0.60	RDSPM75327
4 x 0.75	RDSPM75328
4 x 1.00	RDSPM75329
4.5 x 0.50	RDSPM75330
4.5 x 1.00	RDSPM75331
5 x 0.50	RDSPM75332
5 x 0.75	RDSPM75333
5 x 0.90	RDSPM75334
5 x 1.00	RDSPM75335
5.5 x 0.50	RDSPM75336
5.5 x 0.70	RDSPM75337
5.5 x 0.90	RDSPM75338
6 x 0.50	RDSPM75339
6 x 0.75	RDSPM75340
6 x 1.25	RDSPM75341
6 x 1.50	RDSPM75342
7 x 0.50	RDSPM75343
7 x 0.75	RDSPM75344
7 x 1.25	RDSPM75345
8 x 0.50	RDSPM75346
8 x 0.75	RDSPM75347
8 x 1.50	RDSPM75348
8 x 1.75	RDSPM75349
9 x 0.50	RDSPM75350
9 x 0.75	RDSPM75351
9 x 1.00	RDSPM75352
9 x 1.25	RDSPM75353
9 x 1.50	RDSPM75354
9 x 1.75	RDSPM75355
10 x 0.50	RDSPM75356
10 x 0.75	RDSPM75357
10 x 1.00	RDSPM75358
10 x 1.75	RDSPM75359
10 x 2.00	RDSPM75360
11 x 0.50	RDSPM75361
11 x 0.75	RDSPM75362
11 x 1.00	RDSPM75363
11 x 1.25	RDSPM75364
11 x 1.50	RDSPM75365
11 x 1.75	RDSPM75366
11 x 2.00	RDSPM75367
12 x 0.50	RDSPM75368
12 x 0.75	RDSPM75369
12 x 1.00	RDSPM75370
12 x 1.50	RDSPM75371
12 x 2.00	RDSPM75372

SIZE	STOCK #
1-1/2" O.D.	
9 x 0.50	RDSPM75410
9 x 0.75	RDSPM75411
9 x 1.00	RDSPM75412
9 x 1.25	RDSPM75413
10 x 0.50	RDSPM75414
10 x 0.75	RDSPM75415
10 x 1.00	RDSPM75416
11 x 0.50	RDSPM75417
11 x 0.75	RDSPM75418
11 x 1.00	RDSPM75419
11 x 1.25	RDSPM75420
11 x 1.50	RDSPM75421
12 x 0.50	RDSPM75422
12 x 0.75	RDSPM75423
12 x 1.00	RDSPM75424
12 x 1.50	RDSPM75425
12 x 2.00	RDSPM75426
13 x 0.50	RDSPM75427
13 x 0.75	RDSPM75428
13 x 1.00	RDSPM75429
13 x 1.25	RDSPM75430
13 x 1.50	RDSPM75431
13 x 1.75	RDSPM75432
13 x 2.00	RDSPM75433
14 x 0.50	RDSPM75434
14 x 0.75	RDSPM75435
14 x 1.00	RDSPM75436
14 x 1.25	RDSPM75437
14 x 1.75	RDSPM75438
15 x 0.50	RDSPM75439
15 x 1.00	RDSPM75440
15 x 1.50	RDSPM75441
15 x 2.00	RDSPM75442
16 x 0.50	RDSPM75443
16 x 0.75	RDSPM75444
16 x 1.00	RDSPM75445
16 x 1.25	RDSPM75446
16 x 1.50	RDSPM75446A
16 x 1.75	RDSPM75447
17 x 0.50	RDSPM75448
17 x 1.00	RDSPM75449
17 x 1.50	RDSPM75450
17 x 2.00	RDSPM75451
18 x 0.50	RDSPM75452
18 x 1.00	RDSPM75453
18 x 1.25	RDSPM75454
18 x 1.75	RDSPM75455
18 x 2.00	RDSPM75456
19 x 0.50	RDSPM75457
19 x 1.00	RDSPM75458
19 x 1.50	RDSPM75459
19 x 2.00	RDSPM75460
20 x 1.00	RDSPM75461
20 x 1.25	RDSPM75462
20 x 1.75	RDSPM75463
20 x 2.00	RDSPM75464

SIZE	STOCK #
2" O.D.	
18 x 1.00	RDSPM75510
19 x 1.50	RDSPM75511
20 x 1.00	RDSPM75512
20 x 1.25	RDSPM75513
20 x 2.00	RDSPM75514
21 x 1.00	RDSPM75515
21 x 1.50	RDSPM75516
21 x 2.00	RDSPM75517
21 x 2.50	RDSPM75518
22 x 1.00	RDSPM75519
22 x 2.00	RDSPM75520
23 x 1.00	RDSPM75521
23 x 1.50	RDSPM75522
23 x 2.00	RDSPM75523
23 x 2.50	RDSPM75524
24 x 1.50	RDSPM75525
25 x 1.00	RDSPM75526
25 x 1.50	RDSPM75527
25 x 2.00	RDSPM75528
25 x 2.50	RDSPM75529
26 x 1.50	RDSPM75530
26 x 2.00	RDSPM75531
27 x 1.00	RDSPM75532
27 x 1.50	RDSPM75533
28 x 1.00	RDSPM75534
28 x 1.50	RDSPM75535
28 x 2.00	RDSPM75536
30 x 1.00	RDSPM75537
30 x 1.50	RDSPM75538
30 x 2.00	RDSPM75539
30 x 3.00	RDSPM75540
2-1/2" O.D.	
32 x 1.50	RDSPM75610
33 x 1.50	RDSPM75611
34 x 1.50	RDSPM75612
35 x 1.00	RDSPM75613
35 x 1.50	RDSPM75614
36 x 1.50	RDSPM75615
38 x 1.50	RDSPM75620

SIZE	STOCK #
3" O.D.	
39 x 1.50	RDSPM75621
40 x 1.50	RDSPM75622
42 x 1.50	RDSPM75623
42 x 3.00	RDSPM75624
42 x 4.50	RDSPM75625
45 x 1.50	RDSPM75626
45 x 3.00	RDSPM75627
45 x 4.50	RDSPM75628
48 x 1.50	RDSPM75629
48 x 3.00	RDSPM75630
48 x 5.00	RDSPM75631
50 x 1.50	RDSPM75632
52 x 1.50	RDSPM75633
52 x 3.00	RDSPM75634
52 x 5.00	RDSPM75635

1 per pack

High-Speed Steel Right Hand Thread

JAPAN

Features:

- Designed for tough cutting applications of all types of external threads.
- Versatile hexagon shape assures use with adjustable wrench.

THREAD SIZE	TPI NC, NF, NS	DIE WIDTH A/F (A)	THICKNESS (B)	STOCK #
MACHINE SCREW SIZES				
4	40	19/32"	1/4"	HSHD74501
6	32	19/32"	1/4"	HSHD74503
8	32	19/32"	1/4"	HSHD74505
10	24	19/32"	1/4"	HSHD74507
10	32	19/32"	1/4"	HSHD74509
12	24	19/32"	1/4"	HSHD74511
FRACTIONAL				
1/4"	20	19/32"	1/4"	HSHD74512
1/4"	28	19/32"	1/4"	HSHD74513
5/16"	18	11/16"	5/16"	HSHD74514
5/16"	24	11/16"	5/16"	HSHD74515
3/8"	16	25/32"	3/8"	HSHD74516
3/8"	24	25/32"	3/8"	HSHD74517
7/16"	14	7/8"	7/16"	HSHD74518
7/16"	20	7/8"	7/16"	HSHD74519
1/2"	13	1-1/16"	1/2"	HSHD74520
1/2"	20	1-1/16"	1/2"	HSHD74521
9/16"	12	1-1/16"	1/2"	HSHD74522
9/16"	18	1-1/16"	1/2"	HSHD74523
5/8"	11	1-1/4"	5/8"	HSHD74524
5/8"	18	1-1/4"	5/8"	HSHD74525
3/4"	10	1-7/16"	3/4"	HSHD74526
3/4"	16	1-7/16"	3/4"	HSHD74527
7/8"	9	1-5/8"	7/8"	HSHD74528
7/8"	14	1-5/8"	7/8"	HSHD74529
1"	8	1-13/16"	1"	HSHD74530
1"	12	1-13/16"	1"	HSHD74531
1"	14	1-13/16"	1"	HSHD74532
1-1/8"	7	2"	1"	HSHD74533
1-1/8"	12	2"	1"	HSHD74534
1-1/4"	7	2-3/16"	1"	HSHD74535
1-1/4"	12	2-3/16"	1"	HSHD74536
1-3/8"	6	2-3/8"	1"	HSHD74537
1-3/8"	12	2-3/8"	1"	HSHD74538
1-1/2"	6	2-9/16"	1"	HSHD74539
1-1/2"	12	2-9/16"	1"	HSHD74540

1 per pack

THREAD SIZE	TPI	DIE WIDTH A/F (A)	THICKNESS (B)	STOCK #
NPT SIZES				
1/8"	27	3/4"	3/8"	HSHD74551
1/4"	18	1-1/16"	1/2"	HSHD74552
3/8"	18	1-7/16"	5/8"	HSHD74553
1/2"	14	1-7/16"	3/4"	HSHD74554
3/4"	14	1-13/16"	1"	HSHD74555
1"	11-1/2	2-3/16"	1"	HSHD74556
1-1/4"	11-1/2	3-1/8"	1"	HSHD74557
1-1/2"	11-1/2	3-1/8"	1"	HSHD74558
2"	11-1/2	4-1/2"	1-1/2"	HSHD74559

1 per pack

Eight Pitch Hexagon Dies

High Carbon Steel

Features:

- Designed for tough cutting applications of all types of external threads.
- Versatile hexagon shape assures use with adjustable wrench.

TAP SIZE	TPI	STOCK #
1-1/8"	8	CSRTD70751
1-1/4"	8	CSRTD70752
1-3/8"	8	CSRTD70753
1-1/2"	8	CSRTD70754
1-5/8"	8	CSRTD70755
1-3/4"	8	CSRTD70756
1-7/8"	8	CSRTD70757
2"	8	CSRTD70758
2-1/8"	8	CSRTD70759
2-1/4"	8	CSRTD70760
2-3/8"	8	CSRTD70761
2-1/2"	8	CSRTD70762
2-5/8"	8	CSRTD70763
2-3/4"	8	CSRTD70764
2-7/8"	8	CSRTD70765
3"	8	CSRTD70766
3-1/4"	8	CSRTD70767
3-1/2"	8	CSRTD70768
3-3/4"	8	CSRTD70769
4"	8	CSRTD70770

1 per pack

Taper Pipe Taps

High Carbon Steel

JAPAN

TAPER PIPE TAPS, NPT

TAP SIZE	TPI	STOCK #	
		BULK	CARDED
1/16"	27	CSNPT70560	CSNPT70560C
1/8"	27	CSNPT70561	CSNPT70561C
1/4"	18	CSNPT70562	CSNPT70562C
3/8"	18	CSNPT70563	CSNPT70563C
1/2"	14	CSNPT70564	CSNPT70564C
3/4"	14	CSNPT70565	–
1"	11-1/2	CSNPT70566	–
1-1/4"	11-1/2	CSNPT70567	–
1-1/2"	11-1/2	CSNPT70568	–
2"	11-1/2	CSNPT70569	–

Bulk 1/16" to 1", 3 per pack, 1-1/4" and above, 1 per pack
Card 1/16" to 1/2", 1 per card

Features:

- Tapered at the rate of 3/4" per foot.
- Normally used for tapping pipe fittings.
- The nominal size of the tap is that of the pipe fitting being tapped and not the actual size of the tap.

Spark Plug Taps

High Carbon Steel

JAPAN

Features:

- Ideal for threading or rethreading spark plug holes.
- Available in standard and metric threads.

CSMTP70855

4 PC. SPARK PLUG TAP SET

In Wooden Storage Case

TAP SIZE	NO. OF FLUTES	STOCK #
7/8" - 18NS	4	CSHTP70550
10mm - 1.00	4	CSMTP70823
12mm - 1.25	4	CSMTP70827
14mm - 1.25	4	CSMTP70830
18mm - 1.50	4	CSMTP70837

3 per pack

DESCRIPTION	STOCK #
Tap Set Contains: 10mm - 1.00mm 12mm - 1.25mm 14mm - 1.25mm 18mm - 1.50mm	CSMTP70855

High Carbon Steel

JAPAN

Features:

- Suitable for cutting all types of external threads.
- Versatile hexagon shape assures use with die stock or adjustable wrench.
- Best suited for maintenance and repair work.

HEXAGON DIES

THREAD SIZE	TPI	STOCK # BULK	STOCK # CARDED
1" A.F.			
4	40	CSHD70859	CSHD70859C
5	40	CSHD70860	CSHD70860C
5	44	CSHD70860A	CSHD70860AC
6	32	CSHD70861	CSHD70861C
6	40	CSHD70861A	CSHD70861AC
8	32	CSHD70862	CSHD70862C
8	36	CSHD70862A	CSHD70862AC
10	24	CSHD70863	CSHD70863C
10	32	CSHD70864	CSHD70864C
12	24	CSHD70865	CSHD70865C
1/4"	20	CSHD70866	CSHD70866C
1/4"	28	CSHD70867	CSHD70867C
5/16"	18	CSHD70868	CSHD70868C
5/16"	24	CSHD70869	CSHD70869C
3/8"	16	CSHD70870	CSHD70870C
3/8"	24	CSHD70871	CSHD70871C
7/16"	14	CSHD70872	CSHD70872C
7/16"	20	CSHD70873	CSHD70873C
1/2"	13	CSHD70874	CSHD70874C
1/2"	20	CSHD70875	CSHD70875C
1/8" NPT	27	CSHD70891	CSHD70891C
1/4" NPT	18	CSHD70893	CSHD70893C
1-7/16" A.F.			
1/2"	13	CSHD70880	CSHD70880C
1/2"	20	CSHD70881	CSHD70881C
9/16"	12	CSHD70882	CSHD70882C
9/16"	18	CSHD70883	CSHD70883C
5/8"	11	CSHD70884	CSHD70884C
5/8"	18	CSHD70885	CSHD70885C
3/4"	10	CSHD70886	CSHD70886C
3/4"	16	CSHD70887	CSHD70887C
1/8" NPT	27	CSHD70892	CSHD70892C
1/4" NPT	18	CSHD70894	CSHD70894C

1 per pack

Card 1 per card

METRIC – HEXAGON DIES

THREAD SIZE	TPI	STOCK # BULK	STOCK # CARDED
1" A.F.			
3	0.50	MHD71010	MHD71010C
3	0.60	MHD71011	MHD71011C
4	0.50	MHD71012	MHD71012C
4	0.70	MHD71013	MHD71013C
5	0.80	MHD71014	MHD71014C
5	0.90	MHD71015	MHD71015C
6	1.00	MHD71016	MHD71016C
7	1.00	MHD71017	MHD71017C
8	1.00	MHD71018	MHD71018C
8	1.25	MHD71019	MHD71019C
9	0.75	MHD71020	MHD71020C
9	1.00	MHD71021	MHD71021C
9	1.25	MHD71022	MHD71022C
10	1.00	MHD71023	MHD71023C
10	1.25	MHD71024	MHD71024C
10	1.50	MHD71025	MHD71025C
11	1.50	MHD71026	MHD71026C
12	1.25	MHD71027	MHD71027C
12	1.50	MHD71028	MHD71028C
12	1.75	MHD71029	MHD71029C
1-7/16" A.F.			
14	1.25	MHD71029A	—
14	1.50	MHD71030	—
14	2.00	MHD71031	—
16	1.25	MHD71032	—
16	1.50	MHD71033	—
16	2.00	MHD71034	—
18	1.50	MHD71035	—
18	2.00	MHD71036	—
18	2.50	MHD71037	—

1 per pack

Card 3 to 12mm, 1 per card

See Die Stock on Page B33.

Threading and Cutting is a Snap with MEGACUT!

For MEGACUT details, See Page B47.

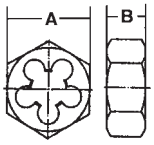
High Carbon Steel

JAPAN

RIGHT HAND THREAD

TAP SIZE	TPI	DIE WIDTH A/F (A)	THICKNESS (B)	STOCK #
MACHINE SCREW SIZES				
4	40	19/32"	1/4"	CSRTD70689
4	48	19/32"	1/4"	CSRTD70690
5	40	19/32"	1/4"	CSRTD70691
5	44	19/32"	1/4"	CSRTD70692
6	32	19/32"	1/4"	CSRTD70693
6	40	19/32"	1/4"	CSRTD70694
8	32	19/32"	1/4"	CSRTD70695
8	36	19/32"	1/4"	CSRTD70696
10	24	19/32"	1/4"	CSRTD70697
10	32	19/32"	1/4"	CSRTD70698
12	24	19/32"	1/4"	CSRTD70699
12	28	19/32"	1/4"	CSRTD70700
FRACTIONAL				
1/4"	20	19/32"	1/4"	CSRTD70701
1/4"	28	19/32"	1/4"	CSRTD70702
5/16"	18	11/16"	5/16"	CSRTD70703
5/16"	24	11/16"	5/16"	CSRTD70704
3/8"	16	25/32"	3/8"	CSRTD70705
3/8"	24	25/32"	3/8"	CSRTD70706
7/16"	14	7/8"	7/16"	CSRTD70707
7/16"	20	7/8"	7/16"	CSRTD70708
1/2"	13	1-1/16"	1/2"	CSRTD70709
1/2"	20	1-1/16"	1/2"	CSRTD70710
9/16"	12	1-1/16"	1/2"	CSRTD70711
9/16"	18	1-1/16"	1/2"	CSRTD70712
5/8"	11	1-1/4"	5/8"	CSRTD70713
5/8"	18	1-1/4"	5/8"	CSRTD70714
3/4"	10	1-7/16"	3/4"	CSRTD70715
3/4"	16	1-7/16"	3/4"	CSRTD70716
7/8"	9	1-5/8"	7/8"	CSRTD70717
7/8"	14	1-5/8"	7/8"	CSRTD70718
1"	8	1-13/16"	1"	CSRTD70719
1"	12	1-13/16"	1"	CSRTD70720
1"	14	1-13/16"	1"	CSRTD70721
1-1/8"	7	2"	1"	CSRTD70722
1-1/8"	12	2"	1"	CSRTD70723
1-1/4"	7	2-3/16"	1"	CSRTD70724
1-1/4"	12	2-3/16"	1"	CSRTD70725
1-3/8"	6	2-3/8"	1"	CSRTD70726
1-3/8"	12	2-3/8"	1"	CSRTD70727
1-1/2"	6	2-9/16"	1"	CSRTD70728
1-1/2"	12	2-9/16"	1"	CSRTD70729
1-5/8"	6	3-1/8"	1"	CSRTD70730
1-5/8"	12	3-1/8"	1"	CSRTD70731
1-3/4"	5	3-1/8"	1"	CSRTD70732
1-3/4"	12	3-1/8"	1"	CSRTD70733
2"	4-1/2	3-1/2"	1-1/4"	CSRTD70734
2"	12	3-1/2"	1-1/4"	CSRTD70735
2-1/2"	4	4-1/2"	1-1/2"	CSRTD70736
2-3/4"	4	4-1/2"	1-5/8"	CSRTD70737
3"	4	5"	2"	CSRTD70738
3-1/4"	4	5"	2"	CSRTD70739
3-1/2"	4	5"	2"	CSRTD70739A
3-3/4"	4	6"	2-1/4"	CSRTD70739B
4"	4	7"	2-3/8"	CSRTD70739C
NPT SIZES				
1/16"	27	25/32"	3/8"	CSRTD70740A
1/8"	27	25/32"	3/8"	CSRTD70740
1/4"	18	1-1/16"	1/2"	CSRTD70741
3/8"	18	1-1/4"	5/8"	CSRTD70742
1/2"	14	1-7/16"	3/4"	CSRTD70743
3/4"	14	1-13/16"	1"	CSRTD70744
1"	11-1/2	2-3/16"	1"	CSRTD70745
1-1/4"	11-1/2	2-9/16"	1"	CSRTD70746
1-1/2"	11-1/2	3-1/8"	1"	CSRTD70747
2"	11-1/2	4-1/2"	1-1/2"	CSRTD70748

1 per pack



Features:
- Specially designed for cleaning dirty or rusty threads.
- Restores damaged threads to correct form and lead.
- Will not undercut good threads.
- Versatile hexagon shape assures use with any open end, box or adjustable wrench.

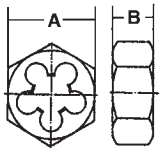
LEFT HAND THREAD

TAP SIZE	TPI	DIE WIDTH A/F (A)	THICKNESS (B)	STOCK #
MACHINE SCREW SIZES				
4	40	19/32"	1/4"	CSRTD70689L
4	48	19/32"	1/4"	CSRTD70690L
5	40	19/32"	1/4"	CSRTD70691L
5	44	19/32"	1/4"	CSRTD70692L
6	32	19/32"	1/4"	CSRTD70693L
6	40	19/32"	1/4"	CSRTD70694L
8	32	19/32"	1/4"	CSRTD70695L
8	36	19/32"	1/4"	CSRTD70696L
10	24	19/32"	1/4"	CSRTD70697L
10	32	19/32"	1/4"	CSRTD70698L
12	24	19/32"	1/4"	CSRTD70699L
12	28	19/32"	1/4"	CSRTD70700L
FRACTIONAL				
1/4"	20	19/32"	1/4"	CSRTD70701L
1/4"	28	19/32"	1/4"	CSRTD70702L
5/16"	18	11/16"	5/16"	CSRTD70703L
5/16"	24	11/16"	5/16"	CSRTD70704L
3/8"	16	25/32"	3/8"	CSRTD70705L
3/8"	24	25/32"	3/8"	CSRTD70706L
7/16"	14	7/8"	7/16"	CSRTD70707L
7/16"	20	7/8"	7/16"	CSRTD70708L
1/2"	13	1-1/16"	1/2"	CSRTD70709L
1/2"	20	1-1/16"	1/2"	CSRTD70710L
9/16"	12	1-1/16"	1/2"	CSRTD70711L
9/16"	18	1-1/16"	1/2"	CSRTD70712L
5/8"	11	1-1/4"	5/8"	CSRTD70713L
5/8"	18	1-1/4"	5/8"	CSRTD70714L
3/4"	10	1-7/16"	3/4"	CSRTD70715L
3/4"	16	1-7/16"	3/4"	CSRTD70716L
7/8"	9	1-5/8"	7/8"	CSRTD70717L
7/8"	14	1-5/8"	7/8"	CSRTD70718L
1"	8	1-13/16"	1"	CSRTD70719L
1"	12	1-13/16"	1"	CSRTD70720L
1"	14	1-13/16"	1"	CSRTD70721L
1-1/8"	7	2"	1"	CSRTD70722L
1-1/8"	12	2"	1"	CSRTD70723L
1-1/4"	7	2-3/16"	1"	CSRTD70724L
1-1/4"	12	2-3/16"	1"	CSRTD70725L
1-3/8"	6	2-3/8"	1"	CSRTD70726L
1-3/8"	12	2-3/8"	1"	CSRTD70727L
1-1/2"	6	2-9/16"	1"	CSRTD70728L
1-1/2"	12	2-9/16"	1"	CSRTD70729L

1 per pack

High Carbon Steel

JAPAN



Features:
- Ideal for repairing damaged threads without undercutting good threads.
- Versatile hexagon shape assures use with any open end, box or adjustable wrench.

RIGHT HAND THREAD

THREAD SIZE	TPI	DIE WIDTH A/F (A)	THICKNESS (B)	STOCK #
3	**0.50**	19/32	1/4	MHD70751
3.5	**0.60**	19/32	1/4	MHD70752
4	**0.70**	19/32	1/4	MHD70753
4	**0.75**	19/32	1/4	MHD70753A
4.5	**0.75**	19/32	1/4	MHD70754
5	**0.80**	19/32	1/4	MHD70755
6	**1.00**	19/32	1/4	MHD70756
6.3	**1.00**	19/32	1/4	MHD70757
7	**1.00**	11/16	5/16	MHD70758
8	**1.00**	11/16	5/16	MHD70759
8	**1.25**	11/16	5/16	MHD70760
10	**1.00**	25/32	3/8	MHD70761A
10	**1.25**	25/32	3/8	MHD70761
10	**1.50**	25/32	3/8	MHD70762
11	**1.50**	7/8	7/16	MHD70763
12	**1.25**	1-1/16	1/2	MHD70764
12	**1.75**	1-1/16	1/2	MHD70765
14	**1.25**	1-1/16	1/2	MHD70766
14	**1.50**	1-1/16	1/2	MHD70767
14	**2.00**	1-1/16	1/2	MHD70768
16	**1.25**	1-1/4	5/8	MHD70769
16	**1.50**	1-1/4	5/8	MHD70770
16	**2.00**	1-1/4	5/8	MHD70771
18	**1.50**	1-7/16	3/4	MHD70772
18	**2.00**	1-7/16	3/4	MHD70773
18	**2.50**	1-7/16	3/4	MHD70774
20	**1.50**	1-7/16	3/4	MHD70775
20	**2.50**	1-7/16	3/4	MHD70776
22	**1.50**	1-5/8	7/8	MHD70777
22	**2.50**	1-5/8	7/8	MHD70778
24	**2.00**	1-13/16	1	MHD70779
24	**3.00**	1-13/16	1	MHD70780
27	**2.00**	2	1	MHD70781
27	**3.00**	2	1	MHD70782
30	**2.00**	2	1	MHD70783
30	**3.50**	2	1	MHD70784
33	**2.00**	2-3/16	1	MHD70785
33	**3.50**	2-3/16	1	MHD70786
36	**3.00**	2-9/16	1	MHD70787
36	**4.00**	2-9/16	1	MHD70788
39	**3.00**	2-9/16	1	MHD70789
39	**4.00**	2-9/16	1	MHD70790
40	**1.50**	2-9/16	1	MHD70791
42	**1.50**	3-1/8	1	MHD70792
42	**4.50**	3-1/8	1	MHD70793
45	**1.50**	3-1/8	1	MHD70794
45	**4.50**	3-1/8	1	MHD70795
48	**1.50**	3-1/8	1-1/4	MHD70796
48	**5.00**	3-1/8	1-1/4	MHD70797
52	**1.50**	3-1/2	1-1/4	MHD70798
52	**5.00**	3-1/2	1-1/4	MHD70799

1 per pack

LEFT HAND THREAD

THREAD SIZE	TPI	DIE WIDTH A/F (A)	THICKNESS (B)	STOCK #
5	**0.80**	19/32	1/4	MHD70755L
6	**1.00**	19/32	1/4	MHD70756L
6.3	**1.00**	19/32	1/4	MHD70757L
7	**1.00**	11/16	5/16	MHD70758L
8	**1.00**	11/16	5/16	MHD70759L
8	**1.25**	11/16	5/16	MHD70760L
10	**1.25**	25/32	3/8	MHD70761L
10	**1.50**	25/32	3/8	MHD70762L
11	**1.50**	7/8	7/16	MHD70763L
12	**1.25**	1-1/16	1/2	MHD70764L
12	**1.75**	1-1/16	1/2	MHD70765L
14	**1.25**	1-1/16	1/2	MHD70766L
14	**1.50**	1-1/16	1/2	MHD70767L
14	**2.00**	1-1/16	1/2	MHD70768L
16	**1.25**	1-1/4	5/8	MHD70769L
16	**1.50**	1-1/4	5/8	MHD70770L
16	**2.00**	1-1/4	5/8	MHD70771L
18	**1.50**	1-7/16	3/4	MHD70772L
18	**2.00**	1-7/16	3/4	MHD70773L
18	**2.50**	1-7/16	3/4	MHD70774L
20	**1.50**	1-7/16	3/4	MHD70775L
20	**2.50**	1-7/16	3/4	MHD70776L
22	**1.50**	1-5/8	7/8	MHD70777L
22	**2.50**	1-5/8	7/8	MHD70778L
24	**2.00**	1-13/16	1	MHD70779L
24	**3.00**	1-13/16	1	MHD70780L
27	**2.00**	2	1	MHD70781L
27	**3.00**	2	1	MHD70782L
30	**2.00**	2	1	MHD70783L
30	**3.50**	2	1	MHD70784L

1 per pack

Round Adjustable Dies

High Carbon Steel

JAPAN

Features:
- Ideal for precision threading with adjustment of die by set screw.
- Allows the user to under or over cut theads.

THREAD SIZE	TPI	STOCK # BULK	STOCK # CARDED
13/16" O.D.			
0	80	CSRD70591	CSRD70591C
1	64	CSRD70592	CSRD70592C
1	72	CSRD70593	CSRD70593C
2	56	CSRD70594	CSRD70594C
2	64	CSRD70595	CSRD70595C
3	48	CSRD70596	CSRD70596C
3	56	CSRD70597	CSRD70597C
4	40	CSRD70598	CSRD70598C
4	48	CSRD70599	CSRD70599C
1" O.D.			
5	40	CSRD70601	CSRD70601C
5	44	CSRD70602	CSRD70602C
6	32	CSRD70603	CSRD70603C
6	40	CSRD70604	CSRD70604C
8	32	CSRD70605	CSRD70605C
8	36	CSRD70606	CSRD70606C
10	24	CSRD70607	CSRD70607C
10	32	CSRD70608	CSRD70608C
12	24	CSRD70609	CSRD70609C
12	28	CSRD70610	CSRD70610C
1/4"	20	CSRD70611	CSRD70611C
1/4"	28	CSRD70612	CSRD70612C
5/16"	18	CSRD70613	CSRD70613C
5/16"	24	CSRD70614	CSRD70614C
3/8"	16	CSRD70615	CSRD70615C
3/8"	24	CSRD70616	CSRD70616C
7/16"	14	CSRD70617	CSRD70617C
7/16"	20	CSRD70618	CSRD70618C
1/2"	13	CSRD70619	CSRD70619C
1/2"	20	CSRD70620	CSRD70620C

THREAD SIZE	TPI	STOCK # BULK	STOCK # CARDED
1-1/2" O.D.			
1/4"	20	CSRD70630	CSRD70630C
1/4"	28	CSRD70631	CSRD70631C
5/16"	18	CSRD70632	CSRD70632C
5/16"	24	CSRD70633	CSRD70633C
3/8"	16	CSRD70634	CSRD70634C
3/8"	24	CSRD70635	CSRD70635C
7/16"	14	CSRD70636	CSRD70636C
7/16"	20	CSRD70637	CSRD70637C
1/2"	13	CSRD70638	CSRD70638C
1/2"	20	CSRD70639	CSRD70639C
9/16"	12	CSRD70640	CSRD70640C
9/16"	18	CSRD70641	CSRD70641C
5/8"	11	CSRD70642	CSRD70642C
5/8"	18	CSRD70643	CSRD70643C
3/4"	10	CSRD70644	CSRD70644C
3/4"	16	CSRD70645	CSRD70645C
2" O.D.			
5/8"	11	CSRD70650	–
5/8"	18	CSRD70651	–
3/4"	10	CSRD70652	–
3/4"	16	CSRD70653	–
7/8"	9	CSRD70654	–
7/8"	14	CSRD70655	–
1"	8	CSRD70656	–
1"	12	CSRD70657	–
1"	14	CSRD70658	–

1 per pack

Card 1 per card

BRITISH STANDARD ROUND ADJUSTABLE PIPE DIES

BSPP STRAIGHT THREAD

FRACTIONAL SIZES

TAP SIZE	TPI NC, NF, NS	STOCK # 1" O.D.	STOCK # 1-1/2" O.D.	STOCK # 2" O.D.
1/8"	28	BSPD105	–	–
1/4"	19	BSPD107	BSPD157	–
3/8"	19	–	–	BSPD209

1 per pack

UNIVERSAL THREAD FILE

Single Blade Universal Thread File renews all 60° Threads (also metric)

STOCK # RTF70751

THREAD RESTORING FILES

Features:
- Restores battered, rusted or corroded threads.
- Usable as a thread gauge.
- Sizes clearly marked.
- Overlap good threads to use as a file to restore damaged area.

DESCRIPTION	THREADS	STOCK #
Thread Restoring Files	11, 12, 13, 14, 16, 18, 20 & 24 TPI	TRF01
	9, 10, 12, 16, 20, 27, 28, & 32 TPI	TRF02
External Pipe Files	8, 10, 11-1/2, 14	TRF05
	8, 10, 11-1/2, 14, 18/10, 16, 24, 27	TRF07
Metric Thread Files	.80, 1.0, 1.25, 1.5, 1.75, 2.0, 2.5, 3.0	TRF08
Plastic Handles	For Stock # – TRF01, TRF02, TRF07, TRF08	TRF12
4 File Set in Plastic Roll	1 each #1, #2, #7, #8	TRF15P

1 per pack

T-HANDLE TAP WRENCH

Chrome Plated for Square Driven Tools: Taps - Reamers - Screw Extractors

TAP SIZE	OVERALL LENGTH	STOCK #
REGULAR LENGTH		
#0 - 1/4"	2-3/8"	TH63021
1/4" - 1/2"	3-1/4"	TH63024
LONG REACH		
5/32" - 1/4"	12-15/16"	TH63026
1/4" - 1/2"	12-1/16"	TH63027

1 per pack

T-HANDLE TAP WRENCH WITH RATCHET

TAP SIZE	OVERALL LENGTH	STOCK #
REGULAR REACH		
#0 - 1/4"	3-3/8"	TH63022R
1/4" - 1/2"	4-3/8"	TH63024R
EXTRA-CAPACITY		
1/2" - 5/8"	4-1/4"	TH63025R
LONG REACH		
5/32" - 1/4"	9-1/2"	TH63022RL
1/4" - 1/2"	11-3/8"	TH63024RL

1 per pack

T-HANDLE TAP WRENCH WITH GUIDE

Features:

- Manually threads straight tap holes without removing the workpiece from the machine.
- Guide spindle inserts into drill press or lathe chuck.
- Tap wrench works its way out of the guide to easily gauge thread depth.

TAP SIZE	OVERALL LENGTH	STOCK #
0 - 1/4"	3-1/4"	TH65031
1/4" - 1/2"	4"	TH65032
1/2" - 3/4"	4-1/4"	TH65033

1 per pack

DIE STOCK

SIZE	OAL	STOCK #
ROUND		
13/16" OD	6-1/4"	DS63001
1"	9"	DS63002
1-1/2"	14"	DS63003
2"	23"	DS63004
2-1/2"	26"	DS63005
3"	22"	DS63006
4"	29"	DS63007
HEX		
1" A.F.	9"	DSH63008
1-7/16" A.F.	12"	DSH63009

1 per pack

ADJUSTABLE TAP / REAMER WRENCH

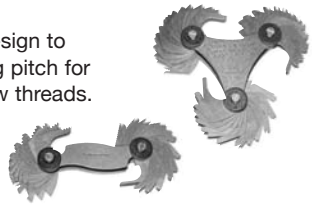
#	SIZE CAPACITY	OVERALL LENGTH	STOCK #
#0	#0 - 1/4"	7"	TW63011
#4	#0 - 3/8"	8"	TW63012
#5	#7 - 1/2", 1/8" NPT	11"	TW63013
#6	#7 - 3/4", 1/4" NPT	15"	TW63014
#7	1/4" - 1", 3/4" NPT	17"	TW63015A
#7	1/4" - 1-1/8", 3/4" NPT	19"	TW63015
#7-1/2	1/2" - 1-3/8", 1/4" - 1" NPT	31"	TW63016
#8	3/4" - 1-5/8", 3/8" - 1-1/4" NPT	40"	TW63017

1 per pack

THREAD PITCH GAGES

Features:

- Blades are of a narrow leaf design to permit their use in determining pitch for inside as well as outside screw threads.
- Each blade marked with proper thread size.
- Locking device at each end.



NO. OF BLADES	TPI RANGE	STOCK #
51	**4 - 84**	TPG63041
28	**4 - 80**	TPG63042
22	**9 - 40**	TPG63043
28	**0.25 - 2.50 mm**	TPG63044

1 per pack

Pitch Gage Range

Unified 60°	51 Blades included: 4, 4-1/2, 5, 5-1/2, 6, 7, 8, 9, 10, 11, 11-1/2, 12, 13, 14, 15, 16, 18, 20, 22, 24, 26, 27, 28, 30, 32, 34, 36, 38, 40, 42, 44, 46, 48, 50, 52, 54, 56, 58, 60, 62, 64, 66, 68, 70, 72, 74, 76, 78, 80, 82 & 84
Unified 60°	28 Blades included: 4, 4-1/2, 5, 6, 7, 8, 9, 10, 11, 11-1/2, 12, 13 14, 16, 18, 20, 24, 27, 28, 32, 36, 40, 44, 48, 56, 64, 72 & 80
Unified 60°	22 Blades included: 9, 10, 11, 11-1/2, 12, 13, 14, 15, 16, 18, 20, 22, 24, 26, 27, 28, 30, 32, 34, 36, 38 & 40
Metric Gauge	28 Blades included: .25, .30, .35, .40, .45, .50, .55, .60, .65, .70, .75, .80, .85, .90, 1.00, 1.10, 1.20, 1.25, 1.30, 1.40, 1.50, 1.60, 1.70, 1.75, 1.80, 1.90, 2.00 & 2.50

Spiral & Straight Flute Special Alloy Steel

Features:
- Manufactured from rugged alloy steel.
- Ideal for handling the stress of removing broken bolts, studs, socket screws and fittings.
- Use left hand drill as per chart below followed by screw extractor.

MADE IN U. S. A.

SPIRAL FLUTE SCREW EXTRACTORS

Tapered, left hand spiral flutes grip screws firmly.

SCREW EXTRACTOR SIZE #	USE DRILL SIZE	REMOVES BOLT / SCREW SIZE	STOCK #	
			BULK	CARDED
1	5/64"	3/32" to 5/32"	SE61701	SE61701C
2	7/64"	5/32" to 7/32"	SE61702	SE61702C
3	5/32"	7/32" to 9/32"	SE61703	SE61703C
4	1/4"	9/32" to 3/8", 1/8" Pipe	SE61704	SE61704C
5	17/64"	3/8", to 5/8", 1/4" Pipe	SE61705	SE61705C
6	13/32"	5/8" to 7/8", 3/8" Pipe	SE61706	SE61706C
7*	17/32"	7/8" to 1-1/8", 1/2" Pipe	SE61707	—
8*	13/16"	1-1/8" to 1-3/8", 3/4" Pipe	SE61708	—
9*	1-1/16"	1-3/8" to 2", 1" Pipe	SE61709	—

Bulk # 1 to 4, 12 per pack
5 to 6, 6 per pack
7 to 9, 1 per pack

* Made in Japan

Card # 1 to 6, 1 per card

STRAIGHT FLUTE SCREW EXTRACTORS

Straight flutes provide maximum bite.

SCREW EXTRACTOR SIZE #	USE DRILL SIZE	REMOVES BOLT / SCREW SIZE	STOCK #
1	1/8"	1/4" to 5/16"	SE61721
2	3/16"	3/8"	SE61722
3	15/64"	7/16", 1/8" Pipe	SE61723
4	5/16"	1/2" to 9/16", 1/4" Pipe	SE61724
5	3/8"	5/8", 3/8" Pipe	SE61725
6	15/32"	3/4"	SE61726
7*	9/16"	7/8", 1/2" Pipe	SE61727
8*	21/32"	1" to 1-1/8", 1/2" Pipe	SE61728
9*	13/16"	1-1/4" to 1-3/8", 3/4" Pipe	SE61729

Bulk # 1 to 4, 12 per pack
5 to 6, 6 per pack
7 to 9, 1 per pack

* Made in Japan

Card # 1 to 6, 1 per card

SPIRAL FLUTE SCREW EXTRACTOR SETS

IN VINYL POUCH

NO. OF PIECES	DESCRIPTION	STOCK #
5 Pc.	Spiral Flute Sizes: 1, 2, 3, 4, 5	SE61715
6 Pc.	Spiral Flute Sizes: 1, 2, 3, 4, 5, 6	SE61716

1 per pack

STRAIGHT FLUTE SCREW EXTRACTOR SETS

IN VINYL POUCH

NO. OF PIECES	DESCRIPTION	STOCK #
5 Pc.	Straight Flute Sizes: 1, 2, 3, 4, 5	SE61735
6 Pc.	Straight Flute Sizes: 1, 2, 3, 4, 5, 6	SE61736

1 per pack

SPIRAL FLUTED SCREW EXTRACTOR PAIRED WITH HSS LEFT HAND DRILL

ON A HANGUP CARD

No more guesswork! Get the appropriate HSS Left Hand Drill paired with the Screw Extractor.

SCREW EXTRACTOR SIZE #	LEFT HAND DRILL SIZE	STOCK #
#1	5/64"	SE61741C
#2	7/64"	SE61742C
#3	5/32"	SE61743C
#4	1/4"	SE61744C
#5	17/64"	SE61745C
#6	13/32"	SE61746C

1 pair per card

10 PC. SPIRAL FLUTE SCREW EXTRACTOR & DRILL SET

IN METAL INDEX CASE

Five most used spiral fluted screw extractors are matched with HSS left hand drills, in a metal index case.

NO. OF PIECES	DESCRIPTION	STOCK #
10 Pc.	Screw Extractor Sizes: 1, 2, 3, 4, 5 L.H. Drill Sizes: 5/64", 7/64", 5/32", 1/4", 17/64"	SE61747

1 per pack

Tap Extractors

MADE IN U. S. A.

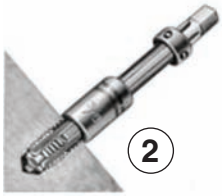
Features:
- Hardened steel fingers fit in the flutes of broken taps for easy removal.
- Will not damage threads.
- Fits both NC and NF taps.

MACHINE SCREW, FRACTIONAL & METRIC

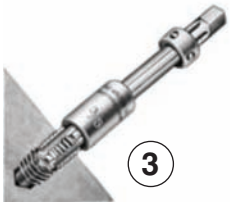
TAP SIZE		STOCK # 4-FLUTE	3-FLUTE	2-FLUTE
#4	(3mm)	—	TE10043	TE10042
#5 (1/8)	(3.2mm)	—	TE10053	TE10052
#6	(3.5mm)	TE10064	TE10063	TE10062
#8	(4mm)	TE10084	TE10083	TE10082
#10 (3/16)	(5mm)	TE10104	TE10103	TE10102
#12	(5.5mm)	TE10124	TE10123	TE10122
1/4"	(6mm)	TE10254	TE10253	TE10252
5/16"	(8mm)	TE10314	TE10313	TE10312
3/8"	(9mm - 10mm)	TE10374	TE10373	TE10372
7/16"	(11mm)	TE10434	TE10433	TE10432
1/2"	(12mm)	TE10504	TE10503	TE10502
9/16"	(14mm)	TE10564	TE10563	—
5/8"	(16mm)	TE10624	TE10623	—
11/16"	(18mm)	TE10684	—	—
3/4"	(20mm)	TE10754	TE10753	—
7/8"	(22mm)	TE10874	TE10873	—
1"	(25mm)	TE11004	TE11003	—

1 per pack
- 4 Flute style normally supplied unless otherwise specified.

1. Remove chips. Apply gentle pressure to position extractor fingers in the flutes of the broken tap.



2. Push on the holder to bring it into contact with the broken tap. Slide the sleeve down to make contact with the work.



3. Using a tap wrench, twist the square end of the holder back and forth. Once the tap is loose, back it out of the hole.

Tap Extensions

Special Alloy Steel

STYLE A - 5" OAL

For hand tapping only.

Features:
- Manufactured from alloy steel heat treated for strength and durability.
- Usable for hand tapping in close quarters where it is difficult or impossible to turn a tap wrench.
- Supplied in paired sets. Each piece 5" long. Pieces may be combined to achieve 10" length extension.

MACHINE SCREW & FRACTIONAL

TAP SIZE	SHANK SQUARE OF TAP	TAP SHANK DIA.	STOCK #
#10 (3/16")	.152 sq.	.154 sq.	TE45010
1/4"	.191 sq.	.193 sq.	TE45025
5/16"	.238 sq.	.242 sq.	TE45031
3/8" (.206 sq.)	.206 sq.	.210 sq.	TE45037
3/8" (.286 sq.)	*.286 sq.	*.290 sq.	TE45038
7/16"	.242 sq.	.246 sq.	TE45043
1/2"	.275 sq.	.279 sq.	TE45050
5/8"	.360 sq.	.364 sq.	TE45062

1 pair per pack

*3/8" (.286 sq.) size is more frequently used than the 3/8" (.206 sq.) size. Specify which is required.

MADE IN U. S. A.

STYLE B - 8" OAL

For machine and hand tapping.

Features:
- Provides easy access for hard-to-reach tapping applications. Small socket end allows the extension to pass through standard liner bushings.
- Deep socket of the extension and two socket set screws provide a close-fitting, secure hold.
- Each extension designed for a specific tap size. Square and round sockets available.
- Suitable for repeated use, unlike special length taps.

MACHINE SCREW & FRACTIONAL

TAP SIZE	SHANK SQUARE OF TAP	TAP SHANK DIA.	SHANK DIA. OF TAP	STOCK #
0-6	.191 sq.	.250 sq.	.142 sq.	TE40006
8	.191 sq.	.250 sq.	.169 sq.	TE40008
10 (3/16)	.191 sq.	.312 sq.	.195 sq.	TE40010
12	.164 sq.	.312 sq.	.220 sq.	TE40012
1/4"	.191 sq.	.375 sq.	.256 sq.	TE40025
5/16"	.237 sq.	.437 sq.	.319 sq.	TE40031
3/8"	.285 sq.	.500 sq.	.382 sq.	TE40037
7/16"	.241 sq.	.500 sq.	.240 sq.	TE40043
1/2"	.274 sq.	.500 sq.	.368 sq.	TE40050
5/8"	.359 sq.	.625 sq.	.481 sq.	TE40062
3/4"	.441 sq.	.750 sq.	.591 sq.	TE40075
7/8"	.522 sq.	.906 sq.	.698 sq.	TE40087
1"	.599 sq.	1.000 sq.	.801 sq.	TE40100

1 per pack

Carbon Steel

MADE IN U. S. A.

1. Drill with standard drill

2. Tap hole with standard tap

3. Turn ALFA LOK home flush with bolt

Prepackaged kits containing a range of sizes are available.

ALFA LOK Inserts will not back out or vibrate loose

Immediately on installation, micro-encapsulated adhesive begins to set, and the newly installed inserts can be fastened within minutes. The adhesive continues to set overnight until completely set. The adhesive seals against all liquids and gases to a pressure of 6,000 psi when fully cured and bonds to virtually all metals.

Easy Removal

Use a standard screw and bolt extractor to back out a damaged insert and then replace it with a new insert. Removal is simply a matter of overcoming the resistance to torque-out which has been produced by the threadlocking material.

COARSE THREAD

INTERNAL THREAD	EXTERNAL THREAD	LENGTH	TAP DRILL SIZE	TAP SIZE	MINIMUM FULL THREAD DEPTH	STOCK #
4-40	10-32	.250	5/32	10-32	9/32	SI67501
6-32	1/4-20	.280	7	1/4-20	11/32	SI67502
8-32	5/16-18	.290	F	5/16-18	7/16	SI67503
10-24	3/8-16	.406	5/16	3/8-16	15/32	SI67504
1/4-20	7/16-14	.437	23/64	7/16-14	1/2	SI67505
5/16-18	1/2-13	.484	27/64	1/2-13	9/16	SI67506
3/8-16	9/16-12	.515	31/64	9/16-12	19/32	SI67507
7/16-14	5/8-11	.656	17/32	5/8-11	23/32	SI67508
1/2-13	3/4-10	.656	21/32	3/4-10	3/4	SI67509
9/16-12	3/4-10	.656	21/32	3/4-10	3/4	SI67510
5/8-11	7/8-9	.687	49/64	7/8-9	13/16	SI67511
5/8-11	7/8-9	1.125	49/64	7/8-9	1-1/4	SI67512
3/4-10	1-8	.781	7/8	1-8	7/8	SI67513
7/8-9	1-1/4 - 7	1.125	1-7/64	1-1/4 - 7	1-1/8	SI67514
1-8	1-3/8 - 12	1.250	1-9/32	1-3/8 - 12	1-3/8	SI67515
FINE THREAD						
10-32	3/8-16	.406	5/16	3/8-16	15/32	SI67521
1/4-28	7/16-14	.437	23/64	7/16-14	1/2	SI67522
5/16-24	1/2-13	.484	27/64	1/2-13	9/16	SI67523
3/8-24	9/16-12	.515	31/64	9/16-12	19/32	SI67524
7/16-20	5/8-11	.656	17/32	5/8-11	23/32	SI67525
1/2-20	3/4-10	.656	21/32	3/4-10	3/4	SI67526
9/16-18	3/4-10	.656	21/32	3/4-10	3/4	SI67527
5/8-18	7/8-9	.687	49/64	7/8-9	13/16	SI67528
3/4-16	1-8	.781	7/8	1-8	7/8	SI67529
7/8-14	1-1/4 - 7	1.125	1-7/64	1-1/4 - 7	1-1/8	SI67530
1-14	1-3/8 - 12	1.250	1-9/32	1-3/8 - 12	1-3/8	SI67531
EXTRA HEAVY WALL						
1/4-20	1/2-13	.484	27/64	1/2-13	9/16	SI67533
5/16-18	9/16-12	.515	31/64	9/16-12	19/32	SI67534
3/8-16	5/8-11	.656	17/32	5/8-11	23/32	SI67535
1/2-13	7/8-9	.687	49/46	7/8-9	13/16	SI67536
5/8-11	1-8	.781	7/8	1-8	7/8	SI67537
METRIC INSIDE – N. C. OUTSIDE						
M6-1.0	3/8-16	.406	5/16	3/8-16	15/32	SIM67541
M8-1.25	1/2-13	.484	27/64	1/2-13	9/16	SIM67542
M10-1.50	9/16-12	.515	31/64	9/16-12	19/32	SIM67543
M10-1.25	9/16-12	.515	31/64	9/16-12	19/32	SIM67544
M12-1.75	3/4-10	.658	21/32	3/4-10	3/4	SIM67545
M14-2.0	7/8-9	.687	49/64	7/8-9	13/16	SIM67546
M16-2.0	1-8	.781	7/8	1-8	7/8	SIM67547

SCREW INSERT KITS

KIT RANGE	CONTENTS					STOCK #
#10 - 1/2" UNC	10 10-24 10 1/4-20		10 5/16-18 10 3/8-16		6 1/2-13	SI67555
1/2" - 1" UNC		6 1/2 - 13 7 5/8 - 11		7 3/4 - 10 2 1-8		SI67556
#10 - 1/2" UNF	10 10-32 10 1/4-28		10 5/16-24 10 3/8-24		6 1/2-20	SI67557
1/2" - 1" UNF		6-1/2-20 7-5/8 - 18		7 3/4 - 16 2 1-14		SI67558
M8 - M12 METRIC		10 M6-1.0 10 M8-1.25		10 M10-1.5 8 M12-1.75		SIM67559

Bulk up to 1/2", 10 per pack
9/16" to 1", 5 per pack
M6 to M12, 10 per pack
M14 to M16, 5 per pack
Kits 1 per pack

HELICALLY WOUND STAINLESS STEEL
FOR STRONG THREADS IN WEAK MATERIALS

MADE IN U. S. A.

COARSE • FINE • PIPE • METRIC • SPARK PLUG SIZES

NC INSERTS

SIZE	LENGTH	DRILL SIZE	STOCK #
4-40	0.168	No. 31	TI66210
4-40	0.224		TI66210B
6-32	0.207	No. 25	TI66212
6-32	0.276		TI66212B
8-32	0.246	11/64	TI66214
8-32	0.328		TI66214B
10-24	0.285	13/64	TI66216
10-24	0.380		TI66216B
1/4"-20	0.375	17/64	TI66220
1/4"-20	0.500		TI66220B
5/16"-18	0.468	21/64	TI66222
5/16"-18	0.624		TI66222B
3/8"-16	0.563	25/64	TI66224
3/8"-16	0.750		TI66224B
7/16"-14	0.657	29/64	TI66226
7/16"-14	0.876		TI66226B
1/2"-13	0.750	17/32	TI66228
1/2"-13	1.000		TI66228B
5/8"-11	0.938	21/32	TI66230
5/8"-11	1.250		TI66230B
3/4"-10	1.125	25/32	TI66232
3/4"-10	1.500		TI66232B
7/8"-9	1.313	29/32	TI66234
7/8"-9	1.750		TI66234B
1"-8	1.500	1-1/32	TI66236
1"-8	2.000		TI66236B

NF INSERTS

SIZE	LENGTH	DRILL SIZE	STOCK #
4-48	0.168	No. 31	TI66211
4-48	0.224		TI66211B
6-40	0.207	No. 26	TI66213
6-40	0.276		TI66213B
8-36	0.246	11/64	TI66215
8-36	0.328		TI66215B
10-32	0.285	13/64	TI66217
10-32	0.380		TI66217B
1/4"-28	0.375	17/64	TI66221
1/4"-28	0.500		TI66221B
5/16"-24	0.468	21/64	TI66223
5/16"-24	0.624		TI66223B
3/8"-24	0.563	25/64	TI66225
3/8"-24	0.750		TI66225B
7/16"-20	0.657	29/64	TI66227
7/16"-20	0.876		TI66227B
1/2"-20	0.750	33/64	TI66229
1/2"-20	1.000		TI66229B
5/8"-18	0.938	41/64	TI66233
5/8"-18	1.250		TI66233B
3/4"-16	1.125	49/64	TI66235
3/4"-16	1.500		TI66235B
7/8"-14	1.313	57/64	TI66237
7/8"-14	1.750		TI66237B
1"-12	1.500	1-1/64	TI66239
1"-12	2.000		TI66239B
1"-14	1.500	1-1/64	TI66241
1"-14	2.000		TI66241B

10 per pack

Alfa Tools inserts are made of stainless steel with diamond cross section. They are interchangeable with Helicoil and all other brands.

APPLICATIONS:

- Repairs damaged threaded holes.
- Reinforces threads which may be subject to failure.
- Usable on cast iron, steel, copper, aluminum, zinc, magnesium, most plastic compounds & wood.
- Meets or exceeds most applicable specifications, including MS122076 series, 124651 series, 21208, 21209, 33537, mll-1 8846 and mll-F-5577.
- Easy way to change from inch to metric threads.
- Provides stronger more efficient threads.

STI TAPS
NC / NF / METRIC
See Page B39

NPT INSERTS

SIZE	LENGTH	DRILL SIZE	STOCK #
1/8"- 27	0.188	3/8	TI66340
1/4"- 18	0.375	33/64	TI66341
3/8"- 18	0.668	21/32	TI66342
1/2"- 14	0.750	13/16	TI66343
3/4"- 14	1.125	1-1/64	TI66344
1"- 11-1/2	1.500	1-9/32	TI66345

10 per pack

METRIC COARSE INSERTS

SIZE	LENGTH	DRILL SIZE	STOCK #
M6-1	9.00	6.3	TI66243
M6-1	12.00		TI66243B
M8-1.25	12.00	8.3	TI66244
M8-1.25	16.00		TI66244B
M10-1.5	15.00	10.4	TI66247
M10-1.5	20.00		TI66247B
M12-1.75	18.00	12.5	TI66250
M12-1.75	24.00		TI66250B
M14-2	21.00	14.5	TI66252
M14-2	28.00		TI66252B
M16-2	24.00	16.5	TI66254
M16-2	32.00		TI66254B
M18-2.5	27.00	18.8	TI66256
M18-2.5	36.00		TI66256B
M20-2.5	30.00	20.8	TI66258
M20-2.5	40.00		TI66258B
M22-2.5	33.00	22.8	TI66260
M22-2.5	44.00		TI66260B
M24-3	36.00	24.8	TI66262
M24-3	48.00		TI66262B

METRIC FINE INSERTS

SIZE	LENGTH	DRILL SIZE	STOCK #
M8-1	12.00	8.3	TI66263
M8-1	16.00		TI66263B
M10-1.25	15.00	10.3	TI66265
M10-1.25	20.00		TI66265B
M10-1	15.00	10.3	TI66267
M10-1	20.00		TI66267B
M12-1.25	18.00	12.3	TI66271
M12-1.25	24.00		TI66271B
M12-1.5	18.00	12.3	TI66269
M12-1.5	24.00		TI66269B
M14-1.5	21.00	14.3	TI66273
M14-1.5	28.00		TI66273B
M16-1.5	24.00	16.5	TI66275
M16-1.5	32.00		TI66275B
M18-2	27.00	18.5	TI66277
M18-2	36.00		TI66277B
M18-1.5	27.00	18.5	TI66279
M18-1.5	36.00		TI66279B
M20-2	30.00	20.5	TI66281
M20-2	40.00		TI66281B
M20-1.5	30.00	20.5	TI66283
M20-1.5	40.00		TI66283B
M22-2	33.00	22.5	TI66285
M22-2	44.00		TI66285B
M22-1.5	33.00	22.5	TI66287
M22-1.5	44.00		TI66287B
M24-2	36.00	24.5	TI66289
M24-2	48.00		TI66289B

SPARK PLUG INSERTS

SIZE	LENGTH	DRILL SIZE	STOCK #
M10-1	0.339	10.3	TI66290
M10-1	1/2"		TI66290A
M12-1.25	1/2"	12.3	TI66291
M12-1.25	3/4"		TI66291B
M14-1.25	3/8"	14.25	TI66293
M14-1.25	0.472		TI66293A
M14-1.25	7/16"		TI66293B
M14-1.25	1/2"		TI66293C
M14-1.25	3/4"		TI66293D
M18-1.5	1/2"	18.5	TI66294

10 per pack

How to use Insert-A-Thread

MADE IN U. S. A.

1. DRILL
Drill to clear out the damaged thread (if necessary).

2. TAP
Thread with STI tap supplied with the kit.

3. INSTALL
Wind insert in with light downward pressure until 1/4 to 1/2 turn below the surface, driving tang towards the bottom of the hole.

4. TANG REMOVAL
Remove tool and place back on top of tang. Tap down on tool sharply. Do not try to twist tang off. For spark plug and large fine thread inserts, use long nose pliers and pull tang out.

NC REPAIR KITS

SIZE	INSERT LENGTH	NO. OF INSERTS	STOCK #
4-40	0.168	10	TI66210K
6-32	0.207	10	TI66212K
8-32	0.246	10	TI66214K
10-24	0.285	10	TI66216K
1/4"- 20	0.375	10	TI66220K
5/16"- 18	0.468	5	TI66222K
3/8"- 16	0.563	5	TI66224K
7/16"- 14	0.657	5	TI66226K
1/2"- 13	0.750	5	TI66228K
5/8"- 11	0.938	5	TI66230K
3/4"- 10	1.125	5	TI66232K
7/8"- 9	1.313	5	TI66234K
1"- 8	1.500	5	TI66236K

NF REPAIR KITS

SIZE	INSERT LENGTH	NO. OF INSERTS	STOCK #
4-48	0.168	10	TI66211K
6-40	0.207	10	TI66213K
8-36	0.246	10	TI66215K
10-32	0.285	10	TI66217K
1/4"- 28	0.375	10	TI66221K
5/16"- 24	0.468	5	TI66223K
3/8"- 24	0.563	5	TI66225K
7/16"- 20	0.657	5	TI66227K
1/2"- 20	0.750	5	TI66229K
5/8"- 18	0.938	5	TI66233K
3/4"- 16	1.125	5	TI66235K
7/8"- 14	1.313	5	TI66237K
1"- 12	1.500	5	TI66239K
1"- 14	1.500	5	TI66241K

1 kit per pack

METRIC COARSE REPAIR KITS

SIZE	INSERT LENGTH	NO. OF INSERTS	STOCK #
M6-1	9.00	10	TI66243K
M8-1.25	12.00	5	TI66244K
M10-1.5	15.00	5	TI66247K
M12-1.75	18.00	5	TI66250K
M14-2	21.00	5	TI66252K
M16-2	24.00	5	TI66254K
M18-2.5	27.00	5	TI66256K
M20-2.5	30.00	5	TI66258K
M22-2.5	33.00	5	TI66260K
M24-3	36.00	5	TI66262K

METRIC FINE REPAIR KITS

SIZE	INSERT LENGTH	NO. OF INSERTS	STOCK #
M8-1	12.00	5	TI66263K
M10-1.25	15.00	5	TI66265K
M10-1	15.00	5	TI66267K
M12-1.5	18.00	5	TI66269K
M12-1.25	18.00	5	TI66271K
M14-1.5	21.00	5	TI66273K
M16-1.5	24.00	5	TI66275K
M18-2	27.00	5	TI66277K
M18-1.5	27.00	5	TI66279K
M20-2	30.00	5	TI66281K
M20-1.5	30.00	5	TI66283K
M22-2	33.00	5	TI66285K
M22-1.5	33.00	5	TI66287K
M24-2	36.00	5	TI66289K

NPT REPAIR KITS

SIZE	INSERT LENGTH	NO. OF INSERTS	STOCK #
1/8 - 27	0.188	10	TI65000K
1/4 - 18	0.375	10	TI65001K
3/8 - 18	0.668	5	TI65002K
1/2 - 14	0.750	5	TI65003K
3/4 - 14	1.125	5	TI65004K
1" - 11-1/2	1.500	5	TI65005K

SPARK PLUG REPAIR KITS

M10-1	1/2"	10	TI66290K
M12-1.25	1/2"	10	TI66291BK
	3/4"	10	TI66291AK
M14-1.25	3/8"	5	TI66293K
	3/4"	5	TI66293DK
M18-1.5	1/2"	5	TI66294K

Each Kit Includes: Inserts, Insertion Tool & STI Tap

RANGE REPAIR KITS

• Each kit contains a tap and installation tool for the given size.

UNC RANGE

SIZE	INSERT LENGTH	INSERTS PER KIT	STOCK #
1/4"- 20	0.375	10	
5/16"- 18	0.468	5	
3/8"- 16	0.563	5	TIK66597
7/16"- 14	0.657	5	
1/2"- 13	0.750	5	

UNF RANGE

SIZE	INSERT LENGTH	INSERTS PER KIT	STOCK #
1/4"- 28	0.375	10	
5/16"- 24	0.468	5	
3/8"- 24	0.563	5	TIK66598
7/16"- 20	0.657	5	
1/2"- 20	0.750	5	

METRIC RANGE

SIZE	INSERT LENGTH	INSERTS PER KIT	STOCK #
M6-1	9.00	5	
M8-1	12.00	5	
M8-1.25	12.00	5	TIK66599
M10-1.5	15.00	5	
M12-1.75	18.00	5	

INSTALLATION TOOLS

UNC THREADS

THREAD SIZE	STOCK #
4-40	TI66314
6-32	TI66315
8-32	TI66316
10-24	TI66317
1/4"- 20	TI66318
5/16"- 18	TI66319
3/8"- 16	TI66320
7/16"- 14	TI66321
1/2"- 13	TI66322
5/8"- 11	TI66323
3/4"- 10	TI66324
7/8"- 9	TI66325
1"- 8	TI66326

1 per pack

UNF THREADS

THREAD SIZE	STOCK #
4-48	TI66314
6-40	TI66315
8-36	TI66316
10-32	TI66317
1/4"- 28	TI66318
5/16"- 24	TI66328
3/8"- 24	TI66329
7/16"- 20	TI66321
1/2"- 20	TI66322
5/8"- 18	TI66323
3/4"- 16	TI66330
7/8"- 14	TI66325
1"- 12	TI66326
1"- 14	TI66326

METRIC COARSE THREADS

THREAD SIZE	STOCK #
M6-1	TI66318
M8-1.25	TI66328
M10-1.5	TI66320
M12-1.75	TI66322
M14-2	TI66331
M16-2	TI66323
M18-2.5	TI66324
M20-2.5	TI66330
M22-2.5	TI66325
M24-3	TI66326

METRIC FINE THREADS

THREAD SIZE	STOCK #
M8-1	TI66328
M10-1.25	TI66329
M10-1	TI66329
M12-1.5	TI66322
M12-1.25	TI66322
M14-1.25S/P	TI66332
M14-1.5	TI66332
M16-1.5	TI66323
M18-2	TI66324
M18-1.5	TI66324
M20-2	TI66330
M20-1.5	TI66330
M22-2	TI66325
M22-1.5	TI66325
M24-2	TI66326

NPT THREADS

THREAD SIZE	STOCK #
1/8"- 27	TI66329
1/4"- 18	TI66331
3/8"- 18	TI66323
1/2"- 14	TI66325
3/4"- 14	TI66333
1" - 11-1/2	TI66334

Premium High-Speed Steel

MADE IN U. S. A.

Special Taps For Helical Coil Thread Inserts (Plug Style)

Features:
- Can be used by hand or under power.
- Produces threads to accommodate helical screw thread inserts.
- General purpose over size taps

INCH SIZES

STI SIZE	DRILL SIZE	STOCK #
MACHINE SCREW SIZES		
4 - 40	#31	ST66507
4 - 48	#31	ST66508
5 - 40	#28	ST66509
6 - 32	#25	ST66511
6 - 40	#25	ST66512
8 - 32	11/64"	ST66513
8 - 36	#17	ST66514
10 - 24	13/64"	ST66515
10 - 32	13/64"	ST66516
12 - 24	#1	ST66517
FRACTIONAL		
1/4" - 20	17/64"	ST66530
1/4" - 28	17/64"	ST66531
5/16" - 18	21/64"	ST66532
5/16" - 24	21/64"	ST66533
3/8" - 16	25/64"	ST66534
3/8" - 24	25/64"	ST66535
7/16" - 14	29/64"	ST66536
7/16" - 20	29/64"	ST66537
1/2" - 13	17/32"	ST66538
1/2" - 20	33/64"	ST66539
5/8" - 11	21/32"	ST66542
5/8" - 18	41/64"	ST66542A
3/4" - 10	25/32"	ST66546
3/4" - 16	49/64"	ST66547
7/8" - 9	29/32"	ST66548
7/8" - 14	57/64"	ST66548A
1" - 8	1-1/32"	ST66549
1" - 12	1-1/64"	ST66549A
1" - 14	1-1/64"	ST66549B

1 per pack

METRIC

STI SIZE	DRILL SIZE	STOCK #
M5 x .8	5.2	ST66550
M6 x 1.0	6.3	ST66551
M8 x 1.0	8.3	ST66552A
M8 x 1.25	8.3	ST66552
M9 x 1.25	9.25	ST66553
M10 x 1.0	10.3	ST66554A
M10 x 1.25	10.3	ST66554
M10 x 1.50	10.4	ST66555
M11 x 1.25	11.00	ST66556
M11 x 1.50	11.00	ST66557
M12 x 1.25	12.2	ST66558
M12 x 1.50	12.25	ST66559
M12 x 1.75	12.50	ST66560
M14 x 1.25	14.30	ST66561A
M14 x 1.50	14.30	ST66561
M14 x 2.0	14.50	ST66562
M16 x 1.50	16.25	ST66563
M16 x 2.00	16.50	ST66564
M18 x 1.50	18.25	ST66565
M18 x 2.0	18.50	ST66566A
M18 x 2.50	18.50	ST66566
M20 x 1.50	20.25	ST66567
M20 x 2.0	20.50	ST66568A
M20 x 2.50	20.50	ST66568
M22 x 1.50	22.50	ST66569
M22 x 2.0	22.50	ST66570
M22 x 2.5	22.50	ST66571A
M24 x 2.0	24.25	ST66571
M24 x 3.0	24.75	ST66572

1 per pack

TAPER PIPE TAPS (NPT)

STI SIZE	DRILL SIZE	DECIMAL EQUIV.	STOCK #
FRACTIONAL			
1/8" - 27	Q	0.3320	STNPT66591
1/4" - 18	7/16	0.4375	STNPT66592
3/8" - 18	9/16	0.5625	STNPT66593
1/2" - 14	45/64	0.7031	STNPT66594
3/4" - 14	29/32	0.9062	STNPT66595
1" - 11-1/2	1-9/64	1.1406	STNPT66596

1 per pack

Available in Fractional, Metric or Combination Sets

NC = Coarse NF = Fine NPT = Pipe MM = Metric

JAPAN

TDS66012NPT

12 PC. PIPE TAP & RETHREADING HEXAGON DIE SET

IN METAL CASE

STOCK #	STEEL	NO. OF PIECES	SET INCLUDES
TDS66012NPT	HIGH CARBON	12	6 NPT Pipe Taps, and 6 NPT Rethreading Hexagon Dies
Size and threads per inch (NPT sizes) 1/8-27, 1/4-18, 3/8-18, 1/2-14, 3/4-14, 1-11-1/2			

TDS66006NPT

6 PC. PIPE TAP SET

IN WOOD CASE

STOCK #	STEEL	NO. OF PIECES	SET INCLUDES
TDS66006NPT	HIGH CARBON	6	6 NPT Pipe Taps
Size and threads per inch (NPT sizes) 1/4-18, 3/8-18, 1/2-14, 3/4-14, 1-11-1/2, 1-1/4-1-1/2			

TDS66012

12 PC. TAP & ADJ. ROUND DIE SET

IN METAL CASE

STOCK #	STEEL	NO. OF PIECES	SET INCLUDES
TDS66012	HIGH CARBON	12	5 Plug Taps, 5 Adj. 1" O.D. Round Dies, 1 Die Stock 1" O.D. and 1 T-Handle Tap Wrench 1/8" - 1/2"
Size and threads per inch (Fractional sizes) **NC** 1/4-20, 5/16-18, 3/8-16, 7/16-14, 1/2-13			

TDS66022

22 PC. TAP & ADJ. ROUND DIE SET

IN METAL CASE

STOCK #	STEEL	NO. OF PIECES	SET INCLUDES
TDS66022	HIGH CARBON	22	10 Plug Taps, 10 Adj. 1" O.D. Round Dies, 1 Die Stock 1" O.D. and 1 T-Handle Tap Wrench 1/8" - 1/2"
Size and threads per inch (Fractional sizes) **NC** 1/4-20, 5/16-18, 3/8-16, 7/16-14, 1/2-13 **NF** 1/4-28, 5/16-24, 3/8-24, 7/16-20, 1/2-20			

Available in Fractional, Metric or Combination Sets

NC = Coarse NF = Fine NPT = Pipe MM = Metric

JAPAN

TDS24MC

24 PC. METRIC TAP & ADJ. ROUND DIE SET

IN METAL CASE

STOCK #	STEEL	NO. OF PIECES	SET INCLUDES
TDS24MC	HIGH CARBON	**24**	11 Plug Taps, 11 Adj. 2" O.D. Round Dies, 1 Die Stock 2" O.D. and 1 Adj. Tap Wrench
TDS24MH	HIGH-SPEED	**24**	

Metric sizes: M6 - M20, 1 each tap, 1 each die
6mm x 1.00, 7 x 1.00, 8 x 1.25, 9 x 1.25, 10 x 1.50, 11 x 1.50, 12mm x 1.75, 14 x 2.00, 16 x 2.00, 18 x 2.50, 20 x 2.50

TDS40H (HSS)

40 PC. POPULAR MECHANIC'S TAP & DIE SETS – SAE OR METRIC

WITH HEXAGON DIES IN A DOUBLE TRAY PLASTIC CASE

STOCK #	STEEL	NO. OF PIECES	SET INCLUDES
TDS40C (SAE)	HIGH CARBON	**40**	17 Plug Taps, 17 - 1" Hexagon Dies, 1 Hexagon Die Stock 1", 2 T Handle Tap Wrenches: 0 to 1/4" & 1/4" to 1/2", 1 Adjustable Tap Wrench 0 -1", 1 Screwdriver and 1 Pitch Gauge.
TDS40CM (METRIC)	HIGH CARBON	**40**	
TDS40H (HSS)	HIGH-SPEED	**40**	

SAE Set size and threads per inch (Machine Screw & Fractional sizes)

NC 4-40, 6-32, 8-32, 10-24, 12-24, 1/4-20, 5/16-18, 3/8-16, 7/16-14, 1/2-13
NF 10-32, 1/4-28, 5/16-24, 3/8-24, 7/16-20, 1/2-20
NPT 1/8-27

Metric Tap and Die sizes

3mm-0.5	4mm-0.75	6mm-0.75	7mm-0.75	10mm-1.25	12mm-1.75
3mm-0.6	5mm-0.8	6mm-1.00	8mm-1.00	10mm-1.50	1/8" Pipe Tap
4mm-0.7	5mm-0.9	7mm-1.00	8mm-1.25	12mm-1.50	

TDS66045C

45 PC. TAP & DIE SET – METRIC

WITH ADJUSTABLE SPLIT ROUND DIES IN A METAL CASE

STOCK #	STEEL	NO. OF PIECES	SET INCLUDES
TDS66045C	HIGH CARBON TOOL STEEL	**45**	20 Plug Taps, 20 Adj. Round Dies, 2 Die Stock 1" & 2" O.D., 2 Tap Wrenches: #5, #7, 1 Screwdriver.

Metric Tap (Plug) and Die sizes

6mm-1.00	10mm-1.50	14mm-2.00	18mm-2.25	22mm-2.25
6mm-0.75	10mm-1.25	14mm-1.50	18mm-1.50	22mm-1.50
8mm-1.25	12mm-1.75	16mm-2.00	20mm-2.50	24mm-3.00
8mm-1.00	12mm-1.50	16mm-1.50	20mm-1.50	24mm-1.50

Available in Fractional or Combination Sets

NC = Coarse NF = Fine NPT = Pipe MM = Metric

JAPAN

TDS66064H

64 PC. SUPER TAP AND DIE SET

IN METAL CASE

STOCK #	STEEL	NO. OF PIECES	SET INCLUDES
TDS66064H	HIGH SPEED	64	28 Plug Taps with: 17 Adjustable 1" O.D. Round Dies, 7 Adjustable 1-1/2" O.D. Round Dies, 4 Adjustable 2" O.D. Round Dies, 3 Die Stocks: 1" O.D., 1-1/2" O.D. and 2" O.D., 1 T-Handle Tap Wrench #0-1/4, 2 Adjustable Tap Wrenches: 1/16-1/2" and 1/4-1 1/8", 1 Screw Driver & 1 Screw Pitch Gauge
TDS66064C	HIGH CARBON	64	

Size and threads per inch (Machine Screw & Fractional sizes)

NC 4-40, 6-32, 8-32, 10-24, 12-24,1/4-20, 5/16-18, 3/8-16, 7/16-14, 1/2-13, 9/16-12, 5/8-11, 3/4-10, 7/8-9, 1-8

NF 10-32, 1/4-28, 5/16-24, 3/8-24, 7/16-20, 1/2-20, 9/16-18, 5/8-18, 3/4-16, 7/8-14, 1 -14(NS)

NPT 1/8-27, 1/4-18

TDS66060

60 PC. COMBINATION SAE & METRIC SET

WITH HEXAGON DIES IN METAL CASE

STOCK #	STEEL	NO. OF PIECES	SET INCLUDES
TDS66060	HIGH CARBON	60	17 Plug Taps & Hexagon Dies SAE 10 Plug Taps & Hexagon Dies METRIC Hexagon Die stock 1", T-Handle Tap Wrench, Adjustable Tap Wrench 0-1", Screw Driver, Thread Gauge Inch & Metric.

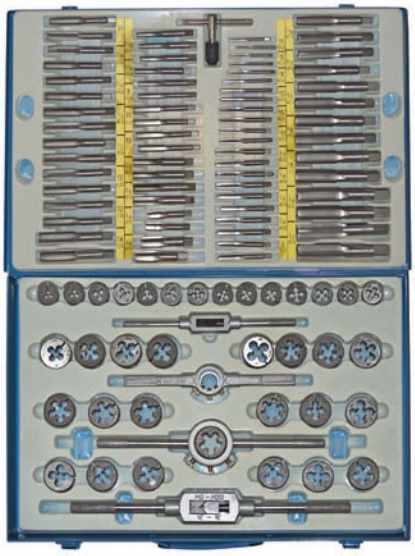
Size and threads per inch (Machine Screw, Fractional & Metric sizes)

SAE NC 4-40, 6-32, 8-32, 10-24, 12-24, 1/4-20, 5/16-18, 3/8-16, 7/16-14, 1/2-13

NF 10-32, 1/4-28, 5/16-24, 3/8-24, 7/16-20, 1/2-20

NPT 1/8-27

Metric 3mm-0.5, 4mm-0.7, 5mm-0.8, 6mm-1.0, 7mm-1.0, 8mm-1.25, 9mm-1.25, 10mm-1.5, 10mm-1.0, 12mm-1.75



TDS66110

110 PC. TAP & DIE SET - SAE & METRIC

WITH ROUND DIES IN A METAL CASE

STOCK #	STEEL	NO. OF PIECES	SET INCLUDES
TDS66110	HIGH CARBON ALLOY STEEL	110	24 Plug Taps & Dies SAE, 2 Plug Taps & Dies NPT, 9 Plug Taps & Dies METRIC, 2 Die Stacks 1", 1-1/2" O.D., 2 Tap Wrenches #6 and #8, T-Handle Tap Wrench, Taps: Taper & Bottoming Chamfer (70 Pcs.) Dies: (35 Pcs.)

Size and threads per inch (NC, NF, NPT & Metric sizes)

SAE NC 4-40, 6-32, 8-32, 10-24, 12-24, 1/4-20, 1/4-24, 1/4-32, 5/16-18, 3/8-16, 7/16-14, 1/2-13, 9/16-12, 5/8-11, 3/4-10

NF 10-32, 1/4-28, 5/16-24, 3/8-24, 7/16-20, 1/2-20, 9/16-18, 5/8-18, 3/4-16

NPT 1/8-27, 1/4-18

Metric 6mm-1.0, 8mm-1.25, 10mm-1.5, 10mm-1.0, 11mm-1.5, 12mm-1.25, 12mm-1.75, 14mm-1.25, 18mm-1.5

Hexagon Rethreading Dies Sets In Wood Cases

High Carbon Steel

JAPAN

TDS5C

TDS8C

TDS20

RIGHT HAND DIE SET

1 die each size

NO. OF PIECES	DESCRIPTION	STOCK #
5 pc.	**NC –** 1/4-20, 5/16-18, 3/8-16, 7/16-14, 1/2-13	TDS5C
5 pc.	**NF –** 1/4-28, 5/16-24, 3/8-24, 7/16-20, 1/2-20	TDS5F
8 pc.	**NC –** 1/4-20, 5/16-18, 3/8-16, 7/16-14, 1/2-13, 9/16-12, 5/8-11, 3/4-10	TDS8C
8 pc.	**NF –** 1/4-28, 5/16-24, 3/8-24, 7/16-20, 1/2-20, 9/16-18, 5/8-18, 3/4-16	TDS8F
10 pc.	**NC –** 1/4-20, 5/16-18, 3/8-16, 7/16-14, 1/2-13, 9/16-12, 5/8-11, 3/4-10, 7/8-9, 1-8	TDS10C
10 pc.	**NF –** 1/4-28, 5/16-24, 3/8-24, 7/16-20, 1/2-20, 9/16-18, 5/8-18, 3/4-16, 7/8-14, 1-12	TDS10F
20 pc.	**NC/NF –** 1/4-20, 1/4-28, 5/16-18, 5/16-24, 3/8-16, 3/8-24, 7/16-14, 7/16-20, 1/2-13, 1/2-20, 9/16-12, 9/16-18, 5/8-11, 5/8-18, 3/4-10, 3/4-16, 7/8-9, 7/8-14, 1-8, 1-12	TDS20

LEFT HAND DIE SET

1 die each size

NO. OF PIECES	DESCRIPTION	STOCK #
5 pc.	**NC –** 1/4-20, 5/16-18, 3/8-16, 7/16-14, 1/2-13	TDS5LC
5 pc.	**NF –** 1/4-28, 5/16-24, 3/8-24, 7/16-20, 1/2-20	TDS5LF
8 pc.	**NC –** 1/4-20, 5/16-18, 3/8-16, 7/16-14, 1/2-13, 9/16-12, 5/8-11, 3/4-10	TDS8LC
8 pc.	**NF –** 1/4-28, 5/16-24, 3/8-24, 7/16-20, 1/2-20, 9/16-18, 5/8-18, 3/4-16	TDS8LF
10 pc.	**NC –** 1/4-20, 5/16-18, 3/8-16, 7/16-14, 1/2-13, 9/16-12, 5/8-11, 3/4-10, 7/8-9, 1-8	TDS10LC
10 pc.	**NF –** 1/4-28, 5/16-24, 3/8-24, 7/16-20, 1/2-20, 9/16-18, 5/8-18, 3/4-16, 7/8-14, 1-12	TDS10LF
20 pc.	**NC/NF –** 1/4-20, 1/4-28, 5/16-18, 5/16-24, 3/8-16, 3/8-24, 7/16-14, 7/16-20, 1/2-13, 1/2-20, 9/16-12, 9/16-18, 5/8-11, 5/8-18, 3/4-10, 3/4-16, 7/8-9, 7/8-14, 1-8, 1-12	TDSL20

18 Pc. Tap & Drill Index Sets High-Speed & Carbon Steel Inch or Metric

In Metal Case
NC or NF Threads

Features:

- Organized in a durable metal case.
- Fits conveniently in any toolbox.
- Isolates each tap and drill.
- Prevents chipping.
- Permits easy selection.

HSS TAPS WITH HSS DRILLS

DESCRIPTION	STOCK #	
	ALFA USA	ECO PRO
NC Plug Taps with Jobber Drills Contains 1 ea. 6-32 tap #36 drill 8-32 #29 10-24 #25 10-32 #21 1/4"-20 #7 5/16"-18 F 3/8"-16 5/16" 7/16"-14 U 1/2"-13 27/64"	TDSH118C	TDSH218C
NC HSS Plug Taps with Blitz Bit Drills Contains 1 ea. 6-32 tap #36 drill 8-32 #29 10-24 #25 10-32 #21 1/4"-20 #7 5/16"-18 F 3/8"-16 5/16" 7/16"-14 U 1/2"-13 27/64"	TDSBB18NC	—
NF Plug Taps with Jobber Drills Contains 1 ea. 6-40 tap #33 drill 8-36 #29 10-24 #25 10-32 #21 1/4"-28 #3 5/16"-24 I 3/8"-24 Q 7/16"-20 25/64 1/2"-20 29/64	TDSH118F	TDSH218F
NF HSS Plug Taps with Blitz Bit Drills Contains 1 ea. 6-40 tap #33 drill 8-36 #29 10-24 #25 10-32 #21 1/4"-28 #3 5/16"-24 I 3/8"-24 Q 7/16"-20 25/64 1/2"-20 29/64	TDSBB18NF	—
Metric Plug Taps with Jobber Drills Contains 1 ea. M2.5 x .45 #46 drill M3.0 x .50 #39 M3.5 x .60 #32 M4.0 x .70 #30 M5.0 x .80 #19 M6.0 x 1.0 #8 M8.0 x 1.25 H M10.0 x 1.50 Q M12.0 x 1.75 13/32	TDSH118M	TDSH218M

HIGH CARBON TAPS WITH HSS DRILLS

DESCRIPTION	STOCK #
	ECO PRO
NC Taps with Jobber Drills Contains 1 each 6-32 tap #36 drill 8-32 #29 10-24 #25 10-32 #21 1/4"-20 #7 5/16"-18 F 3/8"-16 5/16" 7/16"-14 U 1/2"-13 27/64"	TDSC218C
NF Taps with Jobber Drills Contains 1 each 6-40 tap #33 drill 8-36 #29 10-24 #25 10-32 #21 1/4-28 #3 5/16-24 I 3/8-24 Q 7/16-20 25/64 1/2-20 29/64	TDSC218F

36 Pc. Tap & Drill Combination Index Sets

In Metal Case
NC & NF Threads

HSS TAPS & HSS DRILLS

DESCRIPTION	STOCK #	
	ALFA USA	ECO PRO
NC/NF Plug Taps with Jobber Drills Contains 1 each **NC** 6-32 tap #36 drill 8-32 #29 10-24 #25 12-24 #16 1/4"-20 #7 5/16"-18 F 3/8"-16 5/16" 7/16"-14 U 1/2"-13 27/64 and **NF** 6-40 tap #33 drill 8-36 #29 10-32 #21 12-28 #15 1/4"-28 #3 5/16"-24 I 3/8"-24 Q 7/16"-20 25/64 1/2"-20 29/64	TDSH136	TDSH236

HIGH CARBON TAPS & HSS DRILLS

DESCRIPTION	STOCK #
	ECO PRO
NC/NF Plug Taps with Jobber Drills Contains 1 each **NC** 6-32 tap #36 drill 8-32 #29 10-24 #25 12-24 #16 1/4"-20 #7 5/16"-18 F 3/8"-16 5/16" 7/16"-14 U 1/2"-13 27/64" and **NF** 6-40 tap #33 drill 8-36 #29 10-32 #21 12-28 #15 1/4"-28 #3 5/16"-24 I 3/8"-24 Q 7/16"-20 25/64 1/2"-20 29/64	TDSC236

MADE IN U. S. A.

- **ALFA USA** taps and drills are manufactured in the United States.
- **ECO PRO** taps and drills are made outside the United States to ALFA TOOL'S specifications.

ECO PRO®

High-Speed & Carbon Steel
Inch or Metric

In Metal Case
NC or NF Threads

Features:

- Organized in a durable metal case.
- Fits conveniently in any toolbox.
- Isolates each tap.
- Prevents chipping.
- Permits easy selection.

HAND TAP SETS

NO. OF PIECES	DESCRIPTION	STOCK #	
		ALFA USA	ECO PRO
HIGH-SPEED STEEL TAP SETS			
10 pc.	**Machine Screw & Fractional Plug Taps, 1 size each:** 4-40NC, 6-32NC, 8-32NC, 10-24NC, 10-32NF, 1/4-20NC, 5/16-18NC, 3/8-16NC, 1/2-13NC, 5/8-11NC	TDS66010	TDS266010
10 pc.	**Metric Plug Taps, 1 size each:** 3 x .5, 3.5 x .6, 4 x .7, 4.5 x .75, 5 x .8, 6 x 1.0, 8 x 1.25, 10 x 1.5, 12 x 1.75, 16 x 2.0	TDS66011	TDS266011
10 pc.	**Fractional Plug Taps, 1 size each:** 1/4-20, 1/4-28, 5/16-18, 5/16-24, 3/8-16, 3/8-24, 7/16-14, 7/16-20, 1/2-13, 1/2-20	TDS66013	TDS266013
16 pc.	**Machine Screw & Fractional Plug Taps, 1 size each:** 1/2-20, 1/2-13, 7/16-20, 7/16-14, 3/8-24, 3/8-16, 5/16-24, 5/16-18, 1/4-28, 1/4-20, 12-28, 12-24, 10-32, 10-24, 8-32, 6-32	TDS66016	TDS266016
19 pc.	**Machine Screw Plug Taps, 1 size each:** 0-80, 1-64, 1-72, 2-56, 2-64, 3-48, 3-56 4-40, 4-48, 5-40, 5-44, 6-32, 6-40, 8-32 8-36, 10-24, 10-32, 12-24, 12-28	TDS66019	TDS266019
CARBON STEEL SETS			
10 pc.	**Machine Screw & Fractional Plug Taps, 1 size each:** 4-40, 6-32, 8-32, 10-24, 10-32, 1/4-20, 5/16-18, 3/8-16, 1/2-13, 5/8-11	—	TDS266014
10 pc.	**Fractional Plug Taps, 1 size each:** 1/4-20, 1/4-28, 5/16-18, 5/16-24, 3/8-16, 3/8-24, 7/16-14, 7/16-20, 1/2-13, 1/2-20	—	TDS266015

TDS66010

TDS66016

Monolock® QUICK CHANGE SYSTEM

HSS TAP BIT SET WITH QUICK CHANGE CHUCK			
13 pc.	**Machine Screw & Fractional Plug Taps, 1 size each:** 3/8-24, 5/16-24, 1/4-28, 10-32, 8-36, 6-40, 3/8-16, 5/16-18, 1/4-20,10-24, 8-32, 6-32, and one 1/4" Quick Change Chuck	—	HST70362

HST70362

Monolock® QUICK CHANGE SYSTEM

1/4" hex shanks are designed for use in power tools with quick change chucks and adapters.

MADE IN U. S. A.

- **ALFA USA** taps are manufactured in the United States.
- **ECO PRO** taps are made outside the United States to ALFA TOOL'S specifications.

ECO PRO®

MADE IN U. S. A.

TOOLS NOT INCLUDED

Features:

- Cost effective tool management & storage.
- Heavy gauge steel cabinets and drawers with vinyl dividers.
- Stackable models with full drawer extensions.
- Baked epoxy finish for long life.

TAP DISPENSER CABINETS

Dimensions: 14-5/8" W x 7-3/8" D x 7-3/4" H

DESCRIPTION	WEIGHT	STOCK #
FOR MACHINE SCREW SIZES 2-56 12-28 Five Drawers	13 lbs.	DIHTMS13550
FOR FRACTIONAL SIZES 1/4"-20 1-14 Three Drawers	10.5 lbs.	DIHTF13500
FOR METRIC SIZES 3mm - 24mm Three Drawers	10.5 lbs.	DIHTM13575

Tap Dispenser Machine Screw Sizes
DIHTMS13550

Fractional Sizes
DIHTMF13500

Metric Taps
DIHTM13575

Stackable
(Not Lockable)

MASTER TAP DISPENSER

(Four Drawers)

Dimensions: 26" W x 12" D x 12-1/2" H

DESCRIPTION	WEIGHT	STOCK #
Holds NC/NF sizes in taper, plug and bottoming chamfer Machine screw sizes 2-56 to 12-28 Fractional sizes 1/4"-20 to 1"-14 **Lockable**	50 lbs.	DIHTM13580

Master Tap Dispenser
DIHTM13580
(Lockable)
with ball bearing slides

TAP & DRILL DISPENSER

(Three Drawers)

Dimensions: 14-5/8" W x 7-3/8" D x 7-3/4" H

- Stores and organizes correct tap drill with corresponding tap.
- Holds 1 doz. (min.) of each size.

DESCRIPTION						WEIGHT	STOCK #
Tap	Drill	Tap	Drill	Tap	Drill		
6-32	#36	**1/4"-28**	#3	**7/16"-14**	U	10.5 lbs.	DIHT13590
8-32	#29	**5/16"-18**	F	**7/16"-20**	25/64"		
10-24	#25	**5/16"-24**	I	**1/2"-13**	27/64"		
10-32	#21	**3/8"-16**	5/16"	**1/2"-20**	29/64"		
1/4"-20	#7	**3/8"-24**	Q				

Tap & Drill Dispenser
DIHT13590
(Not Lockable)

MEGACUT® Threading & Cutting Fluids

MADE IN U. S. A.

MEGACUT® threading and cutting fluid formulation is specially engineered for efficient, close tolerance cutting. It is used on ALL METALS and with great ease on difficult-to-machine aerospace alloys, aluminum and titanium. It is stable at elevated temperatures and withstands pressure beyond the yield point of any known metal.

- **Safe and odorless.**
- **Meets and exceeds OSHA requirements.**
- **Contains no 1,1,1 Trichloroethane, Sulphur or Carbon Tetrachloride.**
- **Dramatically extends tool life.**
- **Controls chip form.**
- **Refrigerates while it lubricates.**
- **Will not stain metal workpiece.**
- **Helps in achieving precision finish and close tolerances.**
- **Meets Military Spec. MIL-STD-767.**

SIZE	CASE QTY.	CASE WT.	STOCK #
1 oz.	24	3 lbs.	TF7001
4 oz.	12	4 lbs.	TF7004
16 oz.	12	13 lbs.	TF7016
1 gal.	4	33 lbs.	TF7028
5 gal.	2	42 lbs.	TF7640
4 oz. Spritzer	12	4 lbs.	TF7041

☆☆ **USDA** ☆☆
Certified for use in machine shops associated with the meat and poultry inspection program

MEGACUT® SPRITZER

Spray directly at application point — using 4 oz. spritzer bottle.

STOCK # TF7041

MEGA FOAMCUT® Threading & Cutting Fluids

Now a Threading & Cutting Foam that Cools While it Lubricates!

- **MAXIMUM VERSATILITY** – Use with confidence on ferrous and nonferrous metals, including inconel and hastalloy.*
- **MAXIMUM APPLICATIONS** – Ideal for tapping, drilling, reaming, boring, milling, broaching and trepanning.
- **MAXIMUM EFFICIENCY** – Precise application, provides long contact time with tooling.
- **MAXIMUM EFFECTIVENESS** – Promotes longer tool life and better finish.
- **MAXIMUM LUBRICITY** – Unique chemical cooling of the workpiece and tool.

**Not for use on titanium or where chloride is harmful.*

SIZE	CASE QTY.	CASE WT.	STOCK #
2 oz.	12	3 Lbs.	TF8002
8 oz.	12	8 Lbs.	TF8008
17 oz.	12	17 Lbs.	TF8017

MEGA FOAMCUT® SPRITZER

Spray directly at application point — using 2 oz. aerosol can.

STOCK # TF8002

Burrs
End Mills
Cutters, Tool Bits

C

Burrs

Carbide

High-Speed Steel

Deburring Tools

End Mills

C

Solid Carbide End Mills

Two Flute

Center Cutting

Solid Carbide End Mills

Three Flute

Center Cutting

Four Flute

Center Cutting

Solid Carbide Roughing End Mills

C

Burrs
End Mills
Cutters, Tool Bits

High-Speed Steel End Mills

Two Flute

Center Cutting

Multi-Flute

Center Cutting

Non-Center Cutting

Cobalt M42 End Mills

Two Flute

Center Cutting

Multi-Flute

Center Cutting

Cobalt Roughing End Mills

Coarse Pitch

HSS Cutters

Tool Bits

Micrograin Carbide Burrs

- Used in many industries for stock removal and the removal of burrs.
- Manufactured from micrograin carbide on automated CNC machines.
- TiN coating provides longer tool life.

Single Cut

- General purpose style. Provides good stock removal and a smooth finish on materials like steel, cast iron and ferrous metals.

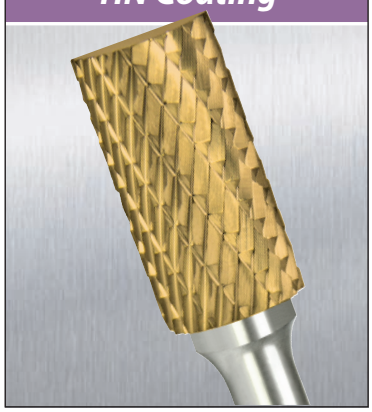
Double Cut

- Best selling style with heavy stock removal qualities on tough materials.
- Engineered to reduce chip size and pulling action.

Alumacut

- Designed for obtaining a great finish on aluminum, reinforced plastics, soft steels and other soft materials.

TiN Coating



- Titanium Nitride coating provides longer edge retention, corrosion resistance and increases tool life by a factor of three or more.

Chipbreaker

- Made to provide better control and reduce chipping. For use on hard materials like steel alloy 50RC-60RC, carbon steel and cast iron.

Diamond Cut

- Reduces chip size almost to powder and with excellent control on tough treated alloy steels.

Single Cut, Double Cut, Alumacut and TiN Coated Double Cut Burrs available in stock. Chipbreaker and Diamond Cut are available on request.

- A full line of burrs for a wide range of applications
- A wide selection of fluting styles
- Extra-long shanks available
- Miniature burrs
- State-of-the-art CNC precision made
- Made in the U.S.A.

APPLICATIONS & SPEED REFERENCE CHARTS

APPLICATIONS

MATERIAL CUTTING	SUITABILITY		
	Single Cut	Double Cut	Alumacut
Aluminum			■
Brass	■	■	
Bronze	■	■	
Carbon Fiber		■*	
Carbon Steel	■	■	
Cast Iron	■	■	
Copper	■	■	
Fiberglass		■*	
Hard Rubber	■	■	
Inconel	■	■	
Magnesium			■
Plastics	■	■	■
Stainless Steel	■	■	
Steel - 45-55Rc	■	■	
Steel - 55-60Rc	■	■	
Steel - Nickel Chrome	■	■	
Steel - Weldments	■	■	
Titanium	■	■	
Zinc			■

*Diamond cut burrs are recommended for carbon fiber and fiberglass and are available by special order. Double cut burrs may be effective, but they carry a greater risk of shredding the fiber weave.

GENERAL BURR SPEED RECOMMENDATIONS

The following chart is a general and approximate recommendation. Variations to achieve desired results may be necessary.

Burr Diameter	Recommended (RPM)
SOLID CARBIDE	
1/16" or 1.5mm	60,000 - 90,000
1/8" or 3mm	45,000 - 50,000
3/16" or 5mm	35,000 - 40,000
1/4" or 6mm	30,000 - 35,000
CARBIDE HEAD BRAZED TO STEEL SHANK	
3/16" on 1/8" shank	35,000 - 40,000
1/4" on 1/8" shank	25,000 - 30,000
5/16" on 1/4" shank	25,000 - 30,000
3/8" on 1/4" shank	25,000 - 30,000
7/16" on 1/4" shank	20,000 - 25,000
1/2" on 1/4" shank	20,000 - 25,000
5/8" on 1/4" shank	15,000 - 20,000
3/4" on 1/4" shank	15,000 - 20,000
1" on 1/4" shank	12,000 - 18,000

Burrs up to 1/4" head diameter are solid carbide. Sizes larger that 1/4" diameter feature solid carbide heads brazed to heat treated shanks.

GENERAL USE

- Adjust speeds as needed for optimum performance. Use slower speeds for harder materials and cutting with long shank burrs. Use higher speeds for cutting with smaller diameter burrs.
- Do not run above maximum speeds. This will cause premature wear and damage to burr teeth.
- Do not run below minimum speeds. This may cause chipping.
- All other tools and collets should be in good condition. Using worn tools will cause chipping.
- Not for use in portable drill motors.
- Apply constant pressure while cutting.

1/4" Shank
Right Hand Cut

MADE IN U. S. A.

SA

CYLINDRICAL

SHAPE	HEAD SIZE DIA. x LENGTH	STOCK #		
		SINGLE CUT	DOUBLE CUT	DOUBLE CUT TiN COATED
SA-11	1/8 x 1/2	B71201	B71201D	B71201DTN
SA-12	1/8 x 5/8	B71301	B71301D	B71301DTN
SA-14	3/16 x 5/8	B71212	B71212D	B71212DTN
SA-1	1/4 x 5/8	B71202	B71202D	B71202DTN
SA-1L	1/4 x 1	B71202B	B71202BD	B71202BDTN
SA-2	5/16 x 3/4	B71204	B71204D	B71204DTN
SA-3	3/8 x 3/4	B71205	B71205D	B71205DTN
SA-3L	3/8 x 1	B71205B	B71205BD	B71205BDTN
SA-3X	3/8 x 1-1/2	B71205C	B71205CD	B71205CDTN
SA-4	7/16 x 1	B71207	B71207D	B71207DTN
SA-5	1/2 x 1	B71208	B71208D	B71208DTN
SA-6	5/8 x 1	B71209	B71209D	B71209DTN
SA-16	3/4 x 3/4	B71303	B71303D	B71303DTN
SA-7	3/4 x 1	B71210	B71210D	B71210DTN
SA-9	1 x 1	B71211	B71211D	B71211DTN

1 per pack

SB

CYLINDRICAL END CUT

SHAPE	HEAD SIZE DIA. x LENGTH	STOCK #		
		SINGLE CUT	DOUBLE CUT	DOUBLE CUT TiN COATED
SB-11	1/8 x 1/2	B71291	B71291D	B71291DTN
SB-12	1/8 x 5/8	B71391	B71391D	B71391DTN
SB-14	3/16 x 5/8	B71392	B71392D	B71392DTN
SB-1	1/4 x 5/8	B71292	B71292D	B71292DTN
SB-1L	1/4 x 1	B71292B	B71292BD	B71292BDTN
SB-2	5/16 x 3/4	B71293	B71293D	B71293DTN
SB-3	3/8 x 3/4	B71294	B71294D	B71294DTN
SB-3L	3/8 x 1	B71294B	B71294BD	B71294BDTN
SB-3X	3/8 x 1	B71294C	B71294CD	B71294CDTN
SB-4	7/16 x 1	B71295	B71295D	B71295DTN
SB-5	1/2 x 1	B71296	B71296D	B71296DTN
SB-6	5/8 x 1	B71297	B71297D	B71297DTN
SB-16	3/4 x 3/4	B71398	B71398D	B71398DTN
SB-7	3/4 x 1	B71298	B71298D	B71298DTN
SB-9	1 x 1	B71299	B71299D	B71299DTN

1 per pack

SC

CYLINDRICAL RADIUS END

SHAPE	HEAD SIZE DIA. x LENGTH	STOCK #		
		SINGLE CUT	DOUBLE CUT	DOUBLE CUT TiN COATED
SC-11	1/8 x 1/2	B71221	B71221D	B71221DTN
SC-12	1/8 x 5/8	B71333	B71333D	B71333DTN
SC-13	5/32 x 5/8	B71233B	B71233BD	B71233BDTN
SC-14	3/16 x 5/8	B71220	B71220D	B71220DTN
SC-1	1/4 x 5/8	B71222	B71222D	B71222DTN
SC-2	5/16 x 3/4	B71224	B71224D	B71224DTN
SC-3	3/8 x 3/4	B71225	B71225D	B71225DTN
SC-3L	3/8 x 1	B71225B	B71225BD	B71225BDTN
SC-3X	3/8 x 1-1/2	B71225C	B71225CD	B71225CDTN
SC-4	7/16 x 1	B71227	B71227D	B71227DTN
SC-5	1/2 x 1	B71228	B71228D	B71228DTN
SC-6	5/8 x 1	B71229	B71229D	B71229DTN
SC-16	3/4 x 3/4	B71229C	B71229CD	B71229CDTN
SC-7	3/4 x 1	B71230	B71230D	B71230DTN
SC-9	1 x 1	B71231	B71231D	B71231DTN

1 per pack

SD

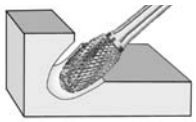
BALL

SHAPE	HEAD DIAMETER	STOCK #		
		SINGLE CUT	DOUBLE CUT	DOUBLE CUT TiN COATED
SD-11	1/8	B71241	B71241D	B71241DTN
SD-14	3/16	B71350	B71350D	B71350DTN
SD-1	1/4	B71242	B71242D	B71242DTN
SD-2	5/16	B71243	B71243D	B71243DTN
SD-3	3/8	B71244	B71244D	B71244DTN
SD-4	7/16	B71245	B71245D	B71245DTN
SD-5	1/2	B71246	B71246D	B71246DTN
SD-6	5/8	B71247	B71247D	B71247DTN
SD-7	3/4	B71248	B71248D	B71248DTN
SD-9	1	B71249	B71249D	B71249DTN

1 per pack

Chipbreaker and Diamond Cut are available on request.

MADE IN U. S. A.



SE

OVAL

SHAPE	HEAD SIZE DIA. x LENGTH	STOCK #		
		SINGLE CUT	DOUBLE CUT	DOUBLE CUT TiN COATED
SE-11	3/16 x 5/16	B71319	B71319D	B71319DTN
SE-1	1/4 x 3/8	B71214	B71214D	B71214DTN
SE-3	3/8 x 5/8	B71215	B71215D	B71215DTN
SE-5	1/2 x 7/8	B71216	B71216D	B71216DTN
SE-6	5/8 x 1	B71217	B71217D	B71217DTN
SE-7	3/4 x 1	B71218	B71218D	B71218DTN

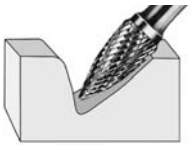
1 per pack

SF

TREE – RADIUS END

SHAPE	HEAD SIZE DIA. x LENGTH	STOCK #		
		SINGLE CUT	DOUBLE CUT	DOUBLE CUT TiN COATED
SF-11	1/8 x 1/2	B71252B	B71252BD	B71252BDTN
SF-1	1/4 x 5/8	B71252	B71252D	B71252DTN
SF-3	3/8 x 3/4	B71253	B71253D	B71253DTN
SF-4	7/16 x 1	B71354	B71354D	B71354DTN
SF-13	1/2 x 3/4	B71258	B71258D	B71258DTN
SF-5	1/2 x 1	B71255	B71255D	B71255DTN
SF-6	5/8 x 1	B71256	B71256D	B71256DTN
SF-7	3/4 x 1	B71257	B71257D	B71257DTN
SF-14	3/4 x 1-1/4	B71351	B71351D	B71351DTN
SF-15	3/4 x 1-1/2	B71259	B71259D	B71259DTN

1 per pack

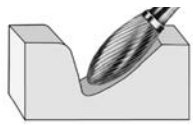


SG

TREE – POINTED END

SHAPE	HEAD SIZE DIA. x LENGTH	STOCK #		
		SINGLE CUT	DOUBLE CUT	DOUBLE CUT TiN COATED
SG-1	1/4 x 5/8	B71261	B71261D	B71261DTN
SG-2	5/16 x 3/4	B71262	B71262D	B71262DTN
SG-3	3/8 x 3/4	B71263	B71263D	B71263DTN
SG-13	1/2 x 3/4	B71364	B71364D	B71364DTN
SG-5	1/2 x 1	B71265	B71265D	B71265DTN
SG-6	5/8 x 1	B71266	B71266D	B71266DTN
SG-7	3/4 x 1	B71267	B71267D	B71267DTN
SG-15	3/4 x 1-1/2	B71268	B71268D	B71268DTN

1 per pack

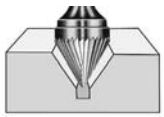


SH

FLAME

SHAPE	HEAD SIZE DIA. x LENGTH	STOCK #		
		SINGLE CUT	DOUBLE CUT	DOUBLE CUT TiN COATED
SH-1	1/4 x 5/8	B71271	B71271D	B71271DTN
SH-2	5/16 x 3/4	B71272	B71272D	B71272DTN
SH-5	1/2 x 1-1/4	B71273	B71273D	B71273DTN
SH-6	5/8 x 1-7/16	B71274	B71274D	B71274DTN
SH-7	3/4 x 1-5/8	B71275	B71275D	B71275DTN

1 per pack

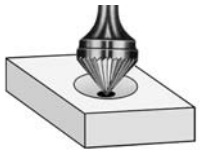


SJ

60° CONE

SHAPE	HEAD SIZE DIA. x LENGTH	STOCK #		
		SINGLE CUT	DOUBLE CUT	DOUBLE CUT TiN COATED
SJ-1	1/4 x 3/16	B71260A	B71260AD	B71260ADTN
SJ-2	5/16 x 5/16	B71305	B71305D	B71305DTN
SJ-3	3/8 x 5/16	B71312	B71312D	B71312DTN
SJ-5	1/2 x 7/16	B71313	B71313D	B71313DTN
SJ-6	5/8 x 9/16	B71314	B71314D	B71314DTN
SJ-7	3/4 x 11/16	B71315	B71315D	B71315DTN
SJ-9	1 x 15/16	B71316	B71316D	B71316DTN

1 per pack



SK

90° CONE

SHAPE	HEAD SIZE DIA. x LENGTH	STOCK #		
		SINGLE CUT	DOUBLE CUT	DOUBLE CUT TiN COATED
SK-1	1/4 x 1/8	B71321	B71321D	B71321DTN
SK-2	5/16 x 3/16	B71321B	B71321BD	B71321BDTN
SK-3	3/8 x 3/16	B71322	B71322D	B71322DTN
SK-5	1/2 x 1/4	B71323	B71323D	B71323DTN
SK-6	5/8 x 5/16	B71324	B71324D	B71324DTN
SK-7	3/4 x 3/8	B71325	B71325D	B71325DTN
SK-9	1 x 1/2	B71326	B71326D	B71326DTN

1 per pack

Chipbreaker and Diamond Cut are available on request.

MADE IN U. S. A.

SL 14° TAPER/CONE – RADIUS END

SHAPE	HEAD SIZE DIA. x LENGTH	STOCK #		
		SINGLE CUT	DOUBLE CUT	DOUBLE CUT TiN COATED
SL-1	1/4 x 5/8	B71281	B71281D	B71281DTN
SL-2	5/16 x 7/8	B71282	B71282D	B71282DTN
SL-3	3/8 x 1-1/16	B71283	B71283D	B71283DTN
SL-4	1/2 x 1-1/8	B71284	B71284D	B71284DTN
SL-5	5/8 x 1-3/16	B71287A	B71287AD	B71287ADTN
SL-6	5/8 x 1-5/16	B71285	B71285D	B71285DTN
SL-7	3/4 x 1-1/2	B71286	B71286D	B71286DTN

1 per pack

SM TAPER/CONE – POINTED END

SHAPE	HEAD SIZE DIA. x LENGTH	ANGLE	STOCK #		
			SINGLE CUT	DOUBLE CUT	DOUBLE CUT TiN COATED
SM-1	1/4 x 1/2	22°	B71233	B71233D	B71233DTN
SM-2	1/4 x 3/4	14°	B71234	B71234D	B71234DTN
SM-3	1/4 x 1	10°	B71235	B71235D	B71235DTN
SM-4	3/8 x 5/8	28°	B71236	B71236D	B71236DTN
SM-5	1/2 x 7/8	28°	B71237	B71237D	B71237DTN
SM-6	5/8 x 1	31°	B71238	B71238D	B71238DTN

1 per pack

Chipbreaker and Diamond Cut are available on request.

SN INVERTED CONE

SHAPE	HEAD SIZE DIA. x LENGTH	STOCK #		
		SINGLE CUT	DOUBLE CUT	DOUBLE CUT TiN COATED
SN-1	1/4 x 5/16	B71276	B71276D	B71276DTN
SN-2	3/8 x 3/8	B71277	B71277D	B71277DTN
SN-4	1/2 x 1/2	B71278	B71278D	B71278DTN
SN-6	5/8 x 3/4	B71279	B71279D	B71279DTN
SN-7	3/4 x 5/8	B71280	B71280D	B71280DTN

1 per pack

MICROGRAIN CARBIDE BURR SETS

BLOW MOLDED CASE

SET DESCRIPTION		STOCK #	
		DOUBLE CUT	DOUBLE CUT TiN COATED
8 Pc. Set	**1/4" Shank 1/2" Head** Contains one each: SA-5, SC-5, SD-5, SE-5, SF-5, SG-5, SL-4, SM-5	B81	B81TN
8 Pc. Set	**1/4" Shank 1/4" Head** Contains one each: SA-1, SC-1, SD-1, SE-1 SF-1, SG-1, SL-1, SM-1	B82	B82TN

SET DESCRIPTION		STOCK #
12 Pc. Set	**1/4" Shank Burrs** Contains one each: SA-1, SA-14, SB-1, SC-1, SC-14, SD-1, SE-1, SF-1, SG-1, SH-1, SJ-1, SL-1 Single Cut Double Cut	B71287 B71287D
16 Pc. Set	**1/4" Shank Burrs** Contains one each: SA-1, SA-3, SA-5, SC-1, SC-3, SC-5, SD-3, SD-5, SE-3, SF-1, SF-3, SF-5, SG-1, SG-3, SL-3, SL-4 Single Cut Double Cut	B71290 B71290D

MADE IN U. S. A.

LONG SHANK BURRS

SHANK DIA. 1/4" • LENGTH 6" • SINGLE CUT • DOUBLE CUT

SHAPE	HEAD SIZE DIA. x LENGTH	STOCK #	
		SINGLE CUT	DOUBLE CUT
A-CYLINDRICAL			
SA-1L6	1/4 x 5/8	B71202L	B71202DL
SA-3L6	3/8 x 3/4	B71205L	B71205DL
SA-5L6	1/2 x 1	B71208L	B71208DL
B - CYLINDRICAL END CUT			
SB-1L6	1/4 x 5/8	B71292L	B71292DL
SB-3L6	3/8 x 3/4	B71294L	B71294DL
SB-5L6	1/2 x 1	B71296L	B71296DL
C - CYLINDRICAL RADIUS END			
SC-1L6	1/4 x 5/8	B71222L	B71222DL
SC-3L6	3/8 x 3/4	B71225L	B71225DL
SC-5L6	1/2 x 1	B71228L	B71228DL
D - BALL			
SD-1L6	1/4	B71242L	B71242DL
SD-3L6	3/8	B71244L	B71244DL
SD-5L6	1/2	B71246L	B71246DL
E - OVAL			
SE-1L6	1/4 x 3/8	B71214L	B71214DL
SE-3L6	3/8 x 5/8	B71215L	B71215DL
SE-5L6	1/2 x 7/8	B71216L	B71216DL
F - TREE RADIUS END			
SF-1L6	1/4 x 5/8	B71252L	B71252DL
SF-3L6	3/8 x 3/4	B71253L	B71253DL
SF-5L6	1/2 x 1	B71255L	B71255DL
G - TREE POINTED END			
SG-1L6	1/4 x 5/8	B71261L	B71261DL
SG- 3L6	3/8 x 3/4	B71263L	B71263DL
SG-5L6	1/2 x 1	B71265L	B71265DL
H - FLAME			
SH-2L6	5/16 x 3/4	B71272L	B71272DL
SH -5L6	1/2 x 1-1/4	B71273L	B71273DL
L - TAPER CONE POINTED END			
SL-1L6	1/4 x 5/8	B71281L	B71281DL
SL-3L6	3/8 x 1-1/16	B71283L	B71283DL
SL-4L6	5/8 x 1-3/16	B71284L	B71284DL
M - TAPER CONE			
SM-1L6	1/4 x 1/2	B71233L	B71233DL
SM-3L6	1/4 x 1	B71235L	—
SM-5L6	1/2 x 7/8	B71237L	B71237DL

1 per pack

Features:
- Long shank burrs are suitable for all hard to reach work.
- Smaller diameter heads are ideal for small components.
- Large diameter heads are suitable for deep applications, such as engine block work.

When working with long shank burrs, the burr must be in contact with the workpiece *(or inserted in the bore or slot to be machined)* before the machine is turned on. As a rule, the tool must remain in contact with the workpiece for as long as the machine is running. Failure to observe this procedure may result in shank failure and hence, an increased accident risk.

Longer shanks up to 10" are available.

Single Cut

MADE IN U. S. A.

Features:
- Ideal for delicate work such as engraving.
- Suitable for use in pencil grinders.
- Use for deburring, sculpting and removing material in small areas.

SA SB SC SD SE SF SG SM SN

1/4" HEAD 1/8" SHANK

SHAPE	HEAD SIZE DIA. x LENGTH	STOCK #
SA-51	1/4 x 1/2	B71203
SB-51	1/4 x 3/16	B71219
SC-51	1/4 x 1/2	B71223
SD-51	1/4 x 7/32	B71240
SE-51	1/4 x 3/8	B71269

1 per pack

SHAPE	HEAD SIZE DIA. x LENGTH	STOCK #
SF-51	1/4 x 1/2	B71250
SG-51	1/4 x 1/2	B71260
SM-51	1/4 x 1/2	B71239
SN-51	1/4 x 1/4	B71445

1 per pack

SA SB SC SD SE SF SG SH SJ SK SL SM SN

1/8" HEAD 1/8" SHANK

SHAPE	HEAD SIZE DIA. x LENGTH	STOCK #
SA-41	1/16 x 1/4	B71306
SA-42	3/32 x 7/16	B71206
SA-43	1/8 x 9/16	B71213
SB-41	1/16 x 1/4	B71232
SB-43	1/8 x 9/16	B71232B
SC-41	3/32 x 7/16	B71226
SC-42	1/8 x 9/16	B71254
SD-41	3/32 x 3/32	B71239B
SD-42	1/8 x 1/8	B71240A
SE-41	1/8 x 7/32	B71270
SF-41	1/8 x 1/4	B71251
SF-42	1/8 x 1/2	B71251B
SG-41	1/8 x 1/4	B71264

1 per pack

SHAPE	HEAD SIZE DIA. x LENGTH	STOCK #
SG-42	1/8 x 5/16	B71264B
SG-43	1/8 x 3/8	B71264C
SG-44	1/8 x 1/2	B71264E
SH-41	1/8 x 1/4	B71271A
SJ-42	1/8 x 3/32	B71401
SK-42	1/8 x 1/16	B71405
SL-41	1/8 x 3/8	B71410
SL-42	1/8 x 1/2	B71415
SM-41	1/8 x 11/32	B71420
SM-42	1/8 x 7/16	B71425
SM-43	1/8 x 5/8	B71430
SN-41	3/32 x 1/8	B71435
SN-42	1/8 x 3/16	B71440

1 per pack

	SET DESCRIPTION	STOCK #
8 Pc. Set	**1/4" Head 1/8" Shank** Contains one each: SA-51, SB-51, SC-51, SD-51, SE-51, SF-51, SG-51, SM-51	B71288
10 Pc. Set	**1/8" Head 1/8" Shank** Contains one each: SA-42, SA-43, SB-41, SC-41, SC-42, SD-42, SE-41, SF-41, SG-41, SH-41	B71289A

Burrs available TiN coated. Details on request.

For Non-Ferrous Metals

Features:
- Suitable for deburring softer non-ferrous metals and non-metallic materials.
- Coarse cut for use on soft, stringy materials such as aluminum, magnesium, plastics, hard rubber, hard woods, etc.
- Wide clearance and end mill type geometry of the flutes promotes fast stock removal with minimum loading.

1/4" Shank
Right Hand Cut

SA/NF

CYLINDRICAL

SHAPE	HEAD SIZE DIA. x LENGTH	STOCK #
SA-1NF	1/4 x 5/8	B71202A
SA-3NF	3/8 x 3/4	B71205A
SA-5NF	1/2 x 1	B71208A
SA-6NF	5/8 x 1	B71209A
SA-7NF	3/4 x 1	B71210A
***SA-7NFR**	3/4 x 1	B71210BA

1 per pack *3/8" shank

SC/NF

CYLINDRICAL RADIUS END

SHAPE	HEAD SIZE DIA. x LENGTH	STOCK #
SC-1NF	1/4 x 5/8	B71222A
SC-3NF	3/8 x 3/4	B71225A
SC-5NF	1/2 x 1	B71228A
SC-6NF	5/8 x 1	B71229A
SC-7NF	3/4 x 1	B71230A
***SC-7NFR**	3/4 x 1	B71230BA

1 per pack *3/8" shank

SE/NF

OVAL

SHAPE	HEAD SIZE DIA. x LENGTH	STOCK #
SE-1NF	1/4 x 3/8	B71214A
SE-3NF	3/8 x 5/8	B71215A
SE-5NF	1/2 x 7/8	B71216A
SE-6NF	5/8 x 1	B71217A
SE-7NF	3/4 x 1	B71218A

1 per pack

SD/NF

BALL

SHAPE	HEAD SIZE DIAMETER	STOCK #
SD-1NF	1/4	B71242A
SD-3NF	3/8	B71244A
SD-5NF	1/2	B71246A
SD-6NF	5/8	B71247A
SD-7NF	3/4	B71248A
***SD-7NFR**	3/4	B71248BA

1 per pack *3/8" shank

SF/NF

TREE – RADIUS END

SHAPE	HEAD SIZE DIA. x LENGTH	STOCK #
SF-1NF	1/4 x 5/8	B71252A
SF-3NF	3/8 x 3/4	B71253A
SF-5NF	1/2 x 1	B71255A
SF-6NF	5/8 x 1	B71256A
SF-7NF	3/4 x 1	B71257A
***SF-7NFR**	3/4 x 1	B71258BA
SF-14NF	3/4 x 1	B71258A

1 per pack *3/8" shank

SL/NF

14° TAPER CONE RADIUS END

SHAPE	HEAD SIZE DIA. x LENGTH	STOCK #
SL-1NF	1/4 x 5/8	B71281A
SL-3NF	3/8 x 1-1/16	B71283A
SL-4NF	1/2 x 1-1/8	B71284A
SL-5NF	5/8 x 1-3/16	B71287AA
SL-6NF	5/8 x 1-5/16	B71285A

1 per pack

5 PC. ALUMACUT BURR SET

DESCRIPTION	STOCK #
Contains one each: **SA-3NF** **SA-5NF** **SD-5NF** **SE-5NF** **SF-3NF**	B71290A

Huot 42 PC. CARBIDE BURR DISPENSER

(Three Drawer Cabinet)

MADE IN U. S. A.

Features:

- **Contains 21 of the most popular burr styles.**
- All steel welded construction with heavy gauge steel drawers with vinyl dividers.
- Organized dispenser makes burrs readily accessible.
- Dimensions: 14-5/8" W x 7-3/8" D x 7-3/4" H.
- Baked epoxy finish for long life.

Stock # BD42

TYPE	QTY.	STOCK #
SA-1 CYLINDRICAL	2	B71202D
SA-3 CYLINDRICAL	2	B71205D
SA-5 CYLINDRICAL	2	B71208D
SC-1 CYLINDRICAL RADIUS END	2	B71222D
SC-3 CYLINDRICAL RADIUS END	2	B71225D
SC-5 CYLINDRICAL RADIUS END	2	B71228D
SD-1 BALL	2	B71242D
SD-3 BALL	2	B71244D
SD-5 BALL	2	B71246D
SE-1 OVAL	2	B71214D
SE-3 OVAL	2	B71215D
SE-5 OVAL	2	B71216D

TYPE	QTY.	STOCK #
SF-1 TREE RADIUS END	2	B71252D
SF-3 TREE RADIUS END	2	B71253D
SF-5 TREE RADIUS END	2	B71255D
SG-1 TREE POINTED END	2	B71261D
SG-5 TREE POINTED END	2	B71265D
SL-1 14° TAPER/CONE RADIUS END	2	B71281D
SL-4 14° TAPER/CONE RADIUS END	2	B71284D
SM-4 TAPER/CONE FLAT END	2	B71236D
SM-5 TAPER/CONE FLAT END	2	B71237D

Note: All burrs in standard dispenser are double cut.

BURR DISPENSER

Available without tools.

Stock # DIH13200

Micrograin Carbide Fiberglass Routers

MADE IN U. S. A.

Straight Shank Diamond Cut

NO END CUT

BURR END

END MILL END

DRILL END

Features:

- Suitable for cutting fiberglass, epoxies and similiar composite materials.

STYLE	TOOL DIA.	LENGTH OF CUT	SHANK DIA.	OAL	STOCK #			
					NO END CUT	BURR END	END MILL END	DRILL END
FGR-1	1/16	3/16	1/8	1-1/2	B71701A	B71701B	B71701C	B71701D
FGR-1.1	3/32	3/8	1/8	1-1/2	B71703A	B71703B	B71703C	B71703D
FGR-2	1/8	1/2	1/8	1-1/2	B71705A	B71705B	B71705C	B71705D
FGR-3	3/16	5/8	3/16	2	B71707A	B71707B	B71707C	B71707D
FGR-4	3/16	5/8	1/4	2	B71709A	B71709B	B71709C	B71709D
FGR-5	1/4	3/4	1/4	2	B71711A	B71711B	B71711C	B71711D
FGR-6	1/4	3/4	1/4	2-1/2	B71713A	B71713B	B71713C	B71713D
FGR-6.2	1/4	1	1/4	3	B71715A	B71715B	B71715C	B71715D
FGR-7	5/16	1	5/16	2-1/2	B71717A	B71717B	B71717C	B71717D
FGR-8	3/8	1	3/8	2-1/2	B71719A	B71719B	B71719C	B71719D
FGR-9	1/2	1	1/2	3	B71721A	B71721B	B71721C	B71721D

1 per pack

High-Speed Steel

MADE IN U. S. A.

1/4" Shank Right Hand Cut

Features:

- Recommended for use on non-ferrous and other soft materials.

SHAPE	HEAD SIZE DIA. x LENGTH IN.	STOCK #
A - CYLINDRICAL		
A-100	1/8 x 1/2	BH74201
A-106	1/4 x 1	BH74202
A-107	1/4 x 1-1/2	BH74203
A-109	3/8 x 1	BH74204
A-110	3/8 x 1-1/2	BH74205
A-111	1/2 x 1	BH74206
A-112	1/2 x 1-1/2	BH74207
A-114	5/8 x 1	BH74208
A-116	3/4 x 3/4	BH74209
A-118	1 x 1	BH74210
B - BALL SHAPE		
B-600	1/8 x 1/8	BH74215
B-602	1/4 x 1/4	BH74216
B-603	5/16 x 5/16	BH74217
B-604	3/8 x 3/8	BH74218
B-606	1/2 x 1/2	BH74219
B-609	3/4 x 3/4	BH74220
R - TREE-RADIUS NOSE		
R-503	1/4 x 3/4	BH74221
R-507	1/2 x 1-1/8	BH74222
R-509	3/4 x 1-1/4	BH74223
R-511	1-1/8 x 1-3/4	BH74224
T - TREE POINTED		
T-521	1/4 x 3/4	BH74226
T-523	3/8 x 3/4	BH74227
T-525	1/2 x 3/4	BH74228
T-527	1/2 x 1-1/8	BH74229
T-529	5/8 x 1	BH74230
I - INVERTED CONE		
I-471	1/2 x 1/2	BH74235
I-472	3/4 x 1/2	BH74236
D - DEBURRING		
D-404	1/2 x 60° ANGLE	BH74238
D-406	5/8 x 60° ANGLE	BH74239

1 per pack

SHAPE	HEAD SIZE DIA. x LENGTH IN.	STOCK #
AE - CYLINDRICAL END CUT		
AE-100	1/8 x 1/2	BH74240
AE-106	1/4 x 1	BH74241
AE-107	1/4 x 1-1/2	BH74242
AE-109	3/8 x 1	BH74243
AE-110	3/8 x 1-1/2	BH74244
AE-111	1/2 x 1	BH74245
AE-112	1/2 x 1-1/2	BH74246
AE-114	5/8 x 1	BH74247
AE-116	3/4 x 3/4	BH74248
AE-118	1 x 1	BH74249
C - CYLINDRICAL ROUND		
C-700	1/8 x 1/2	BH74251
C-710	1/4 x 1	BH74252
C-714	3/8 x 1	BH74254
C-716	3/8 x 1-1/2	BH74255
C-718	1/2 x 1	BH74256
C-722	5/8 x 1	BH74257
Q - OLIVE SHAPED		
Q-901	3/16 x 5/16	BH74261
Q-903	1/4 x 7/16	BH74262
Q-905	3/8 x 5/8	BH74263
Q-909	1/2 x 7/8	BH74264
Q-911	5/8 x 1	BH74265
Q-913	3/4 x 1	BH74266
Q-915	1 x 1-3/8	BH74267
H - CONE SHAPE		
H-223	1/4 x 1/2	BH74270
H-226	1/4 x 3/4	BH74271
H-229	1/4 x 1	BH74272
H-232	1/4 x 1-1/4	BH74273
H-235	5/16 x 1	BH74274
H-238	3/8 x 5/8	BH74275
H-241	1/2 x 7/8	BH74276
H-244	5/8 x 1	BH74277
H-245	1 x 1-3/8	BH74278

1 per pack

7 PC. SUPER HSS BURR SET

DESCRIPTION	STOCK #
Contains one each: A-116 B-606 C-722 Q-915 T-529 H-244 R-507	BH7

ISRAEL

ZIP / BURR™ SYSTEM

Zip / Burr™ "B" Set for "B" Series Blades

- Takes all "B" series blades.
- Includes one B-10 blade and one B-20 blade.
- Handle has storage compartment for spare blades.
- Holder telescopes from 1/2" to 5".
- Blade can be inserted at 90° for deburring cross holes.
- Handle has lifetime guarantee.

Complete Zip / Burr "B" Set	1 Per Pack	DT22600

Zip / Burr™ Heavy Duty "E" Set for "E" Series Blades

- Same features as "B" set but takes all heavy duty "E" series blades.
- Blade can't be inserted at 90°.
- Includes one E-100 blade, one E-200 blade and one E-300 blade.

Complete Zip / Burr "E" Set	1 Per Pack	DT22620

MULTI / BURR DEBURRING TOOLS

Multi / Burr-5

- Blades can be stored in lightweight plastic handle.
- Blades easily changed by depressing locking button.
- Comes with **five** blades—one each of E-100, E-200, E-350 E-101 and E-102.
- Handle has lifetime guarantee.

Plastic handle complete w/ 5 blades	1 Per Pack	DT22022

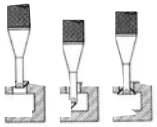
SLIM-GRIP DEBURRING TOOLS

Slim-Grip Disposable Burr

- Handles almost every deburring job.
- Useable for removing burrs from steel and aluminum.
- Consists of Heavy Duty E-100 blade, handle, and handy pocket clip.

Slim-Grip Disposable Burr	Box of 10	DT22050

REVERSIBLE COUNTERSINK



- Large reversible countersink includes one R-2 blade and has a range of 13/64" - 11/32".

Complete Standard Reversible Countersink	1 Per Pack	DT22465
R-2 Standard Blade Only	1 Per Pack	DT22139

BLADES FOR DEBURRING TOOL

STANDARD DUTY "B" SERIES		
	BLADES PER PKG.	**STOCK #**
 **B-10**	10 HSS for steel & aluminum.	DT22110
 **B-10A**	10 HSS for steel, aluminum and plastic.	DT22109
 **B-20**	10 HSS for brass & cast iron; can rotate clockwise and counterclockwise.	DT22120
 **B-30**	10 HSS; removes internal & external burrs simultaneously from holes drilled into tubing & sheet metal.	DT22130
 **B-60**	10 HSS; for internal deburring, especially for inaccessible locations.	DT22135
HEAVY DUTY "E" SERIES		
 **E-100**	10 Heavy Duty HSS for steel & aluminum.	DT22025
 **E-100A**	10 Heavy Duty M42 steel. Good for plastic & hard materials.	DT22034
 **E-1500**	10 Heavy Duty HSS for holes as small as 1/16" dia. in steel and aluminum.	DT22046
 **E-200**	10 Heavy Duty HSS for brass and cast iron.	DT22030
 **E-300**	10 Heavy Duty HSS; removes internal and external burrs simultaneously from holes drilled into tubing & sheet metal.	DT22040

10 Blades per pack

The End Mill is the most-used tool in the tool crib arsenal in any machine shop. It is used for ***milling, profiling, contouring, slotting, counterboring, drilling*** and ***reaming.***

END MILL TYPES

- Finishing end mills
- Square end mills
- Ball end mills
- Taper body mills
- Roughing end mills (Coarse tooth & fine tooth)

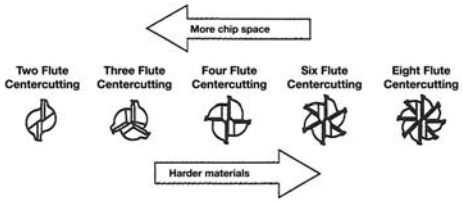
END MILL MATERIALS

- High-speed steel (HSS)
- Cobalt-M42 (8% cobalt HSS)
- Powder metal (PM) cobalt
- Solid carbide (micrograin)
- Carbide tipped

Standard Helix Angle is 30°	
Mill dia. Tolerance +0.000 -0.002	
Max. Operating Temperature	
Uncoated	750°F
TiN	1110°F
TiAlN	1450°F

END MILL SELECTION SUMMARY

- Select the ***shortest*** possible end mill for the greatest rigidity.
- Select two or three flutes for slotting or heavy stock removal.
- Select multiple flutes for finishing and greater rigidity.
- Use the largest diameter possible for added strength and rigidity.
- Apply ***coatings*** for higher feeds, speeds and tool life.
- Use cobalt, PM/Plus and carbide for ***tougher*** and ***harder*** materials, and for high production applications.



FLUTE TYPE

- **Two Flute:** The two-flute end mill has the greatest amount of flute space allowing for ***more chip carrying capacity.*** Used primarily in slotting and pocketing of non-ferrous materials where chip removal is a concern.
- **Three Flute:** While this tool has the same flute space as two flutes, it has a larger cross-sectional area providing for ***greater strength*** and the ability to pocket and slot both ferrous and non-ferrous materials.
- **Four/Multiple Flute:** Ideal for peripheral and finish milling. The additional flutes allow ***faster feed rates,*** but due to the reduced flute space, chip removal may be a problem. Produces a much ***finer finish*** than two and three flute tools.

MILLING FORMULAE

RPM = SFM x 3.82/tool diameter
IPM = RPM x number of flutes x chip load
Chip load = IPM/RPM x number of flutes
SFM = .262 x tool diameter x RPM

- **Revolutions per minute (RPM):** Number of revolutions the cutter has in one minute.
- **Inches per minute (IPM):** Number of inches the cutter passes through the workpiece in one minute.
- **Chip load:** Amount each flute cuts during a single revolution of the cutting tool.
- **Surface feet per minute (SFM):** Number of feet a given point on the circumference of the cutter travels per minute. This is the measure of cutting speed of the end mill used in the United States.

SURFACE TREATMENT AND COATINGS

Description	Characteristics	Application
TiN	• Titanium Nitride: Gold color, General Purpose coating. • Consists of a very hard coating on surface of tool. • Provides excellent wear resistance with good lubricity. • Reduces friction and prevents galling.	• Recommended for ferrous and non-metallic materials.
TiCN	• Titanium Carbonitride: Blue-Grey color, abrasion resistant coating. • Consists of an extremely hard coating on surface of tool. • Provides excellent wear resistance.	• Recommended for Silicon Aluminum, brass and bronze applications, cast iron and alloy steels. • Very effective at higher speeds.
AlTiN	• Aluminum Titanium Nitride: Blue-Black color, multi-layered high heat-resistant coating. • Provides excellent wear resistance. • Forms an aluminum oxide layer at high speeds and elevated temperatures.	• Recommended for semi and dry milling applications in high temperature alloys and hardened steel materials. • Very effective at higher speeds and in some tapping applications.

30° Right Hand Helix Right Hand Cut

MADE IN U. S. A.

Features:
- Micrograin solid carbide end mills provide outstanding performance and allow optimum cutting speeds and feeds, high rigidity and minimum tool deflection.
- Designed for aggressive milling of most materials.

Two Flute, Single End, Center Cutting

Square End

Regular Length

MILL DIA.	SHANK DIA.	FLUTE LENGTH	OAL	STOCK # UNCOATED	STOCK # AlTiN COATED
1/32	1/8	3/32	1-1/2	SC61300	SC61300AL
3/64	1/8	1/8	1-1/2	SC61300A	SC61300AAL
1/16	1/8	1/4	1-1/2	SC61301	SC61301AL
5/64	1/8	1/4	1-1/2	SC61302	SC61302AL
3/32	1/8	3/8	1-1/2	SC61303	SC61303AL
7/64	1/8	3/8	1-1/2	SC61304	SC61304AL
1/8	1/8	1/2	1-1/2	SC61305	SC61305AL
9/64	3/16	9/16	2	SC61306	SC61306AL
5/32	3/16	9/16	2	SC61307	SC61307AL
11/64	3/16	9/16	2	SC61308	SC61308AL
3/16	3/16	5/8	2	SC61309	SC61309AL
13/64	1/4	5/8	2-1/2	SC61310	SC61310AL
7/32	1/4	5/8	2-1/2	SC61311	SC61311AL
15/64	1/4	3/4	2-1/2	SC61312	SC61312AL
1/4	1/4	3/4	2-1/2	SC61313	SC61313AL
17/64	5/16	7/8	2-1/2	SC61314	SC61314AL
9/32	5/16	7/8	2-1/2	SC61315	SC61315AL
19/64	5/16	7/8	2-1/2	SC61316	SC61316AL
5/16	5/16	7/8	2-1/2	SC61317	SC61317AL

MILL DIA.	SHANK DIA.	FLUTE LENGTH	OAL	STOCK # UNCOATED	STOCK # AlTiN COATED
21/64	3/8	7/8	2-1/2	SC61318	SC61318AL
11/32	3/8	7/8	2-1/2	SC61319	SC61319AL
23/64	3/8	7/8	2-1/2	SC61320	SC61320AL
3/8	3/8	7/8	2-1/2	SC61321	SC61321AL
25/64	7/16	7/8	2-1/2	SC61322	SC61322AL
13/32	7/16	7/8	2-1/2	SC61323	SC61323AL
27/64	7/16	7/8	2-1/2	SC61324	SC61324AL
7/16	7/16	1	2-1/2	SC61325	SC61325AL
29/64	1/2	1	3	SC61326	SC61326AL
15/32	1/2	1	3	SC61327	SC61327AL
31/64	1/2	1	3	SC61328	SC61328AL
1/2	1/2	1	3	SC61329	SC61329AL
9/16	9/16	1-1/4	3-1/2	SC61330	SC61330AL
5/8	5/8	1-1/4	3-1/2	SC61331	SC61331AL
11/16	3/4	1-1/2	4	SC61332	SC61332AL
3/4	3/4	1-1/2	4	SC61333	SC61333AL
7/8	7/8	1-1/2	4	SC61334	SC61334AL
1	1	1-1/2	4	SC61335	SC61335AL

1 per tube

30° Right Hand Helix Right Hand Cut

Two Flute, Single End, Center Cutting

Square End

X-Long Length

MILL DIA.	SHANK DIA.	FLUTE LENGTH	OAL	STOCK # UNCOATED	STOCK # AlTiN COATED
1/8	1/8	3/4	2	SCL61351	SCL61351AL
3/16	3/16	1-1/8	3	SCL61353	SCL61353AL
1/4	1/4	1-1/2	4	SCL61355	SCL61355AL
5/16	5/16	1-5/8	4	SCL61357	SCL61357AL
3/8	3/8	2	4	SCL61359	SCL61359AL
7/16	7/16	2	4	SCL61361	SCL61361AL
1/2	1/2	3	6	SCL61364	SCL61364AL
5/8	5/8	3	6	SCL61366	SCL61366AL
3/4	3/4	3	6	SCL61368	SCL61368AL
1	1	3	6	SCL61370	SCL61370AL

1 per tube

30° Right Hand Helix Right Hand Cut

Two Flute, Single End, Center Cutting

Square End

Stub Length

MILL DIA.	SHANK DIA.	FLUTE LENGTH	OAL	STOCK # UNCOATED	STOCK # AlTiN COATED
1/16	1/8	1/8	1-1/2	SCS61341	SCS61341AL
3/32	1/8	3/16	1-1/2	SCS61342	SCS61342AL
1/8	1/8	1/4	1-1/2	SCS61343	SCS61343AL
5/32	3/16	5/16	2	SCS61344	SCS61344AL
3/16	3/16	3/8	2	SCS61345	SCS61345AL
7/32	1/4	7/16	2	SCS61346	SCS61346AL
1/4	1/4	1/2	2	SCS61347	SCS61347AL
5/16	5/16	1/2	2	SCS61348	SCS61348AL
3/8	3/8	5/8	2	SCS61349	SCS61349AL
7/16	7/16	5/8	3	SCS61350	SCS61350AL
1/2	1/2	5/8	2-1/2	SCS61351	SCS61351AL
5/8	5/8	3/4	3	SCS61352	SCS61352AL
3/4	3/4	1	3	SCS61353	SCS61353AL

1 per tube

30° Right Hand Helix, Right Hand Cut

MADE IN U. S. A.

Features:
- Micrograin solid carbide end mills provide outstanding performance and allow optimum cutting speeds and feeds, high rigidity and minimum tool deflection.
- Designed for aggressive milling of most materials.

Two Flute, Single End, Metric with Metric Shanks

Square End

TOLERANCE +.000/-.002

Regular Length

MILL DIA. MM	SHANK DIA. MM	FLUTE LENGTH	OAL MM	STOCK # UNCOATED	STOCK # AlTiN COATED
2.00	3.00	6	38	SCM91302	SCM91302AL
2.50	3.00	7	38	SCM91304	SCM91304AL
3.00	3.00	12	38	SCM91306	SCM91306AL
3.50	4.00	12	50	SCM91308	SCM91308AL
4.00	4.00	14	50	SCM91310	SCM91310AL
4.50	5.00	14	50	SCM91312	SCM91312AL
5.00	5.00	16	50	SCM91314	SCM91314AL
6.00	6.00	19	63	SCM91316	SCM91316AL
7.00	8.00	19	63	SCM91318	SCM91318AL
8.00	8.00	19	63	SCM91320	SCM91320AL

MILL DIA. MM	SHANK DIA. MM	FLUTE LENGTH	OAL MM	STOCK # UNCOATED	STOCK # AlTiN COATED
9.00	10.00	22	70	SCM91322	SCM91322AL
10.00	10.00	22	70	SCM91324	SCM91324AL
11.00	11.00	25	70	SCM91325	SCM91325AL
12.00	12.00	25	75	SCM91326	SCM91326AL
14.00	14.00	30	88	SCM91327	SCM91327AL
16.00	16.00	32	88	SCM91328	SCM91328AL
18.00	18.00	36	100	SCM91329	SCM91329AL
20.00	20.00	38	100	SCM91330	SCM91330AL
22.00	22.00	38	100	SCM91331	SCM91331AL

1 per tube

30° Right Hand Helix Right Hand Cut

Features:
- Micrograin solid carbide end mills provide outstanding performance and allows optimum cutting speeds and feeds, high rigidity and minimum tool deflection.
- Ball nose geometry for inside corner radius and CNC contouring.

Two Flute, Single End, Ball Nose, Center Cutting

Ball End

Regular Length

MILL DIA.	SHANK DIA.	FLUTE LENGTH	OAL	STOCK # UNCOATED	STOCK # AlTiN COATED
1/32	1/8	3/32	1-1/2	SCB61365	SCB61365AL
3/64	1/8	1/8	1-1/2	SCB61366	SCB61366AL
1/16	1/8	1/4	1-1/2	SCB61367	SCB61367AL
5/64	1/8	1/4	1-1/2	SCB61368	SCB61368AL
3/32	1/8	3/8	1-1/2	SCB61369	SCB61369AL
7/64	1/8	3/8	1-1/2	SCB61370	SCB61370AL
1/8	1/8	1/2	1-1/2	SCB61371	SCB61371AL
5/32	3/16	9/16	2	SCB61372	SCB61372AL
3/16	3/16	5/8	2	SCB61373	SCB61373AL
7/32	1/4	5/8	2-1/2	SCB61374	SCB61374AL
1/4	1/4	3/4	2-1/2	SCB61375	SCB61375AL

MILL DIA.	SHANK DIA.	FLUTE LENGTH	OAL	STOCK # UNCOATED	STOCK # AlTiN COATED
9/32	5/16	7/8	2-1/2	SCB61376	SCB61376AL
5/16	5/16	7/8	2-1/2	SCB61377	SCB61377AL
3/8	3/8	7/8	2-1/2	SCB61378	SCB61378AL
7/16	7/16	1	2-1/2	SCB61379	SCB61379AL
1/2	1/2	1	3	SCB61380	SCB61380AL
9/16	9/16	1-1/4	3-1/2	SCB61381	SCB61381AL
5/8	5/8	1-1/4	3-1/2	SCB61382	SCB61382AL
3/4	3/4	1-1/2	4	SCB61383	SCB61383AL
7/8	7/8	1-1/2	4	SCB61384	SCB61384AL
1	1	1-1/2	4	SCB61385	SCB61385AL

1 per tube

30° Right Hand Helix Right Hand Cut

Features:
- Micrograin solid carbide end mills provide outstanding performance and allows optimum cutting speeds and feeds, high rigidity and minimum tool deflection.
- Designed for aggressive milling of most materials.

MADE IN U. S. A.

Two Flute, Double End, Center Cutting

Square End

Regular Length

MILL DIA.	SHANK DIA.	FLUTE LENGTH	OAL	STOCK #	
				UNCOATED	AlTiN COATED
1/32	1/8	3/32	2	DEC66801	DEC66801AL
3/64	1/8	1/8	2	DEC66802	DEC66802AL
1/16	1/8	3/16	2	DEC66803	DEC66803AL
3/32	1/8	1/4	2	DEC66804	DEC66804AL
1/8	1/8	3/8	2	DEC66805	DEC66805AL
5/32	3/16	7/16	2-1/2	DEC66807	DEC66807AL
3/16	3/16	1/2	2-1/2	DEC66809	DEC66809AL
7/32	1/4	9/16	2-1/2	DEC66811	DEC66811AL
1/4	1/4	5/8	2-1/2	DEC66813	DEC66813AL
5/16	5/16	3/4	3-1/2	DEC66815	DEC66815AL
3/8	3/8	3/4	3-1/2	DEC66817	DEC66817AL
7/16	7/16	7/8	4	DEC66819	DEC66819AL
1/2	1/2	1	4	DEC66821	DEC66821AL

1 per tube

Two Flute, Double End, Center Cutting

Square End

Stub Length

MILL DIA.	SHANK DIA.	FLUTE LENGTH	OAL	STOCK #	
				UNCOATED	AlTiN COATED
1/32	1/8	1/16	1-1/2	DEC66830	DEC66830AL
3/64	1/8	3/32	1-1/2	DEC66831	DEC66831AL
1/16	1/8	1/8	1-1/2	DEC66832	DEC66832AL
3/32	1/8	3/16	1-1/2	DEC66833	DEC66833AL
1/8	1/8	1/4	1-1/2	DEC66839	DEC66839AL
5/32	3/16	5/16	2	DEC66841	DEC66841AL
3/16	3/16	3/8	2	DEC66843	DEC66843AL
7/32	1/4	1/2	2-1/2	DEC66845	DEC66845AL
1/4	1/4	1/2	2-1/2	DEC66847	DEC66847AL
5/16	5/16	1/2	2-1/2	DEC66849	DEC66849AL
3/8	3/8	1/2	2-1/2	DEC66851	DEC66851AL
7/16	7/16	1/2	2-1/2	DEC66853	DEC66853AL
1/2	1/2	5/8	3	DEC66855	DEC66855AL

1 per tube

60° High Helix, Right Hand Cut

Features:
- Increased cutting edge engagement reduces vibration and improves surface finish.
- Engineered for plunging, slotting and peripheral milling applications.

Three Flute, Single End, Center Cutting

Regular Length

MILL DIA.	SHANK DIA.	FLUTE LENGTH	OAL	STOCK #	
				UNCOATED	AlTiN COATED
1/4	1/4	3/4	2-1/2	SCH91628	SCH91628AL
5/16	5/16	13/16	2-1/2	SCH91630	SCH91630AL
3/8	3/8	1	2-1/2	SCH91632	SCH91632AL
1/2	1/2	1	3	SCH91636	SCH91636AL
5/8	5/8	1-1/4	3-1/2	SCH91640	SCH91640AL
3/4	3/4	1-1/2	4	SCH91642	SCH91642AL

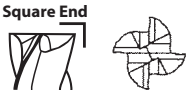
1 per tube

30° Right Hand Helix Right Hand Cut

MADE IN U. S. A.

Features:
- Micrograin solid carbide end mills provide outstanding performance and allows optimum cutting speeds and feeds, high rigidity and minimum tool deflection.
- Designed for aggressive milling of most materials.

Four Flute, Single End, Center Cutting



Regular Length

MILL DIA.	SHANK DIA.	FLUTE LENGTH	OAL	STOCK # UNCOATED	STOCK # AlTiN COATED
1/32	1/8	3/32	1-1/2	SC60600	SC60600AL
3/64	1/8	1/8	1-1/2	SC60600A	SC60600AAL
1/16	1/8	1/4	1-1/2	SC60601	SC60601AL
5/64	1/8	1/4	1-1/2	SC60602	SC60602AL
3/32	1/8	3/8	1-1/2	SC60603	SC60603AL
7/64	1/8	3/8	1-1/2	SC60604	SC60604AL
1/8	1/8	1/2	1-1/2	SC60605	SC60605AL
9/64	3/16	9/16	2	SC60606	SC60606AL
5/32	3/16	9/16	2	SC60607	SC60607AL
11/64	3/16	9/16	2	SC60608	SC60608AL
3/16	3/16	5/8	2	SC60609	SC60609AL
13/64	1/4	5/8	2-1/2	SC60610	SC60610AL
7/32	1/4	5/8	2-1/2	SC60611	SC60611AL
15/64	1/4	3/4	2-1/2	SC60612	SC60612AL
1/4	1/4	3/4	2-1/2	SC60613	SC60613AL
17/64	5/16	7/8	2-1/2	SC60614	SC60614AL
9/32	5/16	7/8	2-1/2	SC60615	SC60615AL
19/64	5/16	7/8	2-1/2	SC60616	SC60616AL
5/16	5/16	7/8	2-1/2	SC60617	SC60617AL

MILL DIA.	SHANK DIA.	FLUTE LENGTH	OAL	STOCK # UNCOATED	STOCK # AlTiN COATED
21/64	3/8	7/8	2-1/2	SC60618	SC60618AL
11/32	3/8	7/8	2-1/2	SC60619	SC60619AL
23/64	3/8	7/8	2-1/2	SC60620	SC60620AL
3/8	3/8	7/8	2-1/2	SC60621	SC60621AL
25/64	7/16	7/8	2-1/2	SC60622	SC60622AL
13/32	7/16	7/8	2-1/2	SC60623	SC60623AL
27/64	7/16	7/8	2-1/2	SC60624	SC60624AL
7/16	7/16	1	2-1/2	SC60625	SC60625AL
29/64	1/2	1	3	SC60626	SC60626AL
15/32	1/2	1	3	SC60627	SC60627AL
31/64	1/2	1	3	SC60628	SC60628AL
1/2	1/2	1	3	SC60629	SC60629AL
9/16	9/16	1-1/4	3-1/2	SC60630	SC60630AL
5/8	5/8	1-1/4	3-1/2	SC60631	SC60631AL
11/16	3/4	1-1/2	4	SC60632	SC60632AL
3/4	3/4	1-1/2	4	SC60633	SC60633AL
7/8	7/8	1-1/2	4	SC60634	SC60634AL
1	1	1-1/2	4	SC60635	SC60635AL

1 per tube

30° Right Hand Helix Right Hand Cut

Four Flute, Single End, Center Cutting

X-Long Length

MILL DIA.	SHANK DIA.	FLUTE LENGTH	OAL	STOCK # UNCOATED	STOCK # AlTiN COATED
1/8	1/8	3/4	2	SCL60651	SCL60651AL
3/16	3/16	1-1/8	3	SCL60653	SCL60653AL
1/4	1/4	1-1/2	4	SCL60655	SCL60655AL
5/16	5/16	1-5/8	4	SCL60657	SCL60657AL
3/8	3/8	2	4	SCL60659	SCL60659AL
7/16	7/16	2	4	SCL60661	SCL60661AL
1/2	1/2	3	6	SCL60664	SCL60664AL
5/8	5/8	3	6	SCL60666	SCL60666AL
3/4	3/4	3	6	SCL60668	SCL60668AL
1	1	3	6	SCL60670	SCL60670AL

1 per tube

30° Right Hand Helix Right Hand Cut

Four Flute, Single End, Center Cutting

Stub Length

MILL DIA.	SHANK DIA.	FLUTE LENGTH	OAL	STOCK # UNCOATED	STOCK # AlTiN COATED
1/16	1/8	1/8	1-1/2	SCS60641	SCS60641AL
3/32	1/8	3/16	1-1/2	SCS60642	SCS60642AL
1/8	1/8	1/4	1-1/2	SCS60643	SCS60643AL
5/32	3/16	5/16	2	SCS60644	SCS60644AL
3/16	3/16	3/8	2	SCS60645	SCS60645AL
7/32	1/4	7/16	2	SCS60646	SCS60646AL
1/4	1/4	1/2	2	SCS60647	SCS60647AL
5/16	5/16	1/2	2	SCS60648	SCS60648AL
3/8	3/8	5/8	2	SCS60649	SCS60649AL
7/16	7/16	5/8	3	SCS60650	SCS60650AL
1/2	1/2	5/8	2-1/2	SCS60651	SCS60651AL
5/8	5/8	3/4	3	SCS60652	SCS60652AL
3/4	3/4	1	3	SCS60653	SCS60653AL

1 per tube

Micrograin Solid Carbide End Mills

30° Right Hand Helix
Right Hand Cut

Four Flute, Single End, Metric with Metric Shanks

TOLERANCE +.000/-.002

Regular Length

MILL DIA. MM	SHANK DIA. MM	FLUTE LENGTH	OAL MM	STOCK #	
				UNCOATED	AlTiN COATED
2.00	3.00	6	38	SCM91602	SCM91602AL
2.50	3.00	7	38	SCM91604	SCM91604AL
3.00	3.00	12	38	SCM91606	SCM91606AL
3.50	4.00	12	50	SCM91608	SCM91608AL
4.00	4.00	14	50	SCM91610	SCM91610AL
4.50	5.00	14	50	SCM91612	SCM91612AL
5.00	5.00	16	50	SCM91614	SCM91614AL
6.00	6.00	19	63	SCM91616	SCM91616AL
7.00	8.00	19	63	SCM91618	SCM91618AL
8.00	8.00	19	63	SCM91620	SCM91620AL
9.00	10.00	22	70	SCM91622	SCM91622AL
10.00	10.00	22	70	SCM91624	SCM91624AL
11.00	11.00	25	70	SCM91625	SCM91625AL
12.00	12.00	25	75	SCM91626	SCM91626AL
14.00	14.00	30	88	SCM91627	SCM91627AL
16.00	16.00	32	88	SCM91628	SCM91628AL
18.00	18.00	36	100	SCM91629	SCM91629AL
20.00	20.00	38	100	SCM91630	SCM91630AL
22.00	22.00	38	100	SCM91631	SCM91631AL

1 per tube

30° Right Hand Helix
Right Hand Cut

MADE IN U. S. A.

Four Flute, Single End, Ball Nose, Center Cutting

Features:

- Micrograin solid carbide end mills provide outstanding performance and allows optimum cutting speeds and feeds, high rigidity and minimum tool deflection.
- Ball nose geometry for inside corner radius and CNC contouring.

Regular Length

MILL DIA.	SHANK DIA.	FLUTE LENGTH	OAL	STOCK #	
				UNCOATED	AlTiN COATED
1/32	1/8	3/32	1-1/2	SCB60665	SCB60665AL
3/64	1/8	1/8	1-1/2	SCB60666	SCB60666AL
1/16	1/8	1/4	1-1/2	SCB60667	SCB60667AL
5/64	1/8	1/4	1-1/2	SCB60668	SCB60668AL
3/32	1/8	3/8	1-1/2	SCB60669	SCB60669AL
7/64	1/8	3/8	1-1/2	SCB60670	SCB60670AL
1/8	1/8	1/2	1-1/2	SCB60671	SCB60671AL
3/16	3/16	5/8	2	SCB60672	SCB60672AL
1/4	1/4	3/4	2-1/2	SCB60673	SCB60673AL
5/16	5/16	7/8	2-1/2	SCB60674	SCB60674AL
3/8	3/8	7/8	2-1/2	SCB60675	SCB60675AL
7/16	7/16	1	2-1/2	SCB60676	SCB60676AL
1/2	1/2	1	3	SCB60677	SCB60677AL
5/8	5/8	1-1/4	3-1/2	SCB60678	SCB60678AL
3/4	3/4	1-1/2	4	SCB60679	SCB60679AL
1	1	1-1/2	4	SCB60680	SCB60680AL

1 per tube

Micrograin Solid Carbide Corner Radius End Mills

Corner Radius
Right Hand Cut

Features:

- Used for generating corner radius on workpiece, eliminating sharp corners.
- Promotes additional strength, longer tool life, resulting in greater productivity.
- Designed for a wide range of ferrous materials, including stainless steels and high temperature alloys.

Four Flute, Single End

Regular Length

MILL DIA.	SHANK DIA.	FLUTE LENGTH	OAL	STOCK #					
				.015 RADIUS		.030 RADIUS		.060 RADIUS	
				UNCOATED	AlTiN COATED	UNCOATED	AlTiN COATED	UNCOATED	AlTiN COATED
1/8	1/8	1/2	1-1/2	CRM71505	CRM71505AL	CRM73005	CRM73005AL	CRM70605	CRM70605AL
3/16	3/16	5/8	2	CRM71509	CRM71509AL	CRM73009	CRM73009AL	CRM70609	CRM70609AL
1/4	1/4	3/4	2-1/2	CRM71513	CRM71513AL	CRM73013	CRM73013AL	CRM70613	CRM70613AL
5/16	5/16	13/16	2-1/2	CRM71517	CRM71517AL	CRM73017	CRM73017AL	CRM70617	CRM70617AL
3/8	3/8	1	2-1/2	CRM71521	CRM71521AL	CRM73021	CRM73021AL	CRM70621	CRM70621AL
1/2	1/2	1	3	CRM71529	CRM71529AL	CRM73029	CRM73029AL	CRM70629	CRM70629AL
5/8	5/8	1-1/4	3-1/2	CRM71531	CRM71531AL	CRM73031	CRM73031AL	CRM70631	CRM70631AL
3/4	3/4	1-1/2	4	CRM71533	CRM71533AL	CRM73033	CRM73033AL	CRM70633	CRM70633AL

1 per tube

Micrograin Solid Carbide End Mills

30° Right Hand Helix, Right Hand Cut

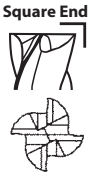
MADE IN U. S. A.

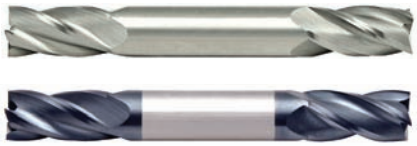
Four Flute, Double End, Center Cutting

Features:

- Micrograin solid carbide end mills provide outstanding performance and allows optimum cutting speeds and feeds, high rigidity and minimum tool deflection.
- Designed for aggressive milling of most materials.

Square End





Regular Length

MILL DIA.	SHANK DIA.	FLUTE LENGTH	OAL	STOCK #	
				UNCOATED	AlTiN COATED
1/32	1/8	3/32	2	DEC66861	DEC66861AL
3/64	1/8	1/8	2	DEC66862	DEC66862AL
1/16	1/8	3/16	2	DEC66863	DEC66863AL
3/32	1/8	1/4	2	DEC66864	DEC66864AL
1/8	1/8	3/8	2	DEC66865	DEC66865AL
5/32	3/16	7/16	2-1/2	DEC66867	DEC66867AL
3/16	3/16	1/2	2-1/2	DEC66869	DEC66869AL
7/32	1/4	9/16	2-1/2	DEC66871	DEC66871AL
1/4	1/4	5/8	2-1/2	DEC66873	DEC66873AL
5/16	5/16	3/4	3-1/2	DEC66875	DEC66875AL
3/8	3/8	3/4	3-1/2	DEC66877	DEC66877AL
7/16	7/16	7/8	4	DEC66879	DEC66879AL
1/2	1/2	1	4	DEC66881	DEC66881AL

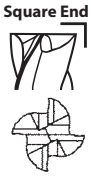
1 per tube

Four Flute, Double End, Center Cutting

Features:

- Micrograin solid carbide end mills provide outstanding performance and allows optimum cutting speeds and feeds, high rigidity and minimum tool deflection.
- Designed for aggressive milling of most materials.

Square End



Stub Length

MILL DIA.	SHANK DIA.	FLUTE LENGTH	OAL	STOCK #	
				UNCOATED	AlTiN COATED
1/32	1/8	1/16	1-1/2	DEC66883	DEC66883AL
3/64	1/8	3/32	1-1/2	DEC66885	DEC66885AL
1/16	1/8	1/8	1-1/2	DEC66887	DEC66887AL
3/32	1/8	3/16	1-1/2	DEC66889	DEC66889AL
1/8	1/8	1/4	1-1/2	DEC66891	DEC66891AL
5/32	3/16	5/16	2	DEC66892	DEC66892AL
3/16	3/16	3/8	2	DEC66893	DEC66893AL
7/32	1/4	1/2	2-1/2	DEC66894	DEC66894AL
1/4	1/4	1/2	2-1/2	DEC66895	DEC66895AL
5/16	5/16	1/2	2-1/2	DEC66896	DEC66896AL
3/8	3/8	1/2	2-1/2	DEC66897	DEC66897AL
7/16	7/16	1/2	2-1/2	DEC66898	DEC66898AL
1/2	1/2	5/8	3	DEC66899	DEC66899AL

1 per tube

Micrograin Solid Carbide High Performance End Mills

Variable Helix Finishing Right Hand Spiral Right Hand Cut

Features:

- Variable indexed flute-to-flute reduces vibrations, allowing increased feeds and speeds.
- Eccentric-radial O.D. relieved for increased tool strength, allowing greater feeds and speeds.
- Standard with AlTiN coating for heavy fast metal removal rates.
- Can be used dry.
- Shank O.D. coolant groove in each flute to maximize cooling & chip evacuation velocity.

Four Flute

Regular Length

MILL DIA.	SHANK DIA.	FLUTE LENGTH	OAL	STOCK #
				AlTiN COATED
1/8	1/8	3/8	1-1/2	HPSC60605AL
3/16	3/16	7/16	2	HPSC60609AL
1/4	1/4	5/8	2-1/2	HPSC60613AL
5/16	5/16	13/16	2-1/2	HPSC60617AL
3/8	3/8	7/8	2-1/2	HPSC60621AL
7/16	7/16	1	2-3/4	HPSC60625AL
1/2	1/2	1	3	HPSC60629AL
5/8	5/8	1-1/4	3-1/2	HPSC60631AL
3/4	3/4	1-1/2	4	HPSC60633AL
1	1	1-1/2	4	HPSC60635AL

1 per tube

Four Flute, Ball Nose

Regular Length

MILL DIA.	SHANK DIA.	FLUTE LENGTH	OAL	STOCK #
				AlTiN COATED
1/8	1/8	3/8	1-1/2	HPSCB60671AL
3/16	3/16	7/16	2	HPSCB60672AL
1/4	1/4	5/8	2-1/2	HPSCB60673AL
5/16	5/16	13/16	2-1/2	HPSCB60674AL
3/8	3/8	7/8	2-1/2	HPSCB60675AL
7/16	7/16	1	2-3/4	HPSCB60676AL
1/2	1/2	1	3	HPSCB60677AL
5/8	5/8	1-1/4	3-1/2	HPSCB60678AL
3/4	3/4	1-1/2	4	HPSCB60679AL
1	1	1-1/2	4	HPSCB60680AL

1 per tube

Micrograin Solid Carbide Roughing End Mills

Right Hand Helix
Right Hand Cut

MADE IN U. S. A.

Features:
- Provides excellent roughing with reduced heat in the cut for hard material.
- Form relieved on high strength carbide for excellent profile milling.
- Suitable for profiling, plunging, and ramping roughing operations in all types of hard material.
- Fine profile.
- Small corner radius for strength.

COARSE PITCH

Four Flute, Coarse Pitch

Regular Length

CUTTER DIA.	SHANK DIA.	LENGTH OF CUT	OAL	STOCK # UNCOATED	STOCK # AlTiN COATED
1/4	1/4	3/4	2-1/2	SCREM50801	SCREM50801AL
5/16	5/16	3/4	2-1/2	SCREM50802	SCREM50802AL
3/8	3/8	1	2-1/2	SCREM50803	SCREM50803AL
7/16	7/16	1	3	SCREM50803A	SCREM50803AAL
1/2	1/2	1-1/4	3	SCREM50804	SCREM50804AL
5/8	5/8	1-1/4	3-1/2	SCREM50806	SCREM50806AL
3/4	3/4	1-1/2	4	SCREM50811	SCREM50811AL
1	1	1-1/2	4	SCREM50818	SCREM50818AL

Long Length

1/4	1/4	1-1/8	3	SCREM50829	SCREM50829AL
3/8	3/8	1-1/4	3	SCREM50830	SCREM50830AL
1/2	1/2	2	4	SCREM50831	SCREM50831AL
5/8	5/8	2-1/4	5	SCREM50832	SCREM50832AL
3/4	3/4	2-1/4	5	SCREM50833	SCREM50833AL
1	1	2-1/4	5	SCREM50841	SCREM50841AL

1 per tube

FINE PITCH

Multi-Flute, Fine Pitch

Regular Length

CUTTER DIA.	SHANK DIA.	LENGTH OF CUT	OAL	NO. OF FLUTES	STOCK # UNCOATED	STOCK # AlTiN COATED
1/4	1/4	3/4	2-1/2	3	SCREM60901	SCREM60901AL
5/16	5/16	3/4	2-1/2	3	SCREM60902	SCREM60902AL
3/8	3/8	7/8	2-1/2	3	SCREM60903	SCREM60903AL
1/2	1/2	1	3	4	SCREM60904	SCREM60904AL
5/8	5/8	1-1/4	3-1/2	4	SCREM60906	SCREM60906AL
3/4	3/4	1-1/2	4	4	SCREM60911	SCREM60911AL
1	1	1-1/2	4	6	SCREM60918	SCREM60918AL

1 per tube

SOLID CARBIDE ROUGHERS – SPEEDS & FEEDS

MATERIAL	HARDNESS HRc	SFM UNCOATED	SFM ALTIN COATED	CHIP LOAD PER TOOTH 1/4" – 1/2"	CHIP LOAD PER TOOTH 1/2" – 1"
LOW AND PLAIN CARBON, ALLOY & TOOL STEELS	< 19	258 - 345	430 - 575	.0015 - .003	.003 - .0045
LOW AND PLAIN CARBON, ALLOY & TOOL STEELS	20 - 30	210 - 258	350 - 430	.0015 - .003	.003 - .0045
LOW AND PLAIN CARBON, ALLOY & TOOL STEELS	31 - 40	126 - 192	210 - 320	.0011 - .0021	.0021 - .0032
AUESTENITIC STAINLESS STEELS, 200 & 300 SERIES 135-275	< 28	150 - 300	250 - 500	.0010 - .0025	.0025 - .0040
FERRITIC, MARTENSITIC 400, 500 & PH STAINLESS STEELS	< 35	135 - 258	225 - 430	.0015 - .0030	.0030 - .0045
TITANIUM ALLOYS	32 - 43	75 - 129	125 - 215	.0009 - .0018	.0018 - .0027
NICKEL-BASED HIGH TEMPERATURE ALLOYS	< 32	39 - 87	65 - 145	.0009 - .0018	.0018 - .0027
NICKEL-BASED HIGH TEMPERATURE ALLOYS	32 - 50	33 - 66	55 - 110	.0009 - .0018	.0018 - .0027
COBALT-BASED HIGH TEMPERATURE ALLOYS	< 45	27 - 45	45 - 75	.0009 - .0018	.0018 - .0027

Weldon Shank
30º Right Hand Helix
Right Hand Cut

MADE IN U. S. A.

Two Flute, Single End, Center Cutting

- Used for general purpose milling operations including profiling, slotting, keyways, pockets and plunge cutting.


Regular Length

MILL DIA.	SHANK DIA.	FLUTE LENGTH	OVERALL LENGTH	STOCK # ALFA USA
1/8	3/8	3/8	2-5/16	SE151301
3/16	3/8	7/16	2-5/16	SE151302
1/4	3/8	1/2	2-5/16	SE151303
5/16	3/8	9/16	2-5/16	SE151304
3/8	3/8	9/16	2-5/16	SE151305
7/16	3/8	13/16	2-1/2	SE151306
1/2	3/8	13/16	2-1/2	SE151307
1/2	1/2	1	3	SE151308
9/16	1/2	1-1/8	3-1/8	SE151309
5/8	1/2	1-1/8	3-1/8	SE151310
5/8	5/8	1-5/16	3-7/16	SE151311
11/16	1/2	1-5/16	3-5/16	SE151312
11/16	5/8	1-5/16	3-7/16	SE151313
3/4	1/2	1-5/16	3-5/16	SE151314
3/4	5/8	1-5/16	3-7/16	SE151315
3/4	3/4	1-5/16	3-9/16	SE151316
13/16	3/4	1-1/2	3-3/4	SE151317
7/8	5/8	1-1/2	3-5/8	SE151318
7/8	3/4	1-1/2	3-3/4	SE151319
7/8	7/8	1-1/2	3-3/4	SE151320
15/16	3/4	1-1/2	3-3/4	SE151321
1	3/4	1-1/2	3-3/4	SE151324
1	1	1-5/8	4-1/8	SE151325
1-1/8	3/4	1-1/2	3-7/8	SE151326
1-1/8	1	1-5/8	4-1/8	SE151327
1-1/4	3/4	1-1/2	3-7/8	SE151328
1-1/4	1	1-5/8	4-1/8	SE151329
1-1/4	1-1/4	1-5/8	4-1/8	SE151330
1-3/8	3/4	1-1/2	3-7/8	SE151331
1-3/8	1	1-5/8	4-1/8	SE151332
1-1/2	3/4	1-1/2	3-7/8	SE151334
1-1/2	1	1-5/8	4-1/8	SE151335
1-1/2	1-1/4	1-5/8	4-1/8	SE151336
1-5/8	1-1/4	1-5/8	4-1/8	SE151338
1-3/4	3/4	1-1/2	3-7/8	SE151339
1-3/4	1-1/4	1-5/8	4-1/8	SE151340
1-7/8	1-1/4	1-5/8	4-1/8	SE151341
2	3/4	1-1/2	3-7/8	SE151342
2	1-1/4	1-5/8	4-1/8	SE151344

1 per tube

All end mills available TiN, TiCN, AlTiN and TiAlN coated. Details on request.

Two Flute, Single End, Center Cutting

- Used for general purpose milling including profiling, slotting, keyways, pockets and plunge cutting.
- Provides an alternative length of cut for deep milling and profiling applications.


Long Length

MILL DIA.	SHANK DIA.	FLUTE LENGTH	OVERALL LENGTH	STOCK # ALFA USA
3/8	3/8	1-1/2	3-1/4	SEL151351
1/2	1/2	2	4	SEL151352
5/8	5/8	2	4-1/8	SEL151353
3/4	3/4	2-1/4	4-1/2	SEL151354
7/8	7/8	2-1/2	4-3/4	SEL151355
1	1	3	5-1/2	SEL151356
1-1/8	1	3	5-1/2	SEL151357
1-1/4	1	3	5-1/2	SEL151358
1-1/4	1-1/4	3	5-1/2	SEL151359
1-3/8	1	3	5-1/2	SEL151360
1-1/2	1-1/4	3	5-1/2	SEL151361
1-5/8	1-1/4	3	5-1/2	SEL151362
1-3/4	1-1/4	3	5-1/2	SEL151363
1-7/8	1-1/4	3	5-1/2	SEL151364
2	1-1/4	3	5-1/2	SEL151365

1 per tube

Two Flute, Single End, Ball Nose, Center Cutting

- Used for all general purpose radius and slot milling, die sinking and profile milling.
- Also designed to plunge cut.


Regular Length

MILL DIA.	SHANK DIA.	FLUTE LENGTH	OVERALL LENGTH	STOCK # ALFA USA
1/8	3/8	3/8	2-5/16	SEB151371
3/16	3/8	1/2	2-3/8	SEB151372
1/4	3/8	5/8	2-7/16	SEB151373
5/16	3/8	3/4	2-1/2	SEB151374
3/8	3/8	3/4	2-1/2	SEB151375
7/16	1/2	1	3	SEB151376
1/2	1/2	1	3	SEB151377
9/16	1/2	1	3-1/16	SEB151378
5/8	1/2	1-3/8	3-3/8	SEB151379
5/8	5/8	1-3/8	3-1/2	SEB151380
3/4	1/2	1-5/8	3-5/8	SEB151381
3/4	3/4	1-5/8	3-7/8	SEB151382
7/8	7/8	2	4-1/4	SEB151383
1	1	2-1/4	4-3/4	SEB151384
1-1/8	1	2-1/4	4-3/4	SEB151385
1-1/4	1-1/4	2-1/2	5	SEB151386
1-1/2	1-1/4	2-1/2	5	SEB151387

1 per tube

Weldon Shank
30° Right Hand Helix
Right Hand Cut

MADE IN U. S. A.

Two Flute, Double End, Center Cutting

- Used for general purpose milling operations including profiling, slotting, keyways, pockets and plunge cutting.


Regular Length

MILL DIA.	SHANK DIA.	FLUTE LENGTH	OVERALL LENGTH	STOCK # ALFA USA
1/8	3/8	3/8	3-1/16	DE150731
5/32	3/8	7/16	3-1/8	DE150732
3/16	3/8	7/16	3-1/8	DE150733
7/32	3/8	1/2	3-1/8	DE150734
1/4	3/8	1/2	3-1/8	DE150735
9/32	3/8	9/16	3-1/8	DE150736
5/16	3/8	9/16	3-1/8	DE150737
11/32	3/8	9/16	3-1/8	DE150738
3/8	3/8	9/16	3-1/8	DE150739
13/32	1/2	13/16	3-3/4	DE150740
7/16	1/2	13/16	3-3/4	DE150741
15/32	1/2	13/16	3-3/4	DE150742
1/2	1/2	13/16	3-3/4	DE150743
9/16	5/8	1-1/8	4-1/2	DE150744
5/8	5/8	1-1/8	4-1/2	DE150745
11/16	3/4	1-5/16	5	DE150746
3/4	3/4	1-5/16	5	DE150747
13/16	7/8	1-9/16	5-1/2	DE150748
7/8	7/8	1-9/16	5-1/2	DE150749
15/16	1	1-5/8	5-7/8	DE150750
1	1	1-5/8	5-7/8	DE150751

1 per tube

Two Flute, Double End, Ball Nose, Center Cutting

- Used for contour or pocket milling where the ball end is required to produce a radius in the work piece.
- Can be used for general purpose milling including slots, keyways, pockets and plunge cutting.


Regular Length

MILL DIA.	SHANK DIA.	FLUTE LENGTH	OVERALL LENGTH	STOCK # ALFA USA
1/8	3/8	3/8	3-1/16	DEB150761
3/16	3/8	7/16	3-1/8	DEB150762
1/4	3/8	1/2	3-1/8	DEB150763
5/16	3/8	9/16	3-1/8	DEB150764
3/8	3/8	9/16	3-1/8	DEB150765
7/16	1/2	13/16	3-3/4	DEB150766
1/2	1/2	13/16	3-3/4	DEB150767
5/8	5/8	1-1/8	4-1/2	DEB150768
3/4	3/4	1-5/16	5	DEB150769
7/8	7/8	1-9/16	5-1/2	DEB150770
1	1	1-5/8	5-7/8	DEB150771

1 per tube

All end mills available TiN, TiCN, AlTiN and TiAlN coated. Details on request.

Weldon Shank
30° Right Hand Helix
Right Hand Cut

MADE IN U. S. A.

Multi-Flute, Single End, Center Cutting

- Used for general purpose milling operations including profiling, slotting, keyways, pockets and plunge cutting.

Regular Length

MILL DIA.	SHANK DIA.	FLUTE LENGTH	NO. FLTS	OVERALL LENGTH	STOCK # ALFA USA
1/8	3/8	3/8	4	2-5/16	SECC151031
3/16	3/8	1/2	4	2-3/8	SECC151032
1/4	3/8	5/8	4	2-7/16	SECC151033
5/16	3/8	3/4	4	2-1/2	SECC151034
3/8	3/8	3/4	4	2-1/2	SECC151035
1/2	1/2	1-1/4	4	3-1/4	SECC151036
5/8	5/8	1-5/8	4	3-3/4	SECC151037
3/4	3/4	1-5/8	4	3-7/8	SECC151038
7/8	7/8	1-7/8	4	4-1/8	SECC151039
1	1	2	4	4-1/2	SECC151040
1-1/8	1	2	4	4-1/2	SECC151042
1-1/4	1-1/4	2	4	4-1/2	SECC151043
1-1/4	1-1/4	2	6	4-1/2	SECC151044
1-1/2	1-1/4	2	4	4-1/2	SECC151047
1-1/2	1-1/4	2	6	4-1/2	SECC151048
1-1/2	1-1/4	3	4	5-1/2	SECC151049
1-3/4	1-1/4	2	6	4-1/2	SECC151051
2	1-1/4	2	6	4-1/2	SECC151052

Long Length

MILL DIA.	SHANK DIA.	FLUTE LENGTH	NO. FLTS	OVERALL LENGTH	STOCK # ALFA USA
1/4	3/8	1-1/4	4	3-1/16	SECCL151033
5/16	3/8	1-3/8	4	3-1/8	SECCL151034
3/8	3/8	1-1/2	4	3-1/4	SECCL151035
1/2	1/2	2	4	4	SECCL151036
5/8	5/8	2-1/2	4	4-5/8	SECCL151037
3/4	3/4	3	4	5-1/4	SECCL151038
7/8	7/8	3-1/2	4	5-3/4	SECCL151039
1	1	4	4	6-1/2	SECCL151041
1-1/4	1-1/4	4	4	6-1/2	SECCL151043
1-1/4	1-1/4	4	6	6-1/2	SECCL151044
1-1/2	1-1/4	4	4	6-1/2	SECCL151045
1-1/2	1-1/4	4	6	6-1/2	SECCL151046
2	1-1/4	4	6	6-1/2	SECCL151054

X-Long Length

1/4	3/8	1-3/4	4	3-9/16	SECCXL151033
5/16	3/8	2	4	3-3/4	SECCXL151034
3/8	3/8	2-1/2	4	4-1/4	SECCXL151035
1/2	1/2	3	4	5	SECCXL151036
5/8	5/8	4	4	6-1/8	SECCXL151037
3/4	3/4	4	4	6-1/4	SECCXL151038
7/8	7/8	5	4	7-1/4	SECCXL151039
1	1	6	4	8-1/2	SECCXL151041
1-1/4	1-1/4"	6	6	8-1/2	SECCXL151044

1 per tube

Multi-Flute, Single End, Ball Nose, Center Cutting

- Used for all general purpose radius and slot milling, die sinking and profile milling. Also designed to plunge cut.

Regular Length

MILL DIA.	SHANK DIA.	FLUTE LENGTH	NO. FLTS	OVERALL LENGTH	STOCK # ALFA USA
1/4	3/8	3/4	4	2-9/16	SEB150730
5/16	3/8	1	4	2-3/4	SEB150730A
3/8	3/8	1	4	2-3/4	SEB150731
1/2	1/2	1-1/2	4	3-1/2	SEB150732
5/8	5/8	1-3/4	4	3-7/8	SEB150733
3/4	3/4	1-1/2	4	3-3/4	SEB150734
1	1	2	4	4-1/2	SEB150735

Long Length

MILL DIA.	SHANK DIA.	FLUTE LENGTH	NO. FLTS	OVERALL LENGTH	STOCK # ALFA USA
1/4	3/8	1-1/4	4	3-1/16	SEBL150730
5/16	3/8	1-1/2	4	3-1/4	SEBL150730A
3/8	3/8	1-1/2	4	3-1/4	SEBL150731
1/2	1/2	2	4	4	SEBL150732
5/8	5/8	2-1/2	4	4-5/8	SEBL150733
3/4	3/4	2-1/4	4	4-1/2	SEBL150734
1	1	3	4	5-1/2	SEBL150735

X-Long Length

1/4	3/8	1-1/2	4	3-5/16	SEBXL150730
3/8	3/8	2-1/2	4	4-5/16	SEBXL150731
1/2	1/2	3	4	5	SEBXL150732
5/8	5/8	3	4	5-1/8	SEBXL150733
3/4	3/4	3-3/4	4	6	SEBXL150734
1	1	4	4	6-1/2	SEBXL150735

1 per tube

All end mills available TiN, TiCN, AlTiN and TiAlN coated. Details on request.

Weldon Shank
30° Right Hand Helix
Right Hand Cut

Multi-Flute, Single End, Non-Center Cutting

- Used for general purpose milling including profile milling and producing open-ended slots or pockets where a plunge feed-in is not required.

Regular Length

MILL DIA.	SHANK DIA.	FLUTE LENGTH	NO. FLTS	OVERALL LENGTH	STOCK # ALFA USA
1/8	3/8	3/8	4	2-5/16	SE150651
3/16	3/8	1/2	4	2-3/8	SE150652
1/4	3/8	5/8	4	2-7/16	SE150653
5/16	3/8	3/4	4	2-1/2	SE150654
3/8	3/8	3/4	4	2-1/2	SE150655
7/16	3/8	1	4	2-11/16	SE150656
1/2	3/8	1	4	2-11/16	SE150657
1/2	1/2	1-1/4	4	3-1/4	SE150658
9/16	1/2	1-3/8	4	3-3/8	SE150659
5/8	1/2	1-3/8	4	3-3/8	SE150660
5/8	5/8	1-5/8	4	3-3/4	SE150661
11/16	1/2	1-5/8	4	3-5/8	SE150662
11/16	5/8	1-5/8	4	3-3/4	SE150663
3/4	1/2	1-5/8	4	3-5/8	SE150664
3/4	5/8	1-5/8	4	3-3/4	SE150665
3/4	3/4	1-5/8	4	3-7/8	SE150666
13/16	3/4	1-7/8	4	4-1/8	SE150667
7/8	5/8	1-7/8	6	4	SE150668
7/8	3/4	1-7/8	4	4-1/8	SE150669
7/8	7/8	1-7/8	4	4-1/8	SE150670
15/16	3/4	1-7/8	4	4-1/8	SE150671
1	5/8	1-7/8	6	4	SE150673
1	3/4	1-7/8	4	4-1/8	SE150674
1	1	2	4	4-1/2	SE150675
1-1/8	3/4	1-1/2	6	3-7/8	SE150676
1-1/8	1	2	6	4-1/2	SE150677
1-1/4	3/4	1-1/2	6	3-7/8	SE150678
1-1/4	1	2	6	4-1/2	SE150679
1-1/4	1-1/4	2	4	4-1/2	SE150680
1-1/4	1-1/4	2	6	4-1/2	SE150681
1-3/8	3/4	1-1/2	6	3-7/8	SE150682
1-3/8	1	2	6	4-1/2	SE150683
1-1/2	3/4	1-1/2	6	3-7/8	SE150684
1-1/2	1	2	6	4-1/2	SE150685
1-1/2	1-1/4	2	4	4-1/2	SE150686
1-1/2	1-1/4	2	6	4-1/2	SE150687
1-5/8	1-1/4	2	6	4-1/2	SE150689
1-3/4	3/4	1-1/2	6	3-7/8	SE150690
1-3/4	1-1/4	2	4	4-1/2	SE150691
1-3/4	1-1/4	2	6	4-1/2	SE150692
1-7/8	1-1/4	2	6	4-1/2	SE150693
2	3/4	1-1/2	8	3-7/8	SE150694
2	1-1/4	2	4	4-1/2	SE150695
2	1-1/4	2	6	4-1/2	SE150696

1 per tube

All end mills available TiN, TiCN, AlTiN and TiAlN coated. Details on request.

MADE IN U. S. A.

Multi-Flute, Single End, Non-Center Cutting

- Provides an alternative length of cut for deep milling and profiling applications.

Long Length

MILL DIA.	SHANK DIA.	FLUTE LENGTH	NO. FLTS	OVERALL LENGTH	STOCK # ALFA USA
1/4	3/8	1-1/4	4	3-1/16	SEL150701
5/16	3/8	1-3/8	4	3-1/8	SEL150702
3/8	3/8	1-1/2	4	3-1/4	SEL150703
7/16	1/2	1-3/4	4	3-3/4	SEL150704
1/2	1/2	2	4	4	SEL150705
5/8	5/8	2-1/2	4	4-5/8	SEL150706
3/4	3/4	3	4	5-1/4	SEL150707
7/8	7/8	3-1/2	4	5-3/4	SEL150708
1	1	4	4	6-1/2	SEL150709
1-1/8	1	4	6	6-1/2	SEL150710
1-1/4	1	4	6	6-1/2	SEL150711
1-1/4	1-1/4	4	4	6-1/2	SEL150712
1-1/4	1-1/4	4	6	6-1/2	SEL150713
1-1/2	1	4	6	6-1/2	SEL150715
1-1/2	1-1/4	4	6	6-1/2	SEL150716
1-3/4	1-1/4	4	6	6-1/2	SEL150717
2	1-1/4	4	6	6-1/2	SEL150718

1 per tube

Multi-Flute, Double End, Non-Center Cutting

Regular Length

MILL DIA.	SHANK DIA.	FLUTE LENGTH	NO. FLTS	OVERALL LENGTH	STOCK # ALFA USA
1/8	3/8	3/8	4	3-1/16	DE151401
5/32	3/8	7/16	4	3-1/8	DE151402
3/16	3/8	1/2	4	3-1/4	DE151403
7/32	3/8	9/16	4	3-1/4	DE151404
1/4	3/8	5/8	4	3-3/8	DE151405
9/32	3/8	11/16	4	3-3/8	DE151406
5/16	3/8	3/4	4	3-1/2	DE151407
11/32	3/8	3/4	4	3-1/2	DE151408
3/8	3/8	3/4	4	3-1/2	DE151409
13/32	1/2	1	4	4-1/8	DE151410
7/16	1/2	1	4	4-1/8	DE151411
15/32	1/2	1	4	4-1/8	DE151412
1/2	1/2	1	4	4-1/8	DE151413
9/16	5/8	1-3/8	4	5	DE151414
5/8	5/8	1-3/8	4	5	DE151415
11/16	3/4	1-5/8	4	5-5/8	DE151416
3/4	3/4	1-5/8	4	5-5/8	DE151417
13/16	7/8	1-7/8	4	6-1/8	DE151418
7/8	7/8	1-7/8	4	6-1/8	DE151419
15/16	1	1-7/8	4	6-3/8	DE151420
1	1	1-7/8	4	6-3/8	DE151421

1 per tube

MADE IN U. S. A.

Right Hand Cut

Two Flute, Double End, Center Cutting

Regular Length

MILL DIA.	SHANK DIA.	FLUTE LENGTH	OVERALL LENGTH	STOCK #
1/32	3/16	3/32	2-1/4	DE50753
1/16	3/16	7/32	2-1/4	DE50754
5/64	3/16	1/4	2-1/4	DE50755
3/32	3/16	5/16	2-1/4	DE50756
7/64	3/16	11/32	2-1/4	DE50757
1/8	3/16	3/8	2-1/4	DE50758
9/64	3/16	13/32	2-1/4	DE50759
5/32	3/16	7/16	2-1/4	DE50760
11/64	3/16	15/32	2-1/4	DE50761
3/16	3/16	1/2	2-1/4	DE50762

1 per pack

Four Flute, Double End, Regular End

Regular Length

MILL DIA.	SHANK DIA.	FLUTE LENGTH	OVERALL LENGTH	STOCK #
1/16	3/16	5/16	2-1/4	DE51423
5/64	3/16	5/16	2-1/4	DE51424
3/32	3/16	5/16	2-1/4	DE51425
7/64	3/16	5/16	2-1/4	DE51426
1/8	3/16	3/8	2-1/4	DE51427
9/64	3/16	3/8	2-1/4	DE51428
5/32	3/16	7/16	2-1/4	DE51429
11/64	3/16	7/16	2-1/4	DE51430
3/16	3/16	1/2	2-1/4	DE51431

1 per pack

Features: • For cutting and finishing in hard-to-reach applications.

Long Length

1/16	3/16	7/32	2-1/2	DE50754L
5/64	3/16	1/4	2-1/2	DE50755L
3/32	3/16	9/32	2-5/8	DE50756L
7/64	3/16	9/32	2-5/8	DE50757L
1/8	3/16	3/4	3-1/8	DE50758L
9/64	3/16	3/4	3-1/8	DE50759L
5/32	3/16	7/8	3-1/4	DE50760L
11/64	3/16	7/8	3-1/4	DE50761L
3/16	3/16	1	3-3/8	DE50762L

1 per pack

Long Length

5/64	3/16	1/4	2-5/8	DE51424L
3/32	3/16	9/32	2-5/8	DE51425L
7/64	3/16	9/32	2-5/8	DE51426L
1/8	3/16	3/4	3-1/8	DE51427L
9/64	3/16	3/4	3-1/8	DE51428L
5/32	3/16	7/8	3-1/4	DE51429L
11/64	3/16	7/8	3-1/4	DE51430L
3/16	3/16	1	3-3/8	DE51431L

1 per pack

Features: • Most cost-effective option for shallow milling.
• Shorter length improves rigidity of tool.

Stub Length

1/32	3/16	3/64	2	DE50753S
1/16	3/16	3/32	2	DE50754S
5/64	3/16	1/8	2	DE50755S
3/32	3/16	9/64	2	DE50756S
7/64	3/16	5/32	2	DE50757S
1/8	3/16	3/16	2	DE50758S
9/64	3/16	7/32	2	DE50759S
5/32	3/16	15/64	2	DE50760S
11/64	3/16	1/4	2	DE50761S
3/16	3/16	9/32	2	DE50762S

1 per pack

Stub Length

1/16	3/16	3/32	2	DE51423S
5/64	3/16	1/8	2	DE51424S
3/32	3/16	9/64	2	DE51425S
7/64	3/16	5/32	2	DE51426S
1/8	3/16	3/16	2	DE51427S
9/64	3/16	7/32	2	DE51428S
5/32	3/16	15/64	2	DE51429S
11/64	3/16	1/4	2	DE51430S
3/16	3/16	9/32	2	DE51431S

1 per pack

Weldon Shank
30° Right Hand Helix
Right Hand Cut

MADE IN U. S. A.

Features:
- Designed for tougher cutting assignments on high-strength, high-temp steels and exotic materials or for extended production runs in conventional and non-conventional milling operations.
- Used for general purpose milling including profiling, slotting, keyways, pockets and plunge cutting.

Two Flute, Single End, Center Cutting

Regular Length

MILL DIA.	SHANK DIA.	FLUTE LENGTH	OVERALL LENGTH	STOCK # ALFA USA
1/8	3/8	3/8	2-5/16	CO51301
3/16	3/8	7/16	2-5/16	CO51302
1/4	3/8	1/2	2-5/16	CO51303
5/16	3/8	9/16	2-5/16	CO51304
3/8	3/8	9/16	2-5/16	CO51305
7/16	3/8	13/16	2-1/2	CO51306
1/2	3/8	13/16	2-1/2	CO51307
1/2	1/2	1	3	CO51308
9/16	1/2	1-1/8	3-1/8	CO51309
5/8	1/2	1-1/8	3-1/8	CO51310
5/8	5/8	1-5/16	3-7/16	CO51311
3/4	1/2	1-5/16	3-5/16	CO51314
3/4	5/8	1-5/16	3-7/16	CO51315
3/4	3/4	1-5/16	3-9/16	CO51316
7/8	5/8	1-1/2	3-5/8	CO51318
7/8	7/8	1-1/2	3-3/4	CO51320
1	5/8	1-1/2	3-5/8	CO51323
1	3/4	1-1/2	3-3/4	CO51324
1	1	1-5/8	4-1/8	CO51325
1-1/4	1-1/4	1-5/8	4-1/8	CO51330
1-1/2	1-1/4	1-5/8	4-1/8	CO51336
2	1-1/4	1-5/8	4-1/8	CO51343

1 per tube

Two Flute, Double End, Center Cutting

Regular Length

MILL DIA.	SHANK DIA.	FLUTE LENGTH	OVERALL LENGTH	STOCK # ALFA USA
1/8	3/8	3/8	3-1/16	CO50731
5/32	3/8	7/16	3-1/8	CO50732
3/16	3/8	7/16	3-1/8	CO50733
7/32	3/8	1/2	3-1/8	CO50734
1/4	3/8	1/2	3-1/8	CO50735
9/32	3/8	9/16	3-1/8	CO50736
5/16	3/8	9/16	3-1/8	CO50737
3/8	3/8	9/16	3-1/8	CO50739
13/32	1/2	13/16	3-3/4	CO50740
7/16	1/2	13/16	3-3/4	CO50741
1/2	1/2	13/16	3-3/4	CO50743
9/16	5/8	1-1/8	4-1/2	CO50744
5/8	5/8	1-1/8	4-1/2	CO50745
3/4	3/4	1-5/16	5	CO50747
7/8	7/8	1-9/16	5-1/2	CO50749
1	1	1-5/8	5-7/8	CO50751

1 per tube

All end mills available TiN, TiCN, AlTiN and TiAlN coated. Details on request.

Weldon Shank
30º Right Hand Helix
Right Hand Cut

MADE IN U. S. A.

Features:
- Designed for tougher cutting assignments on high-strength, high-temp steels and exotic materials or for extended production runs in conventional and non-conventional milling operations.
- Used for general purpose milling including profiling, slotting, keyways, pockets and plunge cutting.

Multi-Flute, Single End, Center Cutting

Regular Length

MILL DIA.	SHANK DIA.	FLUTE LENGTH	NO. FLTS	OVERALL LENGTH	STOCK # ALFA USA
1/8	3/8	3/8	4	2-5/16	CO50651
3/16	3/8	1/2	4	2-3/8	CO50652
1/4	3/8	5/8	4	2-7/16	CO50653
5/16	3/8	3/4	4	2-1/2	CO50654
3/8	3/8	3/4	4	2-1/2	CO50655
1/2	1/2	1-1/4	4	3-1/4	CO50658
5/8	5/8	1-5/8	4	3-3/4	CO50661
3/4	3/4	1-5/8	4	3-7/8	CO50666
7/8	7/8	1-7/8	4	4-1/8	CO50667
1	1	2	4	4-1/2	CO50675
1-1/4	1-1/4	2	4	4-1/2	CO50680
1-1/4	1-1/4	2	6	4-1/2	CO50681
1-1/2	1-1/4	2	4	4-1/2	CO50686
1-1/2	1-1/4	2	6	4-1/2	CO50687
2	1-1/4	2	6	4-1/2	CO50688

Long Length

MILL DIA.	SHANK DIA.	FLUTE LENGTH	NO. FLTS	OVERALL LENGTH	STOCK # ALFA USA
3/8	3/8	1-1/2	4	3-1/4	CO50655L
1/2	1/2	2	4	4	CO50658L
5/8	5/8	2-1/2	4	4-5/8	CO50661L
3/4	3/4	3	4	5-1/4	CO50666L
1	1	4	4	6-1/2	CO50675L
1-1/4	1-1/4	4	4	6-1/2	CO50680L
1-1/4	1-1/4	4	6	6-1/2	CO50681L

1 per tube

Multi-Flute, Double End, Center Cutting

Regular Length

MILL DIA.	SHANK DIA.	FLUTE LENGTH	NO. FLTS	OVERALL LENGTH	STOCK # ALFA USA
1/8	3/8	3/8	4	3-1/16	CO51401
3/16	3/8	1/2	4	3-1/4	CO51403
1/4	3/8	5/8	4	3-3/8	CO51405
5/16	3/8	3/4	4	3-1/2	CO51407
3/8	3/8	3/4	4	3-1/2	CO51409
1/2	1/2	1	4	4-1/8	CO51413
5/8	5/8	1-3/8	4	5	CO51415
3/4	3/4	1-5/8	4	5-5/8	CO51417

1 per tube

All end mills available TiN, TiCN, AlTiN and TiAlN coated. Details on request.

TOOLS NOT INCLUDED

MADE IN U. S. A.

DIH13300
DIH13325
(Lockable)

END MILL DISPENSER

(Three Drawers)

Dimensions: 26" W x 12" D x 9-5/16" H

DESCRIPTION	WEIGHT	STOCK #
FOR TWO FLUTE END MILLS Holds sizes 1/16" to 1" **Lockable, stackable**	37 lbs.	DIH13300
FOR FOUR FLUTE END MILLS Holds sizes 1/16" to 1" **Lockable, stackable**	37 lbs.	DIH13325

Cobalt M42 Roughing End Mills

30° Right Hand Helix
Right Hand Cut
Sinusoidal Tooth Form

MADE IN U. S. A.

Features:
- A sinusoidal chipbreaker form, which produces small chips, allowing them to run at faster feed rates than conventional tools, resulting in high material removal rates.
- Designed to machine difficult and abrasive materials ranging from medium to the highest hardness levels machinable by high-speed steel.
- 8% cobalt content assures high edge hardness at elevated temperatures.
- Large core diameter provides rigidity and reduces deflection.
- Can be used for general purpose rough milling including profiling and open ended slots.

COARSE PITCH

Multi-Flute, Coarse Pitch, Non-Center Cutting

Round Profile

Regular Length

CUTTER DIA.	SHANK DIA.	LENGTH OF CUT	OAL	NO. OF FLUTES	STOCK #
1/4	3/8	5/8	2-7/16	3	REM50801
5/16	3/8	3/4	2-1/2	3	REM50802
3/8	3/8	3/4	2-1/2	4	REM50803
5/8	5/8	1-5/8	3-3/4	4	REM50806
3/4	3/4	1-5/8	3-7/8	4	REM50811
7/8	3/4	1-7/8	4-1/8	5	REM50813
1	1	2	4-1/2	5	REM50818
1-1/8	1	2	4-1/2	6	REM50819
1-1/4	1-1/4	2	4-1/2	6	REM50822
1-1/2	1-1/4	2	4-1/2	6	REM50823
2	1-1/4	2	4-1/2	8	REM50825
2	2	4	7-3/4	8	REM50828
Medium & Long Length					
1/2	1/2	2	4	4	REM50831
5/8	5/8	2-1/2	4-5/8	4	REM50832
3/4	3/4	3	5-1/4	4	REM50833
7/8	3/4	3-1/2	5-3/4	5	REM50834
1	1	4	6-1/2	5	REM50841
1-1/4	1-1/4	4	6-1/2	6	REM50842
1-1/2	1-1/4	4	6-1/2	6	REM50843
2	1-1/4	4	6-1/2	8	REM50845
2	2	8	11-3/4	8	REM50846
2	2	10	13-3/4	8	REM50847
2	2	12	15-3/4	8	REM50848

1 per pack

Multi-Flute, For Bridgeport, Coarse Pitch

CUTTER DIA.	SHANK DIA.	LENGTH OF CUT	OAL	NO. OF FLUTES	STOCK #
1	3/4	1-7/8	4-1/8	5	REM51134
1	3/4	4	6-1/4	5	REM51135
1-1/4	3/4	2	4-1/4	6	REM51138
1-1/4	3/4	4	6-1/4	6	REM51139
1-1/2	3/4	2-1/4	4-1/2	6	REM51141
1-1/2	3/4	4	6-1/4	6	REM51142

1 per pack

Multi-Flute, Ball Nose, Coarse Pitch, Center Cutting

Round Profile

Regular, Medium & Long Length

CUTTER DIA.	SHANK DIA.	LENGTH OF CUT	OAL	NO. OF FLUTES	STOCK #
1/2	1/2	1-1/4	3-1/4	4	REM50881
1/2	1/2	2	4	4	REM50882
5/8	5/8	1-5/8	3-3/4	4	REM50883
5/8	5/8	2-1/2	4-5/8	4	REM50884
3/4	3/4	1-5/8	3-7/8	4	REM50885
3/4	3/4	3	5-1/4	4	REM50886
1	1	2	4-1/2	5	REM50888
1	1	4	6-1/2	5	REM50889
1-1/4	1-1/4	2	4-1/2	6	REM50890
1-1/4	1-1/4	4	6-1/2	6	REM50891
1-1/2	1-1/4	2	4-1/2	6	REM50892
1-1/2	1-1/4	4	6-1/2	6	REM50893

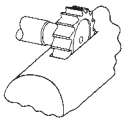
1 per pack

Multi-Flute, Shell Type, 20° Right Hand Helix, Right Hand Cut, Non-Center Cutting

CUTTER DIA.	LENGTH OF CUT	HOLE OF CUT	NO. OF FLUTES	STOCK #
2	2	3/4	8	REM50853
2-1/4	2	1	8	REM50857
2-1/2	2	1	8	REM50861
2-3/4	2	1	8	REM50865
3	2	1-1/4	10	REM50869
3-1/2	2	1-1/4	10	REM50871
4	2-1/4	1-1/2	12	REM50872
4-1/2	2-1/4	1-1/2	14	REM50873
5	2-1/4	1-1/2	14	REM50874
5-1/2	2-1/4	2	16	REM50875
6	2-1/4	2	16	REM50876

1 per pack

Straight Teeth with 1/2" Dia. Shank



• Suitable for cutting smaller woodruff keysets.

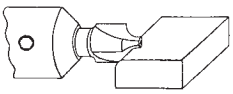
WOODRUFF KEYSEAT CUTTERS

OLD STANDARD	AMERICAN STANDARD	NOMINAL DIA.	FACE WIDTH	OAL	STOCK #
1	204	**1/2**	1/16	2-1/16	WKC51761
2	304	**1/2**	3/32	2-3/32	WKC51762
3	305	**5/8**	3/32	2-3/32	WKC51763
4	404	**1/2**	1/8	2-1/8	WKC51764
5	405	**5/8**	1/8	2-1/8	WKC51765
7	406	**3/4**	1/8	2-1/8	WKC51766
6	505	**5/8**	5/32	2-5/32	WKC51767
61	605	**5/8**	3/16	2-3/16	WKC51768
8	506	**3/4**	5/32	2-5/32	WKC51769
91	806	**3/4**	1/4	2-1/4	WKC51770
10	507	**7/8**	5/32	2-5/32	WKC51771
9	606	**3/4**	3/16	2-3/16	WKC51772
11	607	**7/8**	3/16	2-3/16	WKC51773
12	707	**7/8**	7/32	2-7/32	WKC51774
13	608	**1**	3/16	2-3/16	WKC51775
14	708	**1**	7/32	2-7/32	WKC51776
152	1208	**1**	3/8	2-3/8	WKC51777
16	609	**1-1/8**	3/16	2-3/16	WKC51778

OLD STANDARD	AMERICAN STANDARD	NOMINAL DIA.	FACE WIDTH	OAL	STOCK #
A	807	**7/8**	1/4	2-1/4	WKC51779
15	808	**1**	1/4	2-1/4	WKC51780
17	709	**1-1/8**	7/32	2-7/32	WKC51781
18	809	**1-1/8**	1/4	2-1/4	WKC51782
19	610	**1-1/4**	3/16	2-3/16	WKC51783
20	710	**1-1/4**	7/32	2-7/32	WKC51784
21	810	**1-1/4**	1/4	2-1/4	WKC51785
22	811	**1-3/8**	1/4	2-1/4	WKC51786
24	812	**1-1/2**	1/4	2-1/4	WKC51787
B	1008	**1**	5/16	2-5/16	WKC51788
C	1009	**1-1/8**	5/16	2-5/16	WKC51789
D	1010	**1-1/4**	5/16	2-5/16	WKC51790
23	1011	**1-3/8**	5/16	2-5/16	WKC51791
25	1012	**1-1/2**	5/16	2-5/16	WKC51792
E	1210	**1-1/4**	3/8	2-3/8	WKC51793
F	1211	**1-3/8**	3/8	2-3/8	WKC51794
G	1212	**1-1/2**	3/8	2-3/8	WKC51795

1 per pack

CORNER ROUNDING CUTTERS

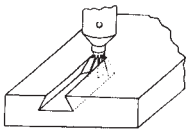


• Suitable for milling convex quarter circles on the edge of all types of materials.

RADIUS	SHANK DIA.	HEAD DIA.	OAL	STOCK #
1/16"	3/8"	7/16"	2-1/2"	CREM51702
3/32"	3/8"	1/2"	2-1/2"	CREM51703
1/8"	1/2"	5/8"	3"	CREM51704
5/32"	1/2"	3/4"	3"	CREM51705
3/16"	1/2"	7/8"	3"	CREM51706
1/4"	1/2"	1"	3"	CREM51708
5/16"	1/2"	1-1/8"	3-1/4"	CREM51711
3/8"	1/2"	1-1/4"	3-1/2"	CREM51714
7/16"	3/4"	1-3/8"	3-3/4"	CREM51716
1/2"	3/4"	1-1/2"	3-7/8"	CREM51717

1 per pack

DOVETAIL CUTTERS



• Suitable for dovetail milling in all types of materials.

ANGLE	CUTTER		SHANK DIA.	OAL	STOCK #
	DIA.	WIDTH			
60°	**1/2"**	1/4"	3/8"	2-1/8"	DTC51731
45°	**1/2"**	5/32"	3/8"	2-1/8"	DTC51732
60°	**3/4"**	5/16"	3/8"	2-1/8"	DTC51733
45°	**3/4"**	1/4"	3/8"	2-1/8"	DTC51734
60°	**1-3/8"**	9/16"	5/8"	2-7/8"	DTC51735
45°	**1-3/8"**	7/16"	5/8"	2-7/8"	DTC51736
60°	**1-7/8"**	13/16"	7/8"	3-1/4"	DTC51737
45°	**1-7/8"**	5/8"	7/8"	3-1/4"	DTC51738
60°	**2-1/4"**	1-1/16"	1"	3-3/4"	DTC51739
45°	**2-1/4"**	5/8"	1"	3-3/4"	DTC51740

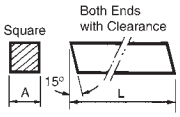
1 per pack

High-Speed Steel
Cobalt Steel • Ground

Features:

- Designed for long lasting accurate performance and machining accuracy.
- Precisely controlled heat treatment process gives uniform hardness throughout.
- These cost effective tools offer high resistance to abrasion and even shock associated with interrupted cuts.

HIGH-SPEED STEEL SQUARE TOOL BITS BOTH ENDS BEVELED



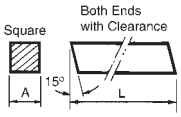
Features:

- Useable for general purpose applications.
- Unique tungsten-molybdenum high-speed steel tool bit provides excellent strength and toughness.
- Ideally suited for a wide variety of applications in ferrous and non-ferrous alloys.

SIZE A	OVERALL LENGTH L	STOCK # HSS
3/16	2-1/2	TBHS60803
1/4	2-1/2	TBHS60805
1/4	4	TBHS60806
5/16	2-1/2	TBHS60807
3/8	3	TBHS60809
7/16	3-1/2	TBHS60811
1/2	4	TBHS60813
1/2	6	TBHS60814
5/8	4-1/2	TBHS60815
3/4	5	TBHS60817
7/8	6	TBHS60819
1	7	TBHS60821

3/16" to 1/2", 5 per pack,
5/8" and above, 1 per pack

COBALT STEEL M-35 SQUARE TOOL BITS BOTH ENDS BEVELED



Features:

- Useable for the toughest applications.
- Manufactured from premium cobalt M-35 high-speed steel, these tools are designed to provide the best wear resistance on difficult-to-machine alloys and heat treated, high-strength steels.
- For production applications where higher speeds for feeds are desired with mild materials.

SIZE A	OVERALL LENGTH L	STOCK # COBALT
3/16	2-1/2	TBCS60803
1/4	2-1/2	TBCS60805
1/4	4	TBCS60806
5/16	2-1/2	TBCS60807
3/8	3	TBCS60809
7/16	3-1/2	TBCS60811
1/2	4	TBCS60813
1/2	6	TBCS60814
5/8	4-1/2	TBCS60815
3/4	5	TBCS60817
7/8	6	TBCS60819
1	7	TBCS60821

3/16" to 1/2", 5 per pack,
5/8" and above, 1 per pack

Grade C2 for Cast Iron & Non-Ferrous Metals Grade C5 for Steel

STYLE "AR & AL"
Straight Turning Tool

STYLE "BR & BL"
Lead angle Turning Tool

RIGHT HAND				LEFT HAND				RIGHT HAND				LEFT HAND			
SIZE SQ x LENGTH	ANSI #	STOCK #		ANSI #	STOCK #			ANSI #	STOCK #			ANSI #	STOCK #		
		C2	C5		C2	C5			C2	C5			C2	C5	
1/4" x 2"	AR4	TBAR4C2	TBAR4C5	AL4	TBAL4C2	TBAL4C5		BR4	TBBR4C2	TBBR4C5		BL4	TBBL4C2	TBBL4C5	
5/16" x 2-1/4"	AR5	TBAR5C2	TBAR5C5	AL5	TBAL5C2	TBAL5C5		BR5	TBBR5C2	TBBR5C5		BL5	TBBL5C2	TBBL5C5	
3/8" x 2-1/2"	AR6	TBAR6C2	TBAR6C5	AL6	TBAL6C2	TBAL6C5		BR6	TBBR6C2	TBBR6C5		BL6	TBBL6C2	TBBL6C5	
7/16" x 3"	AR7	TBAR7C2	TBAR7C5	AL7	TBAL7C2	TBAL7C5		BR7	TBBR7C2	TBBR7C5		BL7	TBBL7C2	TBBL7C5	
1/2" x 3-1/2"	AR8	TBAR8C2	TBAR8C5	AL8	TBAL8C2	TBAL8C5		BR8	TBBR8C2	TBBR8C5		BL8	TBBL8C2	TBBL8C5	
5/8" x 4"	AR10	TBAR10C2	TBAR10C5	AL10	TBAL10C2	TBAL10C5		BR10	TBBR10C2	TBBR10C5		BL10	TBBL10C2	TBBL10C5	
3/4" x 4-1/2"	AR12	TBAR12C2	TBAR12C5	AL12	TBAL12C2	TBAL12C5		BR12	TBBR12C2	TBBR12C5		BL12	TBBL12C2	TBBL12C5	

1/4" to 3/8", 10 per pack, 7/16" to 3/4", 5 per pack

STYLE "D"
80° POINTED NOSE TOOL

SIZE SQ x LENGTH	ANSI #	STOCK #	
		C2	C5
1/4" x 2"	D4	TBD4C2	TBD4C5
5/16" x 2-1/4"	D5	TBD5C2	TBD5C5
3/8" x 2-1/2"	D6	TBD6C2	TBD6C5
7/16" x 3"	D7	TBD7C2	TBD7C5
1/2" x 3-1/2"	D8	TBD8C2	TBD8C5
5/8" x 4"	D10	TBD10C2	TBD10C5
3/4" x 4-1/2"	D12	TBD12C2	TBD12C5

1/4" to 3/8", 10 per pack, 7/16" to 3/4", 5 per pack

STYLE "C"
SQUARE NOSE TOOL

ANSI #	STOCK #	
	C2	C5
C4	TBC4C2	TBC4C5
C5	TBC5C2	TBC5C5
C6	TBC6C2	TBC6C5
C7	TBC7C2	TBC7C5
C8	TBC8C2	TBC8C5
C10	TBC10C2	TBC10C5
C12	TBC12C2	TBC12C5

STYLE "E"
60° THREADING TOOL

ANSI #	STOCK #	
	C2	C5
E4	TBE4C2	TBE4C5
E5	TBE5C2	TBE5C5
E6	TBE6C2	TBE6C5
E7	TBE7C2	TBE7C5
E8	TBE8C2	TBE8C5
E10	TBE10C2	TBE10C5
E12	TBE12C2	TBE12C5

STYLE "FR & FL"
END CUTTING OFFSET TOOL

STYLE "GR & GL"
SIDE CUTTING OFFSET TOOL

RIGHT HAND				LEFT HAND				RIGHT HAND				LEFT HAND			
SIZE SQ x LENGTH	ANSI #	STOCK #		ANSI #	STOCK #			ANSI #	STOCK #			ANSI #	STOCK #		
		C2	C5		C2	C5			C2	C5			C2	C5	
1/2" x 3-1/2"	FR8	TBFR8C2	TBFR8C5	FL8	TBFL8C2	TBFL8C5		GR8	TBGR8C2	TBGR8C5		GL8	TBGL8C2	TBGL8C5	
5/8" x 4"	FR10	TBFR10C2	TBFR10C5	FL10	TBFL10C2	TBFL10C5		GR10	TBGR10C2	TBGR10C5		GL10	TBGL10C2	TBGL10C5	
3/4" x 4-1/2"	–	–	–	–	–	–		GR12	TBGR12C2	TBGR12C5		GL12	–	TBGL12C5	

1/2" to 3/4", 4/5 per pack

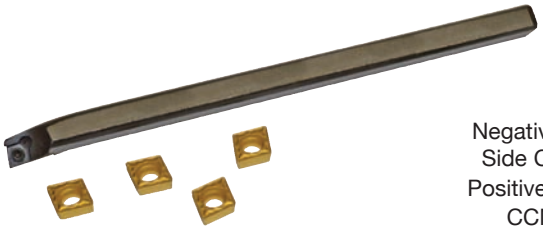
STYLE "CTR & CTL"
CUT-OFF TOOL

RIGHT HAND

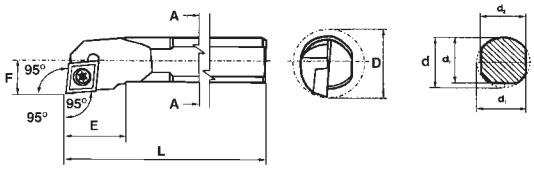
SIZE SQ x H x LENGTH	ANSI #	TIP WIDTH	STOCK #	
			C2	C5
1/2" x 1" x 5"	CTR11	1/8"	TBCTR11C2	TBCTR11C5
	CTR22	3/16"	TBCTR22C2	TBCTR22C5
	CTR33	1/4"	TBCTR33C2	TBCTR33C5
LEFT HAND				
1/2" x 1" x 5"	CTL11	1/8"	TBCTL11C2	TBCTL11C5
	CTL22	3/16"	TBCTL22C2	TBCTL22C5
	CTL33	1/4"	TBCTL33C2	TBCTL33C5

5 per pack

Screw-On Type



Negative 5° End and Side Cutting Angle Positive 80° Diamond CCMT Inserts



Individual Boring Bars supplied without inserts.

BORING BAR STYLE	SHANK SIZE	MIN. BORE	LENGTH L	CENTER LINE F	INSERTS STYLE	STOCK # RH	STOCK # LH	LOCKING SCREW STOCK #	TORX KEY SIZE
SCLCR/L 4-2	.315"	.354	4"	.1875	CCMT	BB870042R	BB870042L	SC2504	T7
SCLCR/L 6-2	3/8"	.468	6"	.2500	-21.51	BB870062R	BB870062L	SC2506	
SCLCR/L 8-3	1/2"	.600	7"	.3120		BB870083R	BB870083L		
SCLCR/L 10-3	5/8"	.866	8"	.4060	CCMT	BB870103R	BB870103L	SC4008	T8
SCLCR/L 12-3	3/4"	.920	10"	.5000	-32.52	BB870123R	BB870123L		
SCLCR/L 16-3	1"	1.120	12"	.6094		BB870163R	BB870163L		

1 per pack

25 per pack

REPLACEMENT CARBIDE INSERTS

STYLE	COATING	MATERIALS	APPLICATIONS	STOCK #
STAINLESS STEEL				
CCMT 21.51	TiAlN	Steels, Stainless, Cast Irons, HRSA	Milling, Turning, Drilling, Threading	BBR310
CCMT 32.51	TiAlN			BBR320
CCMT 32.52	TiAlN			BBR330
SHARP EDGE				
CCGT 21.51	Uncoated	Aluminum, Fiberglass, Plastic, Teflon, Brass	Turning	BBR410
CCGT 32.51	Uncoated			BBR420
CCGT 32.52	Uncoated			BBR430

10 per pack

INDEXABLE BORING BAR SETS

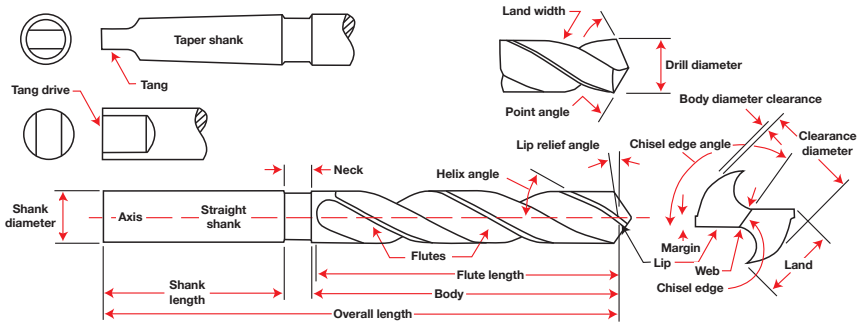
IN FITTED WOODEN BOX

BB870500

SET QTY.	BORING BAR SIZES	INSERTS IN SET	ACCESSORIES	STOCK #
11 Pc.	1 each .315", 3/8", 1/2"	6 Pcs. CCM215L	1 Screw 1 Key	BB870500
13 Pc.	1 each 3/8", 1/2", 5/8"	2 Pcs. CCMT21.51 4 Pcs. CCMT32.52	2 Screws 2 Keys	BB870515
11 Pc.	1 each 1/2", 5/8", 3/4"	6 Pcs. CCMT32.52	1 Screw 1 Key	BB870510
19 Pc.	1 ea. .315", 3/8", 1/2", 5/8", 3/4"	4 Pcs. CCMT21.51 6 Pcs. CCMT32.52	2 Screws 2 Keys	BB870505

Drill Terminology

Taper Shank – in accordance with American National Standard B5.10. Machine Tapers



Axis: The imaginary straight line forming the longitudinal center line of the drill.

Back Taper: A slight decrease in diameter from front to back of the drill body.

Body: The portion of the drill extending from the shank or neck to the outer corners of the cutting lips.

Body Diameter Clearance: The portion of the land that has been cut away to prevent rubbing against the walls of the hole.

Chip Packing: The failure of chips to pass through the flute during the cutting action. Generally results in tool failure.

Chipping: The breakdown at a cutting lip or margin by loss of fragments broken away during the cutting action.

Chisel Edge: The edge at the end of the web that connects the cutting lips.

Chisel Edge Angle: The angle included between the chisel edge and the cutting lip, as viewed from the end of the drill.

Clearance: The space provided to eliminate undesirable contact between the drill and the work piece.

Clearance Diameter: The diameter over the cut away portion of the drill lands.

Cutting Lips: The cutting edges of a two flute drill, extending from the chisel edge to the periphery. In core drills, the cutting edges extending from the bottom of the chamfer to the periphery.

Drill Diameter: The diameter over the margins of the drill, measured at the point.

Flutes: Helical or straight grooves cut or formed in the body of the drill; these provide cutting lips, permit removal of chips, and allow cutting fluid to reach the cutting lips.

Flute Length: The length from the outer corners of the cutting lips to the extreme back end of the flutes. This includes the sweep of the tool used to generate the flutes. Does not indicate the useable length of the flutes.

Heel: The trailing edge of the land.

Helical Flutes: Flutes which are formed in a helical path around the axis.

Helix Angle: The angle made by the leading edge of the land with a plane containing the axis of the drill.

Land: The peripheral portion of the body between adjacent flutes.

Land Clearance: The preferred term is body diameter clearance; see above.

Land Width: The distance between the leading edge and the heel of the land, measured at a right angle to the leading edge.

Length of Twist: The preferred term is flute length; see left.

Lip Relief: The axial relief angle at the outer corner of the lip. It is measured by projection into a plane tangent to the periphery at the outer corner of the lip.

Margin: The cylindrical portion of the land which is not cut away to provide clearance.

Overall Length (OAL): The length from the extreme end of the shank to the outer corners of the cutting lips. Does not include the conical shank end often used on straight shank drills. Does not include the conical cutting point used on both straight and taper shank drills. In core drills, the overall length of drills with an external center on the cutting end is the same as for two flute drills. Drills with an internal center on the cutting end are measured from the extreme ends of the tool.

Point: The cutting end of a drill, made up of the ends of the lands and the web. Resembles a cone, but departs from a true cone to furnish clearance behind the cutting lips.

Point Angle: The angle included between the cutting lips, projected upon a plane parallel to the drill axis and the two cutting lips.

Relief: The result of the removal of tool material behind or adjacent to the cutting lip and leading edge of the land to provide clearance and prevent rubbing (also known as heel drag).

Shank: The part of the drill by which it is held and driven.

Straight Flutes: Flutes which form lands lying in an axial plane.

Straight Shank Drills: Drills with cylindrical shanks which may be the same or different diameter than the body of the drill. The shank may be made with or without driving flats, tang, grooves or threads.

Tang: The flattened end of a taper shank, intended to fit into a driving slot in a socket.

Tang Drive: Two opposite parallel driving flats on the extreme end of a straight shank.

Taper Shank Drills: Drills with conical shanks suitable for direct fitting into tapered holes in machine spindles, driving sleeves or sockets. Tapered shanks generally have a tang.

Twist Drill: A rotary end cutting tool with one or more cutting lips, having one or more helical or straight flutes for the passage of chips and the admission of a cutting fluid.

Web: The central portion of the body that joins the lands. The extreme end of the web forms the chisel edge on a two flute drill.

Web Thickness: The thickness of the web at the point, unless another specific location is indicated.

Drilling Recommendations for Various Materials

Recommended Surface Feet per Minute (SFM) and Coolant by Material Application

Ferrous Materials

Materials	Brinell Hardness	Geometry	SFM	Coolant
Low Carbon Steel	85 - 125	general purpose	80 - 95	Soluble oil
Medium Carbon Steel	125 - 175	general purpose	70 - 85	Soluble oil
High Carbon Steel	175 - 225	heavy duty	45 - 65	Soluble oil
Steel Alloys	Under 200	general purpose	60 - 90	Soluble oil
	200 - 300	heavy duty	40 - 70	Soluble oil
	Over 300	cobalt	20 - 30	Soluble oil
Steel Drop Forgings (heat treated)	330 - 370		30 - 40	Cutting oil
	370 - 420		20 - 30	Cutting oil
	Over 420		10 - 20	Cutting oil
Grey Cast Iron (soft)	125	general purpose	140 - 150	Dry
Grey Cast Iron (medium)	120 - 200	heavy duty	50 - 80	Soluble oil
Grey Cast Iron (hard)	Up to 350	heavy duty	25 - 40	Soluble oil
Titanium Alloys (Ti)-75A	300 - 440	cobalt	50 - 60	Cutting oil
Ti-150A, RS-120	300 - 440	cobalt	40 - 50	Cutting oil
Ti140A, RC 130B	300 - 440	cobalt	30 - 40	Cutting oil
Ti-6AL-4V	300 - 440	cobalt	20 - 30	Cutting oil
300 Series Stainless	120 - 200	cobalt	20 - 40	Cutting oil
400 Series Stainless	200 - 300	cobalt	40 - 70	Cutting oil
Martensitic 416, 420, F416, Plus K, 400F, 4165SE, 440F	135 - 185	cobalt	40 - 50	Cutting oil
Precipitation Hardening	325 - 375	cobalt	30	Cutting oil
Stainless Steel (cast)	400 - 450	cobalt	20	Cutting oil
Heat Resisting Steels	175 - 225	cobalt	10 - 25	Cutting oil
Nimonic Alloys	200 - 300	cobalt	10 - 20	Cutting oil
Manganese, 12-14% min	125 - 220	heavy duty	10 - 12	Cutting oil
Spring Steels	402	cobalt	15 - 30	Soluble oil
Armor Plate	200 - 250	cobalt	40	Soluble oil
	250 - 300	cobalt	35	Soluble oil
	300 - 350	cobalt	30	Cutting oil

Non-Ferrous Materials

Materials	Brinell Hardness	Geometry	SFM	Coolant
Aluminum (pure)	140 - 350	fast spiral*	130 - 200	Soluble oil
Aluminum Alloys	140 - 330	fast spiral*	150 - 300	Soluble oil
Aluminum (leaded)	40 - 100	fast spiral*	200 - 325	Soluble oil
Aluminum Silicon Alloy (die cast)	40 - 100	fast spiral*	25 - 50	Soluble oil
Brass	190 - 210	slow spiral*	200 - 250	Cutting or soluble oil
Bronze	150 - 200	slow spiral*	200 - 250	Soluble oil
Copper (nickel & copper tin alloy)	65 - 100	general purpose*	140 - 200	Cutting or soluble oil
Copper (aluminum alloys)	30 - 100	general purpose*	120 - 200	Cutting or soluble oil
Magnesium Alloys (wrought)	50 - 90	general purpose*	140 - 330	Cutting or soluble oil
Magnesium Alloys (cast)	50 - 90	general purpose*	140 - 365	Cutting or soluble oil
Nickel Alloys (wrought & cast)	80 - 170	general purpose	70	Cutting or soluble oil
Nickel Alloys (Monel)	115 - 240	general purpose	55	Cutting or soluble oil
Nickel Alloys (Beryllium nickel)	200 - 250	general purpose	12	Cutting or soluble oil
Zinc Alloy	112 - 126	general purpose	200 - 250	Soluble oil

*bright only

Fractional Sizes

Feet per Minute

Drill Size		10'	20'	30'	40'	50'	60'	70'	80'	90'	100'	110'	120'	130'	140'	150'
Fraction	Decimal	*Revolutions per Minute*														
1/16	.0625	611	1222	1833	2445	3056	3667	4278	4889	5550	6111	6722	7334	7945	8556	9167
1/8	.1250	306	611	917	1222	1528	1833	2139	2445	2750	3056	3361	3667	3973	4278	4584
3/16	.1875	204	407	611	815	1019	1222	1426	1630	1833	2037	2241	2445	2648	2852	3056
1/4	.2500	153	306	458	611	764	917	1070	1222	1375	1528	1681	1833	1986	2139	2292
5/16	.3125	122	244	367	489	611	733	856	978	1100	1222	1345	1467	1589	1711	1833
3/8	.3750	102	204	306	407	509	611	713	815	917	1019	1120	1222	1324	1426	1528
7/16	.4375	87	175	262	349	437	524	611	698	786	873	960	1048	1135	1222	1310
1/2	.5000	76	153	229	306	382	458	535	611	688	764	840	917	993	1070	1146
5/8	.6250	61	122	183	244	306	367	428	489	550	611	672	733	794	856	917
3/4	.7500	51	102	153	203	255	306	357	407	458	509	560	611	662	713	764
7/8	.8750	44	87	131	175	218	262	306	349	393	436	480	524	568	611	655
1	1.0000	38	76	115	153	191	229	267	306	344	382	420	458	497	535	573
1-1/8	1.1250	34	68	102	136	170	204	238	272	306	340	373	407	441	475	509
1-1/4	1.2500	31	61	92	122	153	183	214	244	275	306	336	367	397	428	458
1-3/8	1.3750	28	56	83	111	139	167	194	222	250	278	306	333	361	389	417
1-1/2	1.5000	26	51	76	102	127	153	178	204	229	255	280	306	331	357	382
1-5/8	1.6250	24	47	70	94	117	141	165	188	212	235	259	282	306	329	353
1-3/4	1.7500	22	44	65	87	109	131	153	175	196	218	240	262	284	306	327
1-7/8	1.8750	20	41	61	81	102	122	143	163	183	204	224	244	265	285	306
2	2.0000	19	38	57	76	95	115	134	153	172	191	210	229	248	267	287
2-1/4	2.2500	17	34	51	68	85	102	119	136	153	170	187	204	221	238	255
2-1/2	2.5000	15	31	46	61	76	92	107	122	137	153	168	183	199	214	229
2-3/4	2.7500	14	28	42	56	69	83	97	111	125	139	153	167	181	194	208
3	3.0000	13	25	38	51	64	76	89	102	115	127	140	153	166	178	191

Letter Sizes

Feet per Minute

Drill Size		10'	20'	30'	40'	50'	60'	70'	80'	90'	100'	110'	120'	130'	140'	150'
Letter	Decimal	*Revolutions per Minute*														
A	.2340	163	326	491	654	818	982	1145	1309	1472	1636	1796	1959	2122	2285	2448
B	.2380	161	321	482	642	803	963	1124	1284	1445	1605	1765	1926	2086	2247	2407
C	.2420	158	316	473	631	789	947	1105	1262	1420	1578	1736	1894	2052	2210	2368
D	.2460	155	311	467	622	778	934	1089	1245	1400	1556	1708	1863	2018	2174	2329
E	.2500	153	306	458	611	764	917	1070	1222	1375	1528	1681	1834	1968	2139	2292
F	.2570	149	297	446	594	743	892	1040	1189	1337	1486	1635	1784	1932	2081	2229
G	.2610	146	293	440	585	732	878	1024	1170	1317	1463	1610	1756	1903	2049	2195
H	.2660	144	287	430	574	718	862	1005	1149	1292	1436	1580	1723	1867	2010	2154
I	.2720	140	281	421	562	702	842	983	1123	1264	1404	1545	1685	1826	1966	2106
J	.2770	138	276	414	552	690	827	965	1103	1241	1379	1517	1655	1793	1930	2068
K	.2810	136	272	408	544	680	815	951	1087	1223	1359	1495	1631	1767	1903	2039
L	.2900	132	263	395	527	659	790	922	1054	1185	1317	1449	1581	1712	1844	1976
M	.2950	129	259	389	518	648	777	907	1036	1166	1295	1424	1554	1683	1813	1942
N	.3020	126	253	380	506	633	759	886	1012	1139	1265	1391	1518	1644	1771	1897
O	.3160	121	242	363	484	605	725	846	967	1088	1209	1330	1450	1571	1692	1813
P	.3230	118	237	355	473	592	710	828	946	1065	1183	1301	1419	1537	1657	1774
Q	.3320	115	230	345	460	575	690	805	920	1035	1150	1266	1384	1496	1611	1726
R	.3390	113	225	338	451	564	676	789	902	1014	1127	1239	1355	1465	1577	1690
S	.3480	110	220	329	439	549	659	769	878	988	1098	1207	1317	1427	1537	1646
T	.3580	107	213	320	426	533	640	746	853	959	1066	1173	1280	1387	1494	1600
U	.3680	104	208	311	415	519	623	727	830	934	1038	1142	1246	1349	1453	1557
V	.3770	101	203	304	405	507	608	709	810	912	1013	1114	1219	1317	1418	1520
W	.3860	99	198	297	396	495	594	693	792	891	989	1088	1188	1286	1385	1484
X	.3970	96	192	289	385	481	576	672	769	865	962	1058	1155	1251	1347	1443
Y	.4040	95	189	284	378	473	567	662	756	851	945	1040	1135	1229	1324	1418
Z	.4130	92	185	277	370	462	555	647	740	832	925	1017	1110	1202	1295	1387

Wire Gage Sizes

Feet per Minute

Drill Size		10'	20'	30'	40'	50'	60'	70'	80'	90'	100'	110'	120'	130'	140'	150'
Wire	Decimal	*Revolutions per Minute*														
1	.2280	168	335	503	670	838	1005	1173	1340	1508	1675	1843	2010	2179	2346	2513
2	.2210	173	345	518	691	864	1037	1210	1382	1555	1728	1901	2074	2247	2420	2593
3	.2130	179	359	538	717	897	1076	1255	1434	1614	1793	1974	2152	2331	2511	2690
4	.2090	183	365	548	731	914	1097	1280	1462	1645	1828	2010	2193	2376	2560	2741
5	.2055	186	372	558	744	930	1115	1301	1487	1673	1859	2045	2230	2416	2602	2788
6	.2040	187	374	562	749	936	1123	1310	1498	1685	1872	2060	2247	2434	2621	2809
7	.2010	190	380	570	760	950	1140	1330	1520	1710	1900	2090	2281	2470	2660	2850
8	.1990	192	384	576	768	960	1151	1343	1535	1727	1919	2111	2303	2495	2687	2879
9	.1960	195	390	585	780	975	1169	1364	1559	1754	1949	2144	2339	2534	2728	2923
10	.1935	197	395	592	790	987	1184	1382	1579	1777	1974	2171	2369	2566	2764	2961
11	.1910	200	400	600	800	1000	1200	1400	1600	1800	2000	2200	2400	2600	2800	3001
12	.1890	202	404	606	808	1010	1213	1415	1617	1819	2021	2223	2425	2627	2829	3032
13	1850	206	413	620	826	1032	1239	1450	1652	1859	2065	2271	2479	2684	2891	3097
14	.1820	210	420	630	840	1050	1259	1469	1679	1889	2099	2309	2518	2728	2938	3148
15	.1800	213	425	638	851	1064	1276	1489	1702	1914	2127	2334	2546	2759	2971	3183
16	.1770	216	432	647	863	1079	1295	1511	1726	1942	2158	2374	2590	2806	3021	3237
17	.1730	221	442	662	883	1104	1325	1546	1766	1987	2208	2429	2650	2870	3091	3313
18	.1695	226	452	678	904	1130	1356	1582	1808	2034	2260	2479	2704	2930	3155	3380
19	.1660	230	460	690	920	1151	1381	1611	1841	2071	2301	2531	2761	2991	3222	3453
20	.1610	237	475	712	949	1186	1423	1660	1898	2135	2372	2610	2847	3084	3322	3559
21	.1590	240	480	721	961	1201	1441	1681	1922	2162	2402	2644	2883	3123	3363	3604
22	.1570	243	487	730	973	1217	1460	1703	1946	2190	2433	2676	2920	3164	3406	3649
23	.1540	248	496	744	992	1240	1488	1736	1984	2232	2480	2728	2976	3224	3472	3720
24	.1520	251	503	754	1005	1257	1508	1759	2010	2262	2513	2764	3016	3267	3518	3769
25	.1495	256	511	767	1022	1276	1533	1789	2044	2300	2555	2810	3066	3322	3577	3832
26	.1470	260	520	779	1039	1299	1559	1819	2078	2338	2598	2858	3118	3378	3638	3898
27	.1440	265	531	796	1061	1327	1592	1857	2122	2388	2653	2919	3183	3448	3714	3979
28	.1405	272	544	816	1088	1360	1631	1903	2175	2447	2719	2990	3262	3534	3806	4078
29	.1360	281	562	843	1124	1405	1685	1966	2247	2528	2809	3090	3371	3651	3932	4213
30	.1285	297	595	892	1189	1487	1784	2081	2378	2676	2973	3270	3567	3864	4162	4459
31	.1200	318	637	955	1273	1592	1910	2228	2546	2865	3183	3501	3821	4138	4456	4775
32	.1160	329	659	988	1317	1647	1976	2305	2634	2964	3293	3622	3951	4281	4610	4939
33	.1130	338	676	1014	1352	1690	2028	2366	2704	3042	3380	3718	4056	4394	4732	5070
34	.1110	344	688	1032	1376	1721	2065	2409	2753	3097	3442	3785	4129	4474	4818	5162
35	.1100	347	694	1042	1389	1736	2083	2430	2778	3125	3472	3821	4167	4514	4861	5209
36	.1065	359	717	1076	1435	1794	2152	2511	2870	3228	3587	3945	4304	4663	5021	5380
37	.1040	367	735	1102	1469	1837	2204	2571	2938	3306	3673	4040	4407	4775	5142	5509
38	.1015	376	753	1129	1505	1882	2258	2634	3010	3387	3763	4140	4516	4892	5269	5645
39	.0995	384	768	1152	1536	1920	2303	2687	3071	3455	3839	4222	4607	4991	5374	5758
40	.0980	390	780	1169	1559	1949	2339	2729	3118	3508	3898	4287	4677	5067	5457	5846
41	.0960	398	796	1194	1592	1990	2387	2785	3183	3581	3979	4377	4775	5172	5570	5968
42	.0935	408	817	1226	1634	2043	2451	2860	3268	3677	4085	4494	4902	5311	5719	6128
43	.0890	429	858	1288	1717	2146	2575	3004	3434	3863	4292	4721	5150	5579	6008	6438
44	.0860	444	888	1333	1777	2221	2665	3109	3554	3999	4442	4886	5330	5774	6218	6662
45	.0820	466	932	1397	1863	2329	2795	3261	3726	4192	4658	5124	5590	6056	6522	6987
46	.0810	472	943	1415	1886	2358	2830	3301	3773	4244	4716	5187	5659	6130	6602	7074
47	.0785	487	973	1460	1946	2433	2920	3406	3893	4379	4866	5352	5839	6326	6812	7299
48	.0760	503	1005	1508	2010	2513	3016	3518	4021	4523	5026	5528	6031	6534	7036	7539
49	.0730	523	1047	1570	2093	2617	3140	3663	4186	4710	5233	5756	6279	6808	7326	7849
50	.0700	546	1091	1637	2183	2729	3274	3820	4366	4911	5457	6002	6548	7094	7640	8185

Wire Gage Sizes (Cont.)

Feet per Minute

Drill Size		10'	20'	30'	40'	50'	60'	70'	80'	90'	100'	110'	120'	130'	140'	150'
Wire	Decimal	*Revolutions per Minute*														
51	.0670	570	1140	1710	2280	2851	3421	3991	4561	5131	5701	6271	6841	7413	7984	8552
52	.0635	602	1203	1805	2406	3008	3609	4211	4812	5414	6015	6619	7218	7820	8421	9023
53	.0595	641	1283	1924	2566	3207	3848	4490	5131	5773	6414	7062	7704	8346	8988	9630
54	.0550	694	1389	2084	2778	3473	4167	4862	5556	6251	6945	7639	8334	9028	9723	10417
55	.0520	735	1469	2204	2938	3673	4408	5142	5877	6611	7346	8080	8815	9549	10284	11028
56	.0465	821	1643	2465	3286	4108	4929	5751	6572	7394	8215	9036	9857	10678	11500	12322
57	.0430	888	1777	2671	3561	4452	5342	6232	7122	8013	8903	9771	10660	11548	12436	13325
58	.0420	910	1819	2729	3637	4547	5456	6367	7275	8186	9095	10004	10913	11823	12732	13642
59	.0410	932	1863	2795	3726	4658	5590	6521	7453	8388	9316	10248	11180	12111	13043	13975
60	.0400	955	1910	2865	3820	4775	5729	6684	7639	8594	9549	10504	11459	12414	13369	14324
61	.0390	979	1959	2938	3918	4897	5876	6856	7835	8815	9794	10774	11753	12732	13712	14691
62	.0380	1005	2010	3015	4020	5025	6030	7035	8040	9045	10050	11057	12060	13068	14073	15078
63	.0370	1032	2064	3096	4128	5160	6192	7224	8256	9288	10320	11366	12398	13421	14453	15485
64	.0360	1061	2122	3183	4244	5305	6366	7427	8488	9549	10610	11671	12732	13793	14854	15915
65	.0350	1091	2182	3273	4364	5455	6546	7637	8728	9819	10910	12005	13096	14187	15279	16370
66	.0330	1158	2316	3474	4632	5790	6948	8106	9264	10422	11580	12732	13890	15047	16205	17362
67	.0320	1194	2388	3582	4776	5970	7164	8358	9552	10746	11940	13130	14324	15517	16712	17905
68	.0310	1232	2465	3696	4928	6160	7392	8624	9856	11088	12320	13554	14786	16018	17250	18482
69	.0292	1308	2616	3918	5224	6530	7836	9142	10468	11754	13060	14389	15697	17006	18314	19622
70	.0280	1364	2729	4091	5456	6820	8184	9548	10912	12276	13640	15006	16370	17734	19099	20463
71	.0260	1469	2938	4419	5892	7365	8838	10311	11784	13257	14730	16160	17629	19099	20568	22037
72	.0250	1528	3056	4584	6112	7640	9168	10696	12224	13752	15280	16807	18335	19863	21390	22918
73	.0240	1592	3183	4776	6368	7960	9552	11144	12736	14328	15920	17507	19099	20690	22282	23873
74	.0225	1698	3396	5106	6808	8510	10212	11914	13616	15318	17020	18674	20372	22069	23767	25465
75	.0210	1819	3638	5457	7276	9095	10914	12733	14552	16371	18190	20008	21827	23646	25465	27284
76	.0200	1910	3820	5730	7640	9550	11460	13370	15280	17190	19100	21008	22918	24828	26738	28648
77	.0180	2122	4244	6366	8488	10610	12732	14854	16976	19098	21220	23343	25465	27587	29709	31831
78	.0160	2388	4775	7161	9548	11935	14322	16709	19096	21483	23870	26260	28648	31035	33422	35810
79	.0145	2634	5269	7902	10536	13170	15804	18438	21072	23706	26340	28988	31611	34246	36880	39514
80	.0135	2830	5659	8490	11320	14150	16980	19810	22640	25470	28300	31123	33953	36782	39612	42441

Twist Drill Feeds Chart

Recommended Feeds for Various Diameter Drills	
Dia. of Drills	**Feed (Inches per Revolution)**
Under 1/8	.001 to .003
1/8 to 1/4	.002 to .006
1/4 to 1/2	.004 to .010
1/2 to 1	.007 to .015
1 inch and over	.015 to .025

Note: It is best to start with a moderate speed and feed, increasing either one, or both, after observing the action and condition of the drill.

Formulas for Drilling Applications:

RPM = (3.8197 / Drill Diameter) x SFM

SFM = 0.2618 x Drill Diameter x RPM

IPM = IPR (feed) x RPM (speed)

Machine Time (seconds) = (60 x Feed - Stroke) / IPM

RPM = Revolutions per Minute

SFM = Surface Feet per Minute

IPM = Inches per Minute

IPR = Inches per Revolution

Feed Stroke = Drill Depth + 1/3 Drill Diameter + Approach and Over Travel Distance

Reamer Speeds and Feeds in Ferrous Materials

Ferrous Materials — **FEED (IPR) for MILL DIAMETER**

Material		Speed (SFM)	≤ 1/16	> 1/16 - 1/8	> 1/8 - 1/4	> 1/4 - 1/2	> 1/2 - 1	> 1
Steel	under 200 BHN	55 - 80	.0005 - .003	.002 - .006	.004 - .010	.006 - .015	.010 - .030	.020 - .050
	200 - 300 BHN	30 - 55	.005 - .002	.002 - .004	.004 - .006	.006 - .010	.010 - .020	.020 - .040
	300 - 400 BHN	20 - 30	.0002 - .001	.001 - .002	.002 - .004	.004 - .006	.006 - .010	.010 - .020
	400 - 500 BHN	10 - 20	.0002 - .001	.001 - .002	.002 - .004	.004 - .006	.006 - .010	.010 - .020
	500 BHN +	–	.0002 - .001	.001 - .002	.002 - .004	.004 - .006	.006 - .010	.010 - .020
Cast Iron	Soft (Ferritic)	50 - 100	.001 - .003	.003 - .006	.006 - .010	.010 - .015	.015 - .030	.030 - .050
	Medium (Pearlitic)	25 - 50	.0002 - .002	.001 - .004	.002 - .006	.004 - .010	.006 - .020	.010 - .040
	Hard (Martensitic or Acicular)	15 - 25	.0002 - .001	.001 - .002	.002 - .004	.004 - .006	.006 - .010	.010 - .020
Stainless Steel	Free machining and 400 Ann	40 - 60	.0005 - .002	.002 - .004	.004 - .006	.006 - .010	.010 - .020	.020 - .040
	300 Series	20 - 30	.0005 - .002	.002 - .004	.004 - .006	.006 - .010	.010 - .020	.020 - .040
	PH and HT 400 Series	15 - 25	.0002 - .002	.001 - .004	.002 - .006	.004 - .010	.006 - .020	.010 - .040
High-Temp Alloys	Nickel-base	10 - 20	.0002 - .001	.001 - .002	.002 - .004	.004 - .006	.006 - .010	.010 - .020
	Cobalt-base	10 - 15	.0002 - .001	.001 - .002	.002 - .004	.004 - .006	.006 - .010	.010 - .020
Titanium	Pure	35 - 50	.0005 - .002	.002 - .004	.004 - .006	.006 - .010	.010 - .020	.020 - .040
	Alloys	10 - 20	.0002 - .002	.001 - .004	.002 - .006	.004 - .010	.006 - .020	.010 - .040

Reamer Speeds and Feeds in Non-Ferrous Materials

Non-Ferrous Materials — **FEED (IPR) for MILL DIAMETER**

Material		Speed (SFM)	≤ 1/16	> 1/16 - 1/8	> 1/8 - 1/4	> 1/4 - 1/2	> 1/2 - 1	> 1
Aluminum		150 - 300	.0005 - .003	.002 - .006	.004 - .010	.006 - .015	.010 - .030	.020 - .050
Brass and Bronze	Free Machining	125 - 200	.0005 - .002	.002 - .004	.004 - .006	.006 - .010	.010 - .020	.020 - .040
	Tough	75 - 125	.0005 - .002	.002 - .004	.004 - .006	.006 - .010	.010 - .020	.020 - .040
Copper and Hard Bronze		50 - 75	.0002 - .001	.001 - .002	.002 - .004	.004 - .006	.006 - .010	.010 - .020
Magnesium		200 - 400	.0005 - .003	.002 - .006	.004 - .010	.006 - .015	.010 - .030	.020 - .050

Fractional Sizes

Note: These speeds are based on 2/3 speeds rated for drilling.

Feet per Minute

Drill Size		10'	20'	30'	40'	50'	60'	70'	80'	90'	100'	110'	120'	130'	140'	150'
Fraction	Decimal	*Revolutions per Minute*														
1/16	.0625	403	807	1210	1614	2017	2420	2823	3227	3663	4033	4437	4840	5244	5647	6050
1/8	.1250	202	403	605	807	1008	1210	1412	1614	1815	2017	2218	2420	2622	2823	3025
3/16	.1875	135	269	403	538	673	807	941	1076	1210	1344	1479	1614	1748	1882	2017
1/4	.2500	101	202	302	403	504	605	706	807	908	1008	1109	1210	1311	1412	1513
5/16	.3125	81	161	242	323	403	484	565	645	726	807	888	968	1049	1129	1210
3/8	.3750	67	135	202	269	336	403	471	538	605	673	739	807	874	941	1008
7/16	.4375	57	116	173	230	288	346	403	461	519	576	634	692	749	807	865
1/2	.5000	50	101	151	202	252	302	353	403	454	504	554	605	655	706	756
5/8	.6250	40	81	121	161	202	242	282	323	363	403	444	484	524	565	605
3/4	.7500	34	67	101	134	168	202	236	269	302	336	370	403	437	471	504
7/8	.8750	29	57	86	116	144	173	202	230	259	288	317	346	375	403	432
1	1.0000	25	50	76	101	126	151	176	202	227	252	277	302	328	353	378
1-1/8	1.1250	22	45	67	90	112	135	157	180	202	224	246	269	291	314	336
1-1/4	1.2500	20	40	61	81	101	121	141	161	182	202	222	242	262	282	302
1-3/8	1.3750	18	37	55	73	92	110	128	147	165	183	202	220	238	257	275
1-1/2	1.5000	17	34	50	67	84	101	117	135	151	168	185	202	218	236	252
1-5/8	1.6250	16	31	46	62	77	93	109	124	140	155	171	186	202	217	233
1-3/4	1.7500	15	29	43	57	72	86	101	116	129	144	158	173	187	202	216
1-7/8	1.8750	13	27	40	53	67	81	94	108	121	135	148	161	175	188	202
2	2.0000	13	25	38	50	63	76	88	101	114	126	139	151	164	176	189
2-1/4	2.2500	11	22	34	45	56	67	79	90	101	112	123	135	146	157	168
2-1/2	2.5000	10	20	30	40	50	61	71	81	90	101	111	121	131	141	151
2-3/4	2.7500	9	18	28	37	46	55	64	73	83	92	101	110	119	128	137
3	3.0000	9	17	25	34	42	50	59	67	76	84	92	101	110	117	126

Letter Sizes

Note: These speeds are based on 2/3 speeds rated for drilling.

Feet per Minute

Drill Size		10'	20'	30'	40'	50'	60'	70'	80'	90'	100'	110'	120'	130'	140'	150'
Letter	Decimal	*Revolutions per Minute*														
A	.2340	108	215	324	432	540	648	756	864	972	1080	1185	1293	1401	1508	1616
B	.2380	106	212	318	424	530	636	742	847	954	1059	1165	1271	1377	1483	1589
C	.2420	104	209	312	416	521	625	729	833	937	1041	1146	1250	1354	1459	1563
D	.2460	102	205	308	411	513	616	719	822	924	1027	1127	1230	1332	1435	1537
E	.2500	101	202	302	403	504	605	706	807	908	1008	1109	1210	1299	1412	1513
F	.2570	98	196	294	392	490	589	686	785	882	981	1079	1177	1275	1373	1471
G	.2610	96	193	290	386	483	579	676	772	869	966	1063	1159	1256	1352	1449
H	.2660	95	189	284	379	474	569	663	758	853	948	1043	1137	1232	1327	1422
I	.2720	92	185	278	371	463	556	649	741	834	927	1020	1112	1205	1298	1390
J	.2770	91	182	273	364	455	546	637	728	819	910	1001	1092	1183	1274	1365
K	.2810	90	180	269	359	449	538	628	717	807	897	987	1076	1166	1256	1346
L	.2900	87	174	261	348	435	521	609	696	782	869	956	1043	1130	1217	1304
M	.2950	85	171	257	342	428	513	599	684	770	855	940	1026	1111	1197	1282
N	.3020	83	167	251	334	418	501	585	668	752	835	918	1002	1085	1169	1252
O	.3160	80	160	240	319	399	479	558	638	718	798	878	957	1037	1117	1197
P	.3230	78	156	234	312	391	469	546	624	703	781	859	937	1014	1094	1171
Q	.3320	76	152	228	304	380	455	531	607	683	759	836	913	987	1063	1139
R	.3390	75	149	223	298	372	446	521	595	669	744	818	894	967	1041	1115
S	.3480	73	145	217	290	362	435	508	579	652	725	797	869	942	1014	1086
T	.3580	71	141	211	281	352	422	492	563	633	704	774	845	915	986	1056
U	.3680	69	137	205	274	343	411	480	548	616	685	754	822	890	959	1028
V	.3770	67	134	201	267	335	401	468	535	602	669	735	805	869	936	1003
W	.3860	65	131	196	261	327	392	457	523	588	653	718	784	849	914	979
X	.3970	63	127	191	254	317	380	444	508	571	635	698	762	826	889	952
Y	.4040	63	125	187	249	312	374	437	499	562	624	686	749	811	874	936
Z	.4130	61	122	183	244	305	366	427	488	549	611	671	733	793	855	915

Note: These speeds are based on 2/3 speeds rated for drilling.

Wire Gage Sizes

Feet per Minute

Drill Size		10'	20'	30'	40'	50'	60'	70'	80'	90'	100'	110'	120'	130'	140'	150'
Wire	Decimal	*Revolutions per Minute*														
1	.2280	111	221	332	442	553	663	774	884	995	1106	1216	1327	1438	1548	1659
2	.2210	114	228	342	456	570	684	799	912	1026	1140	1255	1369	1483	1597	1711
3	.2130	118	237	355	473	592	710	828	946	1065	1183	1303	1420	1538	1657	1775
4	.2090	121	241	362	482	603	724	845	965	1086	1206	1327	1447	1568	1690	1809
5	.2055	123	246	368	491	614	736	859	981	1104	1227	1350	1472	1595	1717	1840
6	.2040	123	247	371	494	618	741	865	989	1112	1236	1360	1483	1606	1730	1854
7	.2010	125	251	376	502	627	752	878	1003	1129	1254	1379	1505	1630	1756	1881
8	.1990	127	253	380	507	634	760	886	1013	1140	1267	1393	1520	1647	1773	1900
9	.1960	129	257	386	515	644	772	900	1029	1158	1286	1415	1544	1672	1800	1929
10	.1935	130	261	391	521	651	781	912	1042	1173	1303	1433	1564	1694	1824	1954
11	.1910	132	264	396	528	660	792	924	1056	1188	1320	1452	1584	1716	1848	1981
12	.1890	133	267	400	533	667	801	934	1067	1201	1334	1467	1601	1734	1867	2001
13	.1850	136	273	409	545	681	818	957	1090	1227	1363	1499	1636	1771	1908	2044
14	.1820	139	277	416	554	693	831	970	1108	1247	1385	1524	1662	1800	1939	2078
15	.1800	141	281	421	562	702	842	983	1123	1263	1404	1540	1680	1821	1961	2101
16	.1770	143	285	427	570	712	855	997	1139	1282	1424	1567	1709	1852	1994	2136
17	.1730	146	292	437	583	729	875	1020	1166	1311	1457	1603	1749	1894	2040	2187
18	.1695	149	298	447	597	746	895	1044	1193	1342	1492	1636	1785	1934	2082	2231
19	.1660	152	304	455	607	760	911	1063	1215	1367	1519	1670	1822	1974	2127	2279
20	.1610	156	314	470	626	783	939	1096	1253	1409	1566	1723	1879	2035	2193	2349
21	.1590	158	317	476	634	793	951	1109	1269	1427	1585	1745	1903	2061	2220	2379
22	.1570	160	321	482	642	803	964	1124	1284	1445	1606	1766	1927	2088	2248	2408
23	.1540	164	327	491	655	818	982	1146	1309	1473	1637	1800	1964	2128	2292	2455
24	.1520	166	332	498	663	830	995	1161	1327	1493	1659	1824	1991	2156	2322	2488
25	.1495	169	337	506	675	842	1012	1181	1349	1518	1686	1855	2024	2193	2361	2529
26	.1470	172	343	514	686	857	1029	1201	1371	1543	1715	1886	2058	2229	2401	2573
27	.1440	175	350	525	700	876	1051	1226	1401	1576	1751	1927	2101	2276	2451	2626
28	.1405	180	359	539	718	898	1076	1256	1436	1615	1795	1973	2153	2332	2512	2691
29	.1360	185	371	556	742	927	1112	1298	1483	1668	1854	2039	2224	2410	2595	2781
30	.1285	196	393	589	785	981	1177	1373	1569	1766	1962	2158	2354	2550	2747	2943
31	.1200	210	420	630	840	1051	1261	1470	1680	1891	2101	2311	2522	2731	2941	3152
32	.1160	217	435	652	869	1087	1304	1521	1738	1956	2173	2391	2608	2825	3043	3260
33	.1130	223	446	669	892	1115	1338	1562	1785	2008	2231	2454	2677	2900	3123	3346
34	.1110	227	454	681	908	1136	1363	1590	1817	2044	2272	2498	2725	2953	3180	3407
35	.1100	229	458	688	917	1146	1375	1604	1833	2063	2292	2522	2750	2979	3208	3438
36	.1065	237	473	710	947	1184	1420	1657	1894	2130	2367	2604	2841	3078	3314	3551
37	.1040	242	485	727	970	1212	1455	1697	1939	2182	2424	2666	2909	3152	3394	3636
38	.1015	248	497	745	993	1242	1490	1738	1987	2235	2484	2732	2981	3229	3478	3726
39	.0995	253	507	760	1014	1267	1520	1773	2027	2280	2534	2787	3041	3294	3547	3800
40	.0980	257	515	772	1029	1286	1544	1801	2058	2315	2573	2829	3087	3344	3602	3858

Continued on next page

Note: These speeds are based on 2/3 speeds rated for drilling.

Wire Gage Sizes (Cont.)

Feet per Minute

Drill Size		10'	20'	30'	40'	50'	60'	70'	80'	90'	100'	110'	120'	130'	140'	150'
Wire	Decimal	*Revolutions per Minute*														
41	.0960	263	525	788	1051	1313	1575	1838	2101	2363	2626	2889	3152	3414	3676	3939
42	.0935	269	539	809	1078	1348	1618	1888	2157	2427	2696	2966	3235	3505	3775	4044
43	.0890	283	566	850	1133	1416	1700	1983	2266	2550	2833	3116	3399	3682	3965	4249
44	.0860	293	586	880	1173	1466	1759	2052	2346	2639	2932	3225	3518	3811	4104	4397
45	.0820	308	615	922	1230	1537	1845	2152	2459	2767	3074	3382	3689	3997	4305	4611
46	.0810	312	622	934	1245	1556	1868	2179	2490	2801	3113	3423	3735	4046	4357	4669
47	.0785	321	642	964	1284	1606	1927	2248	2569	2890	3212	3532	3854	4175	4496	4817
48	.0760	332	663	995	1327	1659	1991	2322	2654	2985	3317	3648	3980	4312	4644	4976
49	.0730	345	691	1036	1381	1727	2072	2418	2763	3109	3454	3799	4144	4493	4835	5180
50	.0700	360	720	1080	1441	1801	2161	2521	2882	3241	3602	3961	4322	4682	5042	5402
51	.0670	376	752	1129	1505	1882	2258	2634	3010	3386	3763	4139	4515	4893	5267	5644
52	.0635	397	794	1191	1588	1985	2382	2779	3176	3573	3970	4369	4764	5161	5558	5955
53	.0595	423	847	1270	1694	2117	2540	2963	3386	3810	4233	4661	5085	5508	5932	6356
54	.0550	458	917	1375	1833	2292	2750	3209	3667	4126	4584	5042	5500	5958	6417	6875
55	.0520	485	970	1455	1939	2424	2909	3394	3879	4363	4848	5333	5818	6302	6787	7278
56	.0465	542	1084	1627	2169	2711	3253	3796	4338	4880	5422	5964	6506	7047	7590	8133
57	.0430	586	1173	1763	2350	2938	3526	4113	4701	5289	5876	6449	7036	7622	8208	8795
58	.0420	601	1201	1801	2400	3001	3601	4202	4802	5403	6003	6603	7203	7803	8403	9004
59	.0410	615	1230	1845	2459	3074	3689	4304	4919	5536	6149	6764	7379	7993	8608	9224
60	.0400	630	1261	1891	2521	3152	3781	4411	5042	5672	6302	6933	7563	8193	8824	9454

- Consider the hardness of the workpiece and the machinability of the material when setting machine speed.
- Feed rate greatly influences reamer life and hole finish quality. Improper feed rates can cause excessive tool wear and inadequate hole finish.
- Slow cutting speeds and increase feeds to eliminate chatter.
- Stock removal on roughing operations should not exceed 2% - 4% of tool diameter.
- Stock removal recommendations on finishing operations are .002 - .004.
- Use a left hand spiral fluted reamer with negative shear action for best results in brass, cast iron and some plastics. This type of reamer helps prevent chips from working back into the spiral flutes and scoring the hole.
- Use constant-flow coolants in all reaming operations. Soluble oil is effective for most metals; however, sulfur-base oils are recommended for stainless and certain alloy steels. Lard oil and kerosene improve the finish on aluminum.

Recommended Stock Removal

Reamer Diameter	Removal (Inches)
Up to 1/16	.003 - .005
1/16 - 1/8	.004 - .008
1/8 - 1/4	.006 - .012
1/4 - 3/8	.008 - .014
3/8 - 1/2	.010 - .015
1/2 - 3/4	.012 - .018

Recommended Feeds

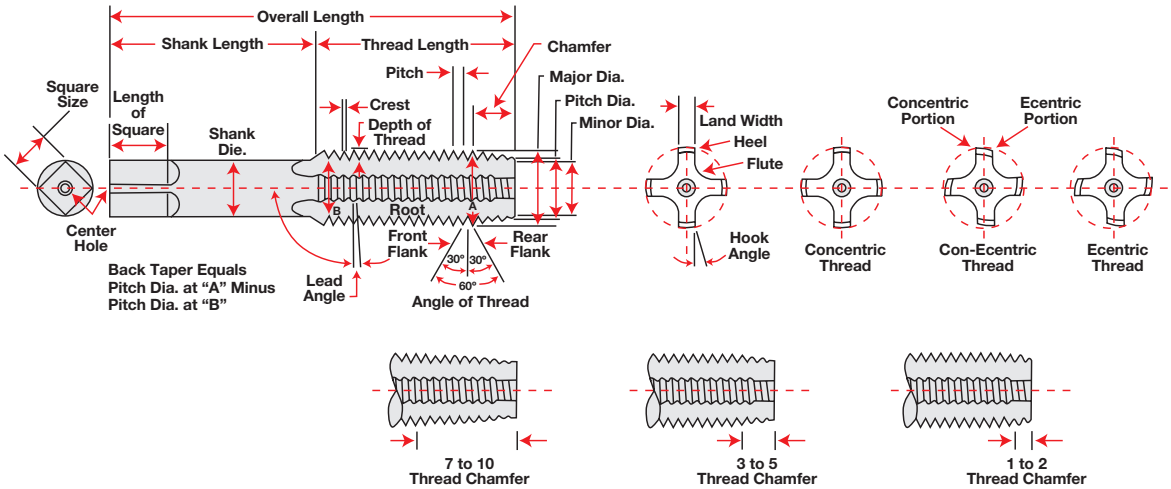
Material	Feed (IPR)
Cast Iron & Malleable Iron	.005 - .010
Non-Ferrous Materials	.005 - .012
Steel	
RC50 or higher	.002 - .004
RC30 - RC50	.004 - .008

Recommended Speeds

Material	Speed (SFM)
Cast Iron & Malleable Iron	0 - 85
Non-Ferrous Materials	90 - 175
Steel	
RC60 or higher	8 - 20
RC50 - RC60	15 - 30
RC40 - RC50	20 - 40
RC30 - RC40	35 - 65
Under RC30	60 - 90

Recommended Lubricants

Material	Lubricant
Cast Iron & Malleable Iron	Soluble oil Water
Non-Ferrous Materials	Soluble oil Water
Steel	
RC50 and up	Light oil
Uncer RC50	Light oil Soluble oil Water



Angle of Thread: The angle included between the flanks of the thread, measured in an axial plane.

Back Taper: A slight axial relief of the tap that makes the pitch diameter of the thread near the shank slightly smaller than the pitch diameter of the thread near the chamfered end.

Basic: The theoretical or nominal standard size from which all variations are made.

Chamfer: The tapering of the threads at the front end of each land. Done by cutting away and relieving the crest of the first few teeth, which distributes the cutting action over several teeth. When the tapering amounts to 7 to 10 threads, the tap is called a "taper" tap; 3 to 5 threads is called a "plug" tap; and 1 to 2 threads is called a "bottoming" tap.

Chamfer Relief: The gradual decrease in height of the lands from cutting edge to heel on the chamfered portion. Provides clearance for the cutting action as the tap advances.

Crest: The top surface joining the two flanks of a thread. The crest of an external thread is at its major diameter, while the crest of an internal thread is at its minor diameter.

Cutting Face: The leading side of the land in the direction of rotation for cutting, on which the chip impinges.

Dryseal: A pipe threaded fuel connection designed for use where the assembled product must withstand high fluid or gas pressures without the use of a sealing compound. Suitable for both external and internal applications.

Flutes: Longitudinal channels formed in a tap to create cutting edges on the thread profile. Provides chip spaces and cutting fluid passages.

Height of Thread: The distance between the crest and the base of a thread, measured normal to the axis.

Helical Flute: A flute with uniform axial lead and constant helix in a helical path around the axis of a cylindrical tap.

Hook Face: A concave cutting face. Usually specified either as chordal hook or tangenital hook.

Chordal Hook Angle: The angle between the chord passing through the root and crest of a thread at the cutting face and a radial line through the crest at the cutting edge.

Tangential Hook Angle: The angle between a line tangent to a hook cutting face at the cutting edge and a radial line to the same point.

Interrupted Thread: A tap with an odd number of lands. Every other tooth along the thread helix is removed.

Lead: The distance a screw thread advances axially in one complete turn. On a single lead screw or tap, the lead and pitch are identical. On a double lead screw or tap, the lead is twice the pitch, and so on for higher lead screws or taps.

Pitch: The distance from any point on a screw or tap thread to a corresponding point on the next thread, measured parallel to the axis. The pitch equals on divided by the number of threads per inch.

Pitch Diameter: On straight threads, the pitch diameter is the diameter of an imaginary coaxial cylinder. The surface of this cylinder would pass through the thread profile at points which would make the width of threads and the width of the spaces cut by the surface of the cylinder equal. On taper threads, the pitch diameter is the diameter at a given distance from a reference plane perpendicular to the axis of an imaginary coaxial cone. The surface of this cone would pass through the thread profile at points which would make the width of the threads and the width of the spaces cut by the surface of the cone equal.

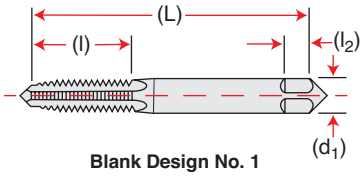
Rake: Deviation of a straight cutting face of the tooth from a radial line. Positive rake means the crest of the cutting face is angularly advanced ahead of the balance of the face of the tooth. Negative rake means the crest of the cutting face is angularly behind the balance of the face of the tooth. Zero rake means the cutting face is directly on the center line.

Root: The bottom surface joining the flanks of two adjacent threads. The root of an external thread is at its minor diameter. The root of an internal thread is at its major diameter.

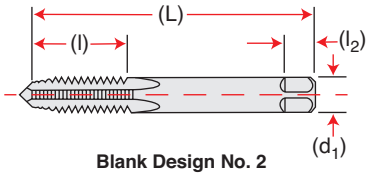
Spiral Point: A supplemental angular fluting cut in the cutting face of the land at the chamfer end. Slightly longer than the chamfer on the tap and the opposite hand to that of rotation. Also known as a "chip driver."

Threads Per Inch: The number of threads in one inch of length.

Thread relief: The clearance produced by removing metal from behind the cutting edge. When the thread angle is relieved from the heel to the cutting edge, it is called an "eccentric" relief. When the thread angle is relieved from the heel to a portion of the land width only, it is called a "con-eccentric" relief.



Blank Design No. 1



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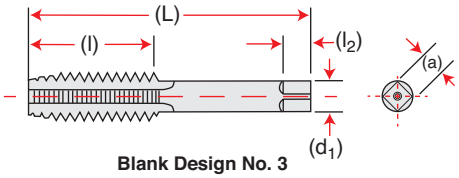


Blank Design No. 3

Nominal Diameter Range Inches Over	to (inc.)	Machine Screw Size Number	Inches	Nominal Fractional Diameter Inches		Nominal Metric Diameter Millimeters, Inches		Blank Design No.	Overall Length L	Thread Length l	Square Length l_2	Shank Diameter d_1	Square Size a
.052	.065	0	(.0600)			M1.6	(.0630)	1	1.63	.31	.19	.1410	.110
.065	.078	1	(.0730)			M1.8	(.0709)	1	1.69	.38	.19	.1410	.110
.078	.091	2	(.0860)			M2 (.0787),	M2.2 (.0866)	1	1.75	.44	.19	.1410	.110
.091	.104	3	(.0990)			M2.5	(.0984)	1	1.81	.50	.19	.1410	.110
.104	.117	4	(.1120)					1	1.88	.56	.19	.1410	.110
.117	.130	5	(.1250)			M3	(.1181)	1	1.94	.63	.19	.1410	.110
.130	.145	6	(.1380)			M3.5	(.1378)	1	2.00	.69	.19	.1410	.110
.145	.171	8	(.1640)			M4	(.1575)	1	2.13	.75	.25	.1680	.131
.171	.197	10	(.1900)			M4.5 (.1772),	M5 (.1969)	1	2.38	.88	.25	.1940	.152
.197	.223	12	(.2160)					1	2.38	.94	.28	.2200	.165
.223	.260			1/4	(.2500)	M6	(.2362)	2	2.50	1.00	.31	.2550	.191
.260	.323			5/16	(.3125)	M7 (.2756),	M8 (.3150)	2	2.72	1.13	.38	.3180	.238
.323	.395			3/8	(.3750)	M10	(.3937)	2	2.94	1.25	.44	.3810	.286
.395	.448			7/16	(.4375)			3	3.16	1.44	.41	.3230	.242
.448	.510			1/2	(.5000)	M12	(.4724)	3	3.38	1.66	.44	.3670	.275
.510	.573			9/16	(.5625)	M14	(.5512)	3	3.59	1.66	.50	.4290	.322
.573	.635			5/8	(.6250)	M16	(.6299)	3	3.81	1.81	.56	.4800	.360
.635	.709			11/16	(.6875)	M18	(.7087)	3	4.03	1.81	.63	.5420	.406
.709	.760			3/4	(.7500)			3	4.25	2.00	.69	.5900	.442
.760	.823			13/16	(.8125)	M20	(.7874)	3	4.47	2.00	.69	.6520	.489
.823	.885			7/8	(.8750)	M22	(.8661)	3	4.69	2.22	.75	.6970	.523
.885	.948			15/16	(.9375)	M24	(.9449)	3	4.91	2.22	.75	.7600	.570
.948	1.010			1	(1.0000)	M25	(.9843)	3	5.13	2.50	.81	.8000	.600
1.010	1.073			1-1/16	(1.0625)	M27	(1.0630)	3	5.13	2.50	.88	.8960	.672
1.073	1.135			1-1/8	(1.1250)			3	5.44	2.56	.88	.8960	.672
1.135	1.198			1-3/16	(1.1875)	M30	(1.1811)	3	5.44	2.56	1.00	1.0210	.766
1.198	1.260			1-1/4	(1.2500)			3	5.75	2.56	1.00	1.0210	.766
1.260	1.323			1-5/16	(1.3125)	M33	(1.2992)	3	5.75	2.56	1.06	1.1080	.831
1.323	1.385			1-3/8	(1.3750)			3	6.06	3.00	1.06	1.1080	.830
1.358	1.448			1-7/16	(1.4375)	M36	(1.4173)	3	6.06	3.00	1.13	1.2230	.925
1.448	1.510			1-1/2	(1.5000)			3	6.38	3.00	1.13	1.2230	.925
1.510	1.635			1-5/8	(1.6250)	M39	(1.5354)	3	6.69	3.19	1.13	1.3050	.979
1.635	1.760			1-3/4	(1.7500)	M42	(1.6535)	3	7.00	3.19	1.25	1.4300	1.072
1.760	1.885			1-7/8	(1.8750)			3	7.31	3.56	1.25	1.5190	1.139
1.885	2.010			2	(2.0000)	M48	(1.8898)	3	7.63	3.56	1.38	1.6440	1.233
2.010	2.135			2-1/8	(2.1250)			3	8.00	3.56	1.38	1.7690	1.327
2.135	2.260			2-1/4	(2.2500)	M56	(2.2047)	3	8.25	3.56	1.44	1.8940	1.420
2.260	2.385			2-3/8	(2.3750)			3	8.50	4.00	1.44	2.0190	1.514
2.385	2.510			2-1/2	(2.5000)			3	8.75	4.00	1.50	2.1000	1.575
2.510	2.635			2-5/8	(2.6250)	M64	(2.5197)	3	8.75	4.00	1.50	2.2250	1.669
2.635	2.760			2-3/4	(2.7500)			3	9.25	4.00	1.56	2.3500	1.762
2.760	2.885			2-7/8	(2.8750)	M72	(2.8346)	3	9.25	4.00	1.56	2.4750	1.856
2.885	3.010			3	(3.0000)			3	9.75	4.56	1.63	2.5430	1.907
3.010	3.135			3-1/8	(3.1250)			3	9.75	4.56	1.63	2.6680	2.001
3.135	3.260			3-1/4	(3.2500)	M80	(3.1496)	3	10.00	4.56	1.75	2.7930	2.095
3.260	3.385			3-3/8	(3.3750)			3	10.00	4.56	1.75	2.8830	2.162
3.385	3.510			3-1/2	(3.5000)			3	10.25	4.94	2.00	3.0080	2.256
3.510	3.635			3-5/8	(3.6250)	M90	(3.5433)	3	10.25	4.94	2.00	3.1330	2.350
3.635	3.760			3-3/4	(3.7500)			3	10.50	5.31	2.13	3.2170	2.413
3.760	3.885			3-7/8	(3.8750)			3	10.50	5.31	2.13	3.3420	2.506
3.885	4.010			4	(4.0000)	M100	(3.9370)	3	10.75	5.31	2.25	3.4670	2.600

For Classes 2, 3, 1B, 2B and 3B
Unified and American National Screw Threads

Size	THREADS PER INCH		RECOMMENDED TAP LIMITS				INTERNAL THREAD PITCH DIAMETER LIMITS				
	NC UNC	NF UNF	Class 2	Class 3	Class 2B	Class 3B	Min. /All Classes (Basic)	Max Class 2	Max Class 3	Max Class 2B	Max Class 3B
0		80	G H1	G H1	G H2	G H1	.0519	.0536	.0532	.0542	.0536
1	64		G H1	G H1	G H2	G H1	.0629	.0648	.0643	.0655	.0648
1		72	G H1	G H1	G H2	G H1	.0640	.0658	.0653	.0665	.0659
2	56		G H1	G H1	G H2	G H1	.0744	.0764	.0759	.0772	.0765
2		64	G H1	G H1	G H2	G H1	.0759	.0778	.0773	.0786	.0779
3	48		G H1	G H1	G H2	G H1	.0855	.0877	.0871	.0885	.0877
3		56	G H1	G H1	G H2	G H1	.0874	.0894	.0889	.0902	.0895
4	40		G H2	G H1	G H2	G H2	.0958	.0982	.0975	.0991	.0982
4		48	G H1	G H1	G H2	G H1	.0985	.1007	.1001	.1016	.1008
5	40		G H2	G H1	G H2	G H2	.1088	.1112	.1105	.1121	.1113
5		44	G H1	G H1	G H2	G H1	.1102	.1125	.1118	.1134	.1126
6	32		G H2	G H1	G H3	G H2	.1177	.1204	.1196	.1214	.1204
6		40	G H2	G H1	G H2	G H2	.1218	.1242	.1235	.1252	.1243
8	32		G H2	G H1	G H3	G H2	.1437	.1464	.1456	.1475	.1465
8		36	G H2	G H1	G H2	G H2	.1460	.1485	.1478	.1496	.1487
10	24		G H3	G H1	G H3	G H3	.1629	.1662	.1653	.1672	.1661
10		32	G H2	G H1	G H3	G H2	.1697	.1724	.1716	.1736	.1726
12	24		G H3	G H1	G H3	G H3	.1889	.1922	.1913	.1933	.1922
12		28	G H3	G H1	G H3	G H3	.1928	.1959	.1950	.1970	.1959
1/4	20		G H3	G H2	G H5	G H3	.2175	.2211	.2201	.2223	.2211
1/4		28	G H3	G H1	G H4	G H3	.2268	.2299	.2290	.2311	.2300
5/16	18		G H3	G H2	G H5	G H3	.2764	.2805	.2794	.2817	.2803
5/16		24	G H3	G H1	G H4	G H3	.2854	.2887	.2878	.2902	.2890
3/8	16		G H3	G H2	G H5	G H3	.3344	.3389	.3376	.3401	.3387
3/8		24	G H3	G H1	G H4	G H3	.3479	.3512	.3503	.3528	.3516
7/16	14		G H5	G H3	G H5	G H3	.3911	.3960	.3947	.3972	.3957
7/16		20	G H3	G H1	G H5	G H3	.4050	.4086	.4076	.4104	.4091
1/2	13		G H5	G H3	G H5	G H3	.4500	.4552	.4537	.4565	.4548
1/2		20	G H3	G H1	G H5	G H3	.4675	.4711	.4701	.4731	.4717
9/16	12		G H5	G H3	G H5	G H3	.5084	.5140	.5124	.5152	.5135
9/16		18	G H3	G H2	G H5	G H3	.5264	.5305	.5294	.5323	.5308
5/8	11		G H5	G H3	G H5	G H3	.5660	.5719	.5702	.5732	.5714
5/8		18	G H3	G H2	G H5	G H3	.5889	.5930	.5919	.5949	.5934
3/4	10		G H5	G H3	G H5	G H5	.6850	.6914	.6895	.6927	.6907
3/4		16	G H3	G H2	G H5	G H3	.7094	.7139	.7126	.7159	.7143
7/8	9		G H6	G H4	G H6	G H4	.8028	.8098	.8077	.8110	.8089
7/8		14	G H4	G H2	G H6	G H4	.8286	.8335	.8322	.8356	.8339
1	8		G H6	G H4	G H6	G H4	.9188	.9264	.9242	.9276	.9254
1		12	G H4	G H2	G H6	G H4	.9459	.9515	.9499	.9535	.9516
1	14 NS		G H4	G H2	G H6	G H4	.9536	.9585	.9572	.9609	.9590
1-1/8	7		G H8	G H4	G H8	G H4	1.0322	1.0407	1.0381	1.0416	1.0393
1-1/8		12	G H4	G H4	G H6	G H4	1.0709	1.0765	1.0749	1.0787	1.0768
1-1/4	7		G H8	G H4	G H8	G H4	1.1572	1.1657	1.1631	1.1668	1.1644
1-1/4		12	G H4	G H4	G H6	G H4	1.1959	1.2015	1.1999	1.2039	1.2019
1-3/8	6		G H8	G H4	G H8	G H4	1.2667	1.2768	1.2738	1.2771	1.2745
1-3/8		12	G H4	G H4	G H6	G H4	1.3209	1.3265	1.3249	1.3291	1.3270
1-1/2	6		G H8	G H4	G H8	G H4	1.3917	1.4018	1.3988	1.4022	1.3996
1-1/2		12	G H4	G H4	G H6	G H4	1.4459	1.4515	1.4499	1.4542	1.4522

NOTES: **Class 1B:** Tapped holes can be produced with cut thread taps. **Class 2B:** Cut thread taps may be used under normal conditions and in average materials for producing tapped holes to this classification. The above recommended taps normally produce the class of thread indicated in average materials when used with reasonable care. However, if the tap specified does not give a satisfactory gage fit in the work, a choice of some other limit tap will be necessary.

Inch Sizes (all measurements in inches)

Tap Size and Pitch	Cutting Taps		Forming Taps	
	Drill Size	Decimal Equiv.	Drill Size	Decimal Equiv.
0-80	3/64	.0469	54	.0550
1-64	53	.0595	51	.0670
1-72	53	.0595	51	.0670
2-56	50	.0700	5/64	.0781
2-64	50	.0700	47	.0785
3-48	47	.0785	43	.0890
3-56	46	.0810	2.30	.0905
4-40	43	.0890	38	.1015
4-48	42	.0935	2.60	.1024
5-40	38	.1015	33	.1130
5-44	37	.1040	2.90	.1142
6-32	36	.1065	1/8	.1250
6-40	33	.1130	3.25	.1280
8-32	29	.1360	25	.1495
8-36	29	.1360	24	.1520
10-24	26	.1470	11/64	.1719
10-32	21	.1590	16	.1770
12-24	16	.1770	8	.1990
12-28	15	.1800	7	.2010
1/4-20	7	.2010	1	.2280
1/4-28	3	.2130	15/64	.2340
5/16-18	F	.2570	L	.2900
5/16-24	I	.2720	M	.2950
3/8-16	5/16	.3125	S	.3480
3/8-24	Q	.3320	T	.3580
7/16-14	U	.3680	Y	.4040
7/16-20	25/64	.3906	Z	.4130
1/2-13	27/64	.4219	15/32	.4682
1/2-20	29/64	.4531	12.25	.4823
9/16-12	31/64	.4844	17/32	.5312
9/16-18	33/64	.5156	13.50	.5315
5/8-11	17/32	.5312	14.75	.5807
5/8-18	37/64	.5781	15.25	.6004
3/4-10	21/32	.6562	45/64	.7031
3/4-16	11/16	.6875	23/32	.7188
7/8-9	49/64	.7656	*	*
7/8-14	13/16	.8125	*	*
1-8	7/8	.8750	*	*
1-12	59/64	.9219	*	*
1-1/8 - 7	63/64	.9844	*	*
1-1/8 - 12	1-3/64	1.0469	*	*
1-1/4 - 7	1-7/64	1.1094	*	*
1-1/4 - 12	1-11/64	1.1719	*	*
1-3/8 - 6	1-7/32	1.2188	*	*
1-3/8 - 12	1-19/64	1.2969	*	*
1-1/2 - 6	1-11/32	1.3438	*	*
1-1/2 - 12	1-27/64	1.4219	*	*

*Contact Technical Service for recommendations.
Hole sizes shown may not suit UNJ and MJ hole requirements.

Metric Sizes

Tap Size and Pitch mm	Cutting Taps		Forming Taps	
	Drill Size mm	Decimal Equiv. in.	Drill Size mm / in.	Decimal Equiv. in.
M1.6 x 0.35	1.25	.0492	1.45	.0571
M1.8 x 0.35	1.45	.0571	1.65	.0650
M2 x 0.40	1.60	.0630	1.80	.0709
M2.2 x 0.45	1.75	.0689	2.00	.0787
M2.5 x 0.45	2.05	.0807	2.30	.0906
M3 x 0.50	2.50	.0984	7/64	.1094
M3.5 x 0.60	2.90	.1142	3.20	.1260
M4 x 0.70	3.30	.1299	3.70	.1476
M4.5 x 0.75	3.70	.1476	4.10	.1614
M5 x 0.80	4.20	.1654	14	.1820
M6 x 1.00	5.00	.1969	7/32	.2188
M7 x 1.00	6.00	.2362	F	.2570
M8 x 1.25	6.70	.2638	7.40	.2913
M8 x 1.00	7.00	.2756	19/64	.2969
M10 x 1.50	8.50	.3346	U	.3680
M10 x 1.25	8.70	.3425	9.40	.3701
M12 x 1.75	10.20	.4016	11.20	.4409
M12 x 1.25	10.80	.4252	11.50	.4528
M14 x 2.00	12.00	.4724	33/64	.5156
M16 x 2.00	14.00	.5512	19/32	.5938
M16 x 1.50	14.50	.5709	15.25	.6004
M18 x 2.50	15.50	.6102	39/64	.6094
M18 x 1.50	16.50	.6496	17.25	.6791
M20 x 2.50	17.50	.6890	*	*
M20 x 1.50	18.50	.7283	*	*
M22 x 2.50	19.50	.7677	*	*
M22 x 1.50	20.50	.8071	*	*
M24 x 3.00	21.00	.8268	*	*
M24 x 2.00	22.00	.8661	*	*
M27 x 3.00	24.00	.9449	*	*
M27 x 2.00	25.00	.9843	*	*
M30 x 3.50	26.50	1.0433	*	*
M30 x 2.00	28.00	1.1024	*	*
M33 x 3.50	29.50	1.1614	*	*
M33 x 2.00	31.00	1.2205	*	*
M36 x 4.00	32.00	1.2598	*	*
M36 x 3.00	33.00	1.2992	*	*
M39 x 4.00	35.00	1.3780	*	*
M39 x 3.00	36.00	1.4173	*	*

Pipe Tap Sizes (measurements in millimeters & inches)

Nominal Pipe Tap Size	NPT & NPTF		NPSM	NPSC	NPSF
	Without Reamer	With Reamer			
1/16-27	C .242	A .234	—	.250	D .246
1/8-27	Q .332	21/64	T .358	Q .332	R .339
1/4-18	7/16	27/64	15/32	7/16	7/16
3/8-18	9/16	9/16	.603 (special)	37/64	37/64
1/2-14	45/64	11/16	19 mm	18 mm	18 mm
3/4-14	29/32	57/64	61/64	59/64	59/64
1 – 11-1/2	1-9/64	1-1/8	1-13/64	1-5/32	1-5/32
1-1/4 –11-1/2	1-31/64	1-15/32	1-35/64	1-1/2	—
1-1/2 –11-1/2	1-23/32	1-45/64	1-25/32	1-47/64	—
2 – 11-1/2	2-3/16	2-11/64	2-1/4	2-13/64	—

Probable Percentage of Full Thread Produced in Tapped Hole Using Stock Sizes of Drill

TAP	Tap Drill	Decimal Equiv.	Theoretical % of Thread	Probable Oversize (Mean)	Hole Size	% of Thread
0-80	56	.0465	83	.0015	.0480	74
	3/64	.0469	81	.0015	.0484	71
1-64	54	.0550	89	.0015	.0565	81
	53	.0595	67	.0015	.0610	59
1-72	53	.0595	75	.0015	.0610	67
	1/16	.0625	58	.0015	.0640	50
2-56	51	.0670	82	.0017	.0687	74
	50	.0700	69	.0017	.0717	62
2-56	49	.0730	56	.0017	.0747	49
	50	.0700	79	.0017	.0717	70
2-64	49	.0730	64	.0017	.0747	56
	48	.0760	85	.0017	.0779	78
3-48	5/64	.0781	77	.0019	.0800	70
	47	.0785	76	.0019	.0804	69
3-48	46	.0810	67	.0019	.0829	60
	45	.0820	63	.0019	.0839	56
3-56	46	.0810	78	.0019	.0829	69
	45	.0820	73	.0019	.0839	65
	44	.0860	56	.0019	.0879	48
4-40	44	.0860	80	.0020	.0880	74
	43	.0890	71	.0020	.0910	65
4-40	42	.0935	57	.0020	.0955	51
	3/32	.0938	56	.0020	.0958	50
4-48	42	.0935	68	.0020	.0955	61
	3/32	.0938	68	.0020	.0958	60
	41	.0960	59	.0020	.0980	52
5-40	40	.0980	83	.0023	.1003	76
	39	.0995	79	.0023	.1018	71
5-40	38	.1015	72	.0023	.1038	65
	37	.1040	65	.0023	.1063	58
5-44	38	.1015	79	.0023	.1038	72
	37	.1040	71	.0023	.1063	63
	36	.1065	63	.0023	.1088	55
6-32	37	.1040	84	.0023	.1063	78
	36	.1065	78	.0026	.1091	71
6-32	7/64	.1094	70	.0026	.1120	64
	35	.1100	69	.0026	.1126	63
6-32	34	.1110	67	.0026	.1136	60
	33	.1130	62	.0026	.1156	55
6-40	34	.1110	83	.0026	.1136	75
	33	.1130	77	.0026	.1156	69
	32	.1160	68	.0026	.1186	60
8-32	29	.1360	69	.0029	.1389	62
	28	.1405	58	.0029	.1434	51
8-36	29	.1360	78	.0029	.1389	70
	28	.1405	68	.0029	.1434	57
	9/64	.1406	68	.0029	.1435	57
10-24	27	.1440	85	.0032	.1472	79
	26	.1170	79	.0032	.1502	74
10-24	25	.1495	75	.0032	.1527	69
	24	.1520	70	.0032	.1552	64
10-24	23	.1540	67	.0032	.1572	61
	5/32	.1563	62	.0032	.1595	56
	22	.1570	61	.0032	.1602	55
10-32	5/32	.1563	83	.0032	.1595	75
	22	.1570	81	.0032	.1602	73
10-32	21	.1590	76	.0032	.1622	68
	20	.1610	71	.0032	.1642	64
	19	.1660	59	.0032	.1692	51
12-24	11/64	.1719	82	.0035	.1754	75
	17	.1730	79	.0035	.1765	73
12-24	16	.1770	72	.0035	.1805	66
	15	.1800	67	.0035	.1835	60
	14	.1820	63	.0035	.1855	56
12-28	16	.1770	84	.0035	.1805	77
	15	.1800	78	.0035	.1835	70
12-28	14	.1820	73	.0035	.1855	66
	13	.1850	67	.0035	.1885	59
	3/16	.1875	61	.0035	.1910	54
1/4-20	9	.1960	83	.0038	.1998	77
	8	.1990	79	.0038	.2028	73
1/4-20	7	.2010	75	.0038	.2048	70
	13/64	.2031	72	.0038	.2069	66
1/4-20	6	.2040	71	.0038	.2078	65
	5	.2055	69	.0038	.2093	63
	4	.2090	63	.0038	.2128	57

TAP	Tap Drill	Decimal Equiv.	Theoretical % of Thread	Probable Oversize (Mean)	Hole Size	% of Thread
1/4-28	3	.2130	80	.0038	.2168	72
	7/32	.2188	67	.0038	.2226	59
	2	.2210	63	.0038	.2248	55
5/16-18	F	.2570	77	.0038	.2608	72
	G	.2610	71	.0041	.2651	66
5/16-18	17/64	.2656	65	.0041	.2697	59
	H	.2660	64	.0041	.2701	59
5/16-24	H	.2660	86	.0041	.2701	78
	I	.2720	75	.0041	.2761	67
	J	.2770	66	.0041	.2811	58
3/8-16	5/16	.3125	77	.0044	.3169	72
	O	.3160	73	.0044	.3204	68
	P	.3230	64	.0044	.3274	59
3/8-24	21/64	.3281	87	.0044	.3325	79
	Q	.3320	79	.0044	.3364	71
	R	.3390	67	.0044	.3434	58
7/16-14	T	.3580	86	.0046	.3626	81
	23/64	.594	84	.0046	.3640	79
7/16-14	U	.3680	75	.0046	.3726	70
	3/8	.3750	67	.0046	.3796	62
	V	.3770	65	.0046	.3816	60
7/16-20	W	.3860	79	.0046	.3906	72
	25/64	.3906	72	.0046	.3952	65
	X	.3970	62	.0046	.4016	55
1/2-13	27/64	.4219	78	.0047	.4266	73
	7/16	.4375	63	.0047	.4422	58
1/2-20	29/64	.4531	72	.0047	.4578	65
9/16-12	15/32	.4688	87	.0048	.4736	82
	31/64	.4844	72	.0048	.4892	68
9/16-18	1/2	.5000	87	.0048	.5048	80
	33/64	.5156	65	.0048	.5204	58
5/8-11	17/32	.5313	79	.0049	.5362	75
	35/64	.5469	66	.0049	.5518	62
5/8-18	9/16	.5625	87	.0049	.5674	80
	37/64	.5781	65	.0049	.5831	58
3/4-10	41/64	.6406	84	.0050	.6456	80
	21/32	.6563	72	.0050	.6613	68
3/4-16	11/16	.6875	77	.0050	.6925	71
7/8-9	49/64	.7656	76	.0052	.7708	72
	25/32	.7812	65	.0052	.7864	61
7/8-14	51/64	.7969	84	.0052	.8021	79
	13/16	.8125	67	.0052	.8177	62
1"-8	55/64	.8594	87	.0059	.8653	83
	7/8	.8750	77	.0059	.8809	73
1"-8	57/64	.8906	67	.0059	.8965	64
	29/32	.9063	58	.0059	.9122	54
1"-12	29/32	.9063	87	.0060	.9123	81
	59/64	.9219	72	.0060	.9279	67
	15/16	.9375	58	.0060	.9435	52
1"-14	59/64	.9219	84	.0060	.9279	78
	15/16	.9375	67	.0060	.9435	61
1-1/8 – 7	31/32	.9688	84	.0062	.9750	81
	63/64	.9844	76	.0067	.9911	72
1-1/8 – 7	1	1.0000	67	.0070	1.0070	64
	1-1/64	1.0156	59	.0070	1.0226	55
1-1/8 – 12	1-1/32	1.0313	87	.0071	1.0384	80
	1-3/64	1.0469	72	.0072	1.0541	66
1-1/4 – 7	1-3/32	1.0938	84	REAMING RECOMMENDED		
	1-7/64	1.1094	76			
	1-1/8	1.1250	67			
1-1/4 – 12	1-5/32	1.1563	87			
	1-11/64	1.1719	72			
1-3/8 – 6	1-3/16	1.1875	87			
	1-13/64	1.2031	79			
1-3/8 – 6	1-7/32	1.2188	72			
	1-15/64	1.2344	65			
1-3/8 – 12	1-9/32	1.2813	87			
	1-19/64	1.2969	72			
1-1/2 – 6	1-5/16	1.3125	87			
	1-21/64	1.3281	79			
1-1/2 – 6	1-11/32	1.3438	72			
	1-23/64	1.3594	65			
1-1/2 – 12	1-13/32	1.4063	87			
	1-27/64	1.4219	72			

Probable Percentage of Full Thread Produced in Tapped Hole Using Stock Sizes of Drill

Metric Tap Size (mm)	Tap Drill Drill (mm or in.)	Decimal Equiv. Tap Drill (in.)	Theoretical % of Tap Drill (in.)	Probable Mean Oversize (in.)	Probable Hole Size (in.)	Probable % of Thread
1.6 x 0.35	1.20	.0472	88	.0014	.0486	80
	1.25	.0492	77	.0014	.0506	69
2 x 0.40	1/16	.0625	79	.0015	.0640	72
	1.60	.0630	77	.0017	.0647	69
	52	.0635	74	.0017	.0652	66
2.5 x 0.45	2.05	.0807	77	.0019	.0826	69
	46	.0810	76	.0019	.0829	67
	45	.0820	71	.0019	.0839	63
3 x 0.50	40	.0980	79	.0023	.1003	70
	2.50	.0984	77	.0023	.1007	68
	39	.0995	73	.0023	.1018	64
3.5 x 0.60	33	.1130	81	.0026	.1156	72
	2.90	.1142	77	.0026	.1168	68
	32	.1160	71	.0026	.1186	63
4 x 0.70	3.20	.1260	88	.0029	.1289	80
	30	.1285	81	.0029	.1314	73
	3.30	.1299	77	.0029	.1328	69
4.5 x 0.75	3.70	.1457	82	.0032	.1489	74
	26	.1470	79	.0032	.1502	70
	25	.1495	72	.0032	.1527	64
5 x 0.80	4.20	.1654	77	.0032	.1686	69
	19	.1660	75	.0032	.1692	68
6 x 1.00	10	.1935	84	.0038	.1973	76
	9	.1960	79	.0038	.1998	71
	5.00	.1969	77	.0038	.2006	70
	8	.1990	73	.0038	.2028	65

Metric Tap Size (mm)	Tap Drill Drill (mm or in.)	Decimal Equiv. Tap Drill (in.)	Theoretical % of Tap Drill (in.)	Probable Mean Oversize (in.)	Probable Hole Size (in.)	Probable % of Thread
7 x 1.00	A	.2340	81	.0038	.2378	74
	6.00	.2362	77	.0038	.2400	70
	B	.2380	74	.0038	.2418	66
8 x 1.25	6.70	.2638	80	.0041	.2679	74
	17/64	.2656	77	.0041	.2697	71
	H	.2660	77	.0041	.2701	70
	6.80	.2677	74	.0041	.2718	68
10 x 1.50	8.40	.3307	82	.0044	.3351	76
	Q	.3320	80	.0044	.3364	75
	8.50	.3346	77	.0044	.3390	71
12 x 1.75	10.20	.4016	79	.0047	.4063	75
	Y	.4040	76	.0047	.4087	71
	13/32	.4062	74	.0047	.4109	69
14 x 2.00	15/32	.4688	81	.0048	.4736	76
	12.00	.4724	77	.0048	.4772	72
16 x 2.00	35/64	.5469	81	.0049	.5518	76
	14.00	.5512	77	.0049	.5561	72
20 x 2.50	11/16	.6875	78	.0050	.6925	74
	17.50	.6890	77	.0052	.6942	73
24 x 3.00	13/16	.8125	86	.0052	.8177	82
	21.00	.8268	76	.0054	.8322	73
	53/64	.8281	76	.0054	.8335	73
30 x 3.50	1-1/32	1.0312	83	.0071	1.0383	80
	25.50	1.0433	77	.0071	1.0504	73
	1-3/64	1.0469	75	.0072	1.0541	70
36 x 4.00	1-17/64	1.2656	74	REAMING RECOMMENDED		

TAP DRILL SIZE FORMULAE

$$\text{Major Diameter of Thread} - \frac{.01299 \times \text{Amt. of percentage of full thread}}{\text{Number of threads per inch}} = \text{Drilled Hole Size}$$

Note: Select nearest commercial stock drill.

Percentage of Full Thread for Other Drill Sizes

$$\text{No. of Threads per Inch} \left(\frac{\text{Major Diameter of Thread - Selected Drill Diameter}}{.01299} \right) = \text{Percentage of Full Thread}$$

Tap Size	Pitch	75% Thread		70% Thread		65% Thread		60% Thread	
		Theoretical Hole Size	Nearest Drill Size	Theoretical Hole Size	Nearest Drill Size	Theoretical Hole Size	Nearest Drill Size	Theoretical Hole Size	Nearest Drill Size
2	56	.0769	1.95	.0774	1.95	.0781	5/64	.0787	47
2	64	.0780	5/64	.0785	47	.0791	2.0	.0796	2.0
3	48	.0884	2.25	.0890	43	.0898	43	.0905	2.3
3	56	.0899	43	.0904		.0911	2.3	.0917	2.3
4	40	.0993	2.5	.1000	39	.1010	39	.1018	38
4	48	.1014	38	.1020	38	.1028	2.6	.1035	2.6
5	40	.1123	34	.1130	33	.1140	33	.1148	2.9
5	44	.1134	33	.1141	2.9	.1150	2.9	.1157	
6	32	.1221	3.1	.1230	3.1	.1242		.1252	1/8
6	40	.1253	1/8	.1260	3.2	.1270	3.2	.1278	3.25
8	32	.1481	3.75	.1490		.1502	25	.1512	3.8
8	36	.1498	25	.1507	3.8	.1517	24	.1526	24
10	24	.1688		.1700	18	.1716	11/64	.1729	11/64
10	32	.1741	17	.1750	=	.1762		.1772	16
12	24	.1948	10	.1960	9	.1976	5.0	.1989	8
12	28	.1978	5.0	.1989	8	.2002	8	.2014	7
1/4	20	.2245	5.7	.2260		.2279	1	.2295	1
1/4	28	.2318		.2329	5.9	.2342	A	.2354	15/64
5/16	18	.2842	7.2	.2861	7.25	.2879	7.3	.2898	L
5/16	24	.2912	7.4	.2927		.2941	M	.2955	7.5
3/8	16	.3431	11/32	.3452	8.75	.3474	S	.3495	8.9
3/8	24	.3537	9.0	.3552	9.0	.3566		.3580	T
7/16	14	.4011		.4035	Y	.4059	13/32	.4084	
7/16	20	.4120	Z	.4137	10.5	.4154		.4171	
1/2	13	.4608		.4634		.4660		.4686	15/32
1/2	20	.4745	12.0	.4762		.4779		.4796	
9/16	12	.5200		.5229		.5257		.5285	17/32
9/16	18	.5342	13.5	.5361		.5380		.5398	

FORMULA FOR TAP / DRILL SIZES FOR DECIMAL / INCH TAPS:

$$\text{HOLE SIZE} = \text{Basic Tap O.D.} - \left(\frac{.0068 \times \%\ \text{of Thread*}}{\text{Threads per Inch}}\right)$$

For example:
To determine drill size for a 1/4-20 thread forming tap at 65% of thread: $.250 - \left(\frac{.0068 \times 65}{20}\right) = .2279$

*Use whole number for % of thread... for 65%, use 65 (not .65).

FORMULA FOR TAP / DRILL SIZES FOR METRIC TAPS:

$$\text{HOLE SIZE (mm)} = \text{Basic Tap O.D. (mm)} - \left(\frac{\%\ \text{of Thread} \times \text{mm Pitch}}{147.06}\right)$$

*Use whole number for % of thread... for 65%, use 65 (not .65).

MATERIAL TO BE TAPPED	LUBRICANT / COOLANT	SPEED - (SFM)
Aluminum (wrought)	Soluble, light base or lard oil	90 - 150
Aluminum die casting	Soluble or lard oil	65 - 75
Aluminum bronze	Mineral oil with lard or light oil	20 - 60
Bakelite (hard plastic)	Dry or air jet	25 - 40
Beryllium copper	Soluble light base oil	50 - 90
Brass	Soluble light base oil	100 - 200
Bronze (free-machine)	Soluble light base oil	80 - 150
Cast brass	Soluble light base oil	100 - 200
Cast iron (gray)	Dry or soluble oil	20 - 80
Copper	Soluble light base oil	80 - 150
Copper - nickel	Soluble light base oil	10 - 20
Delrin	Dry, air jet or water soluble	65 - 100
Ductile iron	Soluble or sulphur based oils	30 - 50
Duralumin	Soluble or lard oil	50 - 90
Ferro-Tic	Anti-seize compound	8 - 20
Fiberglass	Dry or air jet	25 - 40
Hastelloy	Sulphur based oils	8 - 20
Inconel	Sulphur based oils	8 - 20
Magnesium	Soluble light base oil	100 - 150
Malleable iron	Soluble or sulphur based oils	30 - 50
Manganese	Sulphur based oils	8 - 20
Manganese bronze	Soluble light base oil	20 - 60
Molybdenum	Sulphur based oils	20 - 45
Monel	Sulphur based oils	8 - 20
Naval brass	Soluble light base oil	100 - 200
Naval bronze	Soluble light base oil	80 - 150
Nickel silver	Sulphur based oils	20 - 60
Nickel (pure)	Soluble light base oil	5 - 25
Nitralloy	Sulphur based oils	8 - 20
Nitronic (*no guarantee)	Sulphur based oils	8 - 20
Nylon	Dry, air jet or water soluble	65 - 100
Plastics:		
Thermoplastic (soft)	Dry, air jet or water soluble	65 - 100
ABS, Delrin, nylon, PVC, etc.		
Thermosetting (hard)	Dry or air jet	25 - 40
Bakelite, laminates,		
Phenolic, polyesters, etc.		
Powdered metal (sintered)	Soluble light base oil	25 - 80
Rubber, hard	Dry	50 - 200
Silicon bronze	Soluble light base oil	20 - 60
Steel:		
Carbon steel	Sulphur based oil	40 - 90
Cold-rolled steel (1018, etc.)	Sulphur based oil	40 - 90
Forged	Sulphur based oil	20 - 50
Leaded (12L14, etc.)	Sulphur based oil	40 - 90
Stainless		
Free machining	Sulphur based oil	20 - 40
Precip. Hardening	Sulphur based oil	8 - 20
Tool	Sulphur based oil	20 - 50
Titanium	Sulphur based oil	20 - 50
Tungsten	Sulphur based oil	8 - 20
Turcite (soft plastic)	Dry, air jet or water soluble	65 - 100
Zamak (zinc die cast)	Soluble light base oil	50 - 200
Zinc	Soluble light base oil	50 - 200

- Speeds shown are suggested starting points only. Speeds may be increased or decreased depending on the actual material and machining conditions. Begin at lowest possible speed and increase until the machining cycle is optimized.
- Tap speeds may be increased for coated taps, spiral point taps, fine pitch taps and when the percentage of thread is decreased.
- It may be necessary to decrease tap speeds for uncoated taps, spiral flute taps, coarse pitch taps, bottoming taps, difficult materials, longer thread inserts and when the percentage of thread is increased.
- Generally, thread forming taps form threads more efficiently at higher speeds. Suggested speeds are up to 50% to 100% higher than the suggested speeds for cutting taps in similar applications.
- Pipe tap speeds should be between ½ and ¾ of the speeds of taps of comparable diameter and pitch.

UNC/UNF and NPT/NPTF Sizes

UNC UNF Tap Size	NPT NPTF Taper Pipe	Surface Feet per Minute (SFM)																	
		5'	10'	15'	20'	25'	30'	40'	50'	60'	70'	80'	90'	100'	110'	120'	130'	140'	150'
		Revolutions per Minute (RPM)																	
0		318	637	955	1273	1592	1910	2546	3183	3820	4456	5093	5729	6366	7003	7639	8276	8913	9549
1		273	546	819	1046	1308	1570	2093	2617	3140	3663	4186	4710	5233	5756	6279	6805	7326	1849
2		212	424	637	888	1110	1333	1777	2221	2665	3109	3554	3999	4442	4886	5330	5774	6218	6662
3		191	382	573	772	964	1157	1543	1929	2315	2701	3086	3472	3858	4244	4629	5015	5401	5787
4		174	347	521	682	853	1023	1364	1705	2046	2387	2728	3069	3411	3751	4092	4434	4775	5115
5		147	294	441	611	764	917	1222	1528	1833	2139	2445	2750	3056	3361	3667	3973	4278	4584
6		136	273	409	553	691	829	1106	1382	1859	1935	2212	2488	2766	3042	3318	3595	3871	4148
8		119	239	358	466	583	699	932	1165	1398	1631	1864	2097	2330	2563	2796	3029	3262	3495
10		101	201	302	402	502	603	804	1005	1205	1406	1607	1808	2009	2210	2411	2612	2813	3014
12		87	174	260	354	442	531	707	884	1061	1238	1415	1592	1769	1945	2122	2300	2476	2653
1/4		76	153	229	306	382	458	611	764	917	1070	1222	1375	1528	1681	1833	1986	2139	2292
5/16		62	123	185	245	306	367	489	611	733	856	978	1100	1222	1345	1467	1589	1711	1833
3/8		50	101	151	204	255	305	407	509	611	713	815	917	1019	1120	1222	1324	1426	1528
7/16	**1/8**	43	87	130	175	219	262	349	437	524	611	698	786	873	960	1048	1135	1222	1310
1/2	—	38	76	115	153	191	229	305	382	458	535	611	688	764	840	917	993	1070	1146
9/16	**1/4**	34	68	102	137	172	206	274	342	410	478	547	616	683	752	820	888	952	1020
5/8	—	32	64	96	122	153	183	244	306	367	428	489	550	611	672	733	794	856	917
11/16	**3/8**	28	55	83	111	138	167	222	278	333	389	444	500	556	611	667	722	778	833
3/4	—	25	51	76	102	128	153	203	255	305	357	407	458	509	560	611	662	713	764
7/8	**1/2**	22	43	65	87	109	131	175	218	262	306	350	392	437	480	524	568	611	655
1	—	19	38	57	76	96	115	153	191	230	268	305	344	382	420	458	497	535	573
1-1/8	**3/4**	17	34	51	68	84	102	136	170	204	238	272	306	340	373	407	441	475	509
1-1/4	—	15	31	46	61	76	92	122	153	183	214	244	275	305	336	367	397	428	458
1-3/8	**1**	14	28	42	56	69	83	111	139	167	194	222	250	278	306	333	361	389	417
1-1/2	—	13	25	38	51	63	76	102	127	153	178	204	229	255	280	305	331	356	382
1-5/8		12	23	35	47	59	71	94	118	141	165	188	212	235	259	282	306	329	353
1-3/4		11	22	33	44	55	65	87	109	131	153	175	196	218	240	262	284	306	327
1-7/8		10	20	30	41	51	61	81	102	122	143	163	183	204	224	244	265	285	306
2		9	19	29	38	48	57	76	96	115	134	153	172	191	210	229	248	267	287

Metric Sizes

Tap Size	Surface Feet per Minute (SFM)																	
	5'	10'	15'	20'	25'	30'	40'	50'	60'	70'	80'	90'	100'	110'	120'	130'	140'	150'
	Revolutions per Minute (RPM)																	
M1	490	979	1469	1959	2449	2938	3918	4897	5877	6856	7836	8815	9795	10774	11754	12733	13713	14692
M2	242	484	725	967	1209	1451	1934	2418	2901	3385	3868	4352	4835	5319	5803	6286	6770	7253
M3	162	324	486	347	809	971	1295	1619	1942	2266	2590	2914	3237	3561	3885	4208	4532	4856
M3.5	138	277	415	554	692	830	1107	1384	1661	1938	2214	1491	2768	3045	3322	3599	3875	4152
M4	122	243	365	487	608	730	973	1217	1460	1703	1946	2190	2433	2676	2920	3163	3406	3650
M5	97	194	291	388	485	582	776	970	1163	1357	1551	1745	1939	2133	2327	2521	2715	2905
M6	81	162	243	324	405	486	647	809	971	1133	1295	1457	1619	1781	1942	2104	2266	2428
M7	69	138	208	277	346	415	554	692	830	969	1107	1246	1384	1522	1661	1799	1938	2076
M8	61	121	182	243	303	364	485	606	728	849	970	1091	1213	1334	1455	1577	1698	1819
M10	48	97	145	194	242	291	388	485	582	679	776	873	970	1067	1163	1260	1357	1454
M12	40	81	121	162	202	243	324	405	486	567	647	728	809	890	971	1052	1133	1214
M14	35	69	104	139	173	208	277	347	416	485	555	624	693	763	832	901	971	1040
M16	30	61	91	121	152	182	243	303	364	424	485	546	606	667	728	788	849	910
M18	27	54	81	108	135	162	216	269	323	377	431	485	539	593	647	700	754	808
M20	24	49	73	97	121	146	194	243	291	340	388	437	485	534	582	631	680	728
M22	22	44	66	88	110	132	176	221	265	309	353	397	441	485	529	573	618	662
M24	20	40	61	81	101	121	162	202	243	283	323	364	404	445	485	526	566	606
M27	18	36	54	72	90	108	144	180	216	252	287	323	359	395	431	467	503	539
M30	16	32	49	65	81	97	129	162	194	226	259	291	323	356	388	420	453	485

Tap breakage:
- The tap is dull.
- The wrong type of tap is used.
- The tap is incorrectly ground.
- The tap drill is too small.
- The drilled hole is too shallow.
- The tap is misaligned with the hole.
- The wrong machine is used.
- An incorrect fixture or holding device is used.
- Work hardened material.
- There is a lack of lubricant, or the wrong type is used.

Tap failure on reversal:
- The tap is cutting too tightly. The cutting face angle should be increased.
- The tap is galling. The face angle on the back of the land should be increased.
- Chips are wedged between the flutes.

Chips clogging flutes:
- The wrong type of tap is used.
- The chamfer is insufficient.
- The cutting face angle is incorrect.
- The flutes are rough.
- The flutes are improperly reground.
- There is a lack of lubricant, or the wrong type is used.

Stripped or chipped tap threads:
- The tap is misaligned.
- The tap is carelessly handled.
- The tap is dull.
- The tap is too hard.
- The tap is improperly sharpened.
- A surface treated tap is used in the wrong application.

Torn threads in tapped part:
- The cutting face angle is incorrect; usually, the angle is too small.
- The tap drill is too small.
- Chips are clogging the flutes.
- The tap has broken threads.
- The tap is improperly resharpened.
- There is a lack of lubricant, or the wrong type is used.

Tap sticking or binding:
- The tap drill is too small.
- The tap lands are too wide.
- The cutting face angle is incorrect.
- There is a lack of lubricant, or the wrong type is used.
- A surface treatment (lubricant) is required.

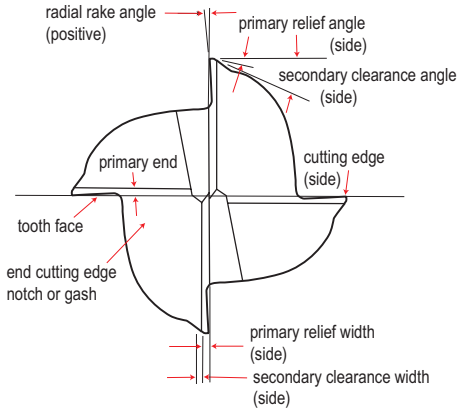
Excessive tap wear:
- The material is abrasive, or inclusions are present. A surface treated tap is required.
- The tap is misaligned.

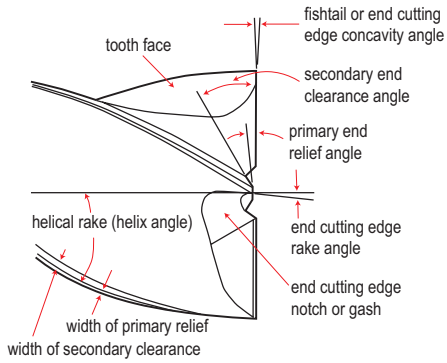
Cutting face breakdown:
- The cutting face angle is incorrect.
- A surface treatment is required.

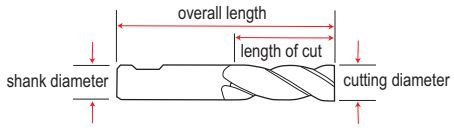
Tap overheating:
- The land width is excessive.
- There is a lack of lubricant, or the wrong type is used.
- The tap is dull.
- There is excessive flank contact. Pitch diameter relief is required.
- The tap is used at excessive speeds.

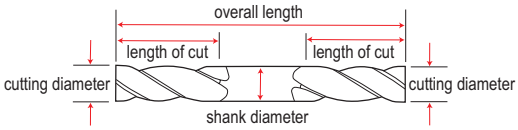
Poor finish on thread in tapped part:
- Pitch diameter relief is required.
- The face angle is incorrect; usually, the angle is too small.
- The tap drill is too small.
- There are an insufficient number of chamfered threads.
- The tap is dull.
- There is a lack of lubricant, or the wrong type is used.

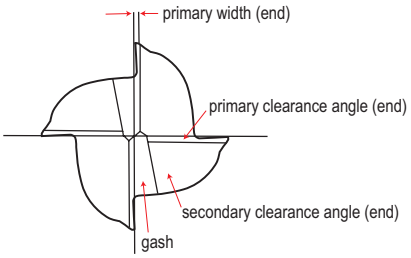
Excessive frictional drag and power requirement:
- Pitch diameter relief is required.
- The point size on the tap is too small.
- The tap is dull.
- The cutting face angle is incorrect.
- The tapping speed is incorrect.
- There is a lack of lubricant, or the wrong type is used.
- The equipment used is incorrect or inadequate.
- The tap is misaligned.



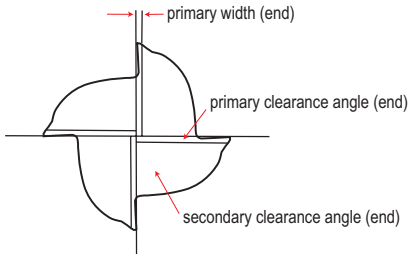








Center Cutting End View



Non-Center Cutting End View

An end mill is a straight or tapered shank milling cutter, which extends or projects from the milling machine spindle unobstructed. It is one of the most versatile and most-used of the cutting tools in any machine shop. It is capable of milling, drilling, reaming, planning, shaping, contour cutting and more. Improvements in cutting efficiency through both design and material changes have only increased the use of this style of tool.

Axial Relief: The relief, measured in the axial direction, between a plane perpendicular to the axis at the cutting edge and the relieved surface.

Clearance (Secondary Relief): The additional space provided behind the relieved land. Eliminates undesirable contact between the mill and the workpiece.

Cutting Edge: The leading edge of the cutter tooth.

Flute: The chip space between the back of one tooth and the face of the following tooth.

Gash: The secondary cuts on a mill. Provides chip room.

Heel: The back edge of the relieved land.

Helical Rake: The angle between the tool axis and a tangent plane at a given point on the flute face.

Helix Angle: The cutting edge angle made by a helical cutting edge with a plane containing the axis of a cylindrical mill. When viewed from the cutter end of the mill, the flute will move clockwise for a right hand helix.

Hook: A concave condition of a tooth face. The rake of a hooked tooth face must be determined at a given point.

Land: Used to define the width of a specified surface.

Left Hand Cut: When viewed from the cutting end of the mill, a clockwise rotation of the mill is required to cut.

Length of Cut: The effective axial length of the relieved peripheral cutting edge.

Radial Rake: The angle between the tooth face and a radial line passing through the cutting edge in a plane perpendicular to the cutting axis.

Rake: The angular relationship between a reference plane or line and the tooth face or a tangent to the tooth face at a given point.

Relief: The result of the removal of tool material behind or adjacent to the cutting edge. Provides clearance and prevents rubbing.

Relief Angle: The angle formed between a relieved surface and a point on the cutting edge, or a given plane tangent to the axis.

Right Hand Cut: When viewed from the cutting end of the mill, a counterclockwise rotation is required to cut. Most end mills are right hand cut.

Shank: The projecting portion of a cutter which locates and drives the cutter from the machine spindle.

Tooth Face: The surface of the tooth on which the chip forms.

Speed and Feed Data for Regular HSS and Cobalt HSS End Mills in Selected Materials

Material	Heat-resistant cobalt base alloys, High tensile steels (50-55C)		Heat-resistant austenitic alloys, High tensile steels (46-50C)		Heat-resistant nickel base alloys, High strength stainless steels, High strength titanium alloys		High strength stainless steels, High tensile steels (46-46C) Medium strength titanium alloys		Heat-resistant ferritic base alloys, Medium strength Stainless steels, Unalloyed titanium tool steels (30-40C)	
End Mill Style	Cobalt HSS HSS 2 or more flute		Cobalt HSS HSS 2 or more flute		Cobalt HSS HSS 2 or more flute		Cobalt HSS HSS 2 or more flute		HSS 2 or more flute	
Speed (all dia.)	5-10 SFM		10-15 SFM		15-20 SFM		20-40 SFM		40-60 SFM	
Mill Diameter	Speed (RPM)	Feed (Chip Load per Tooth)	Speed (RPM)	Feed (Chip Load per Tooth)	Speed (RPM)	Feed (Chip Load per Tooth)	Speed (RPM)	Feed (Chip Load per Tooth)	Speed (RPM)	Feed (Chip Load per Tooth)
1/16	*	*	*	*	*	*	1222 - 2444	.0002 - .0005	2444 - 3667	.0002 - .0005
3/32	*	*	*	*	611 - 815	.0002 - .0005	815 - 1629	.0002 - .0005	1629 - 2750	.0002 - .0005
1/8	*	*	*	*	456 - 611	.0002 - .0005	611 - 1222	.0002 - .0005	1222 - 1833	.0002 - .0005
3/16	*	*	204 - 306	.0002 - .0005	306 - 407	.0002 - .0005	407 - 815	.0002 - .0005	815 - 1222	.0002 - .0005
1/4	76 - 153	.0002 - .0010	153 - 230	.0002 - .0010	229 - 306	.0002 - .0010	306 - 611	.0002 - .0010	611 - 917	.0002 - .0010
5/16	61 - 122	.0002 - .0010	122 - 183	.0002 - .0010	183 - 244	.0002 - .0010	244 - 489	.0002 - .0010	489 - 733	.0002 - .0010
3/8	51 - 102	.0002 - .0010	102 - 153	.0002 - .0010	153 - 203	.0002 - .0010	203 - 407	.0005 - .0020	407 - 611	.0005 - .0020
7/16	44 - 88	.0005 - .0010	88 - 132	.0005 - .0010	131 - 175	.0005 - .0020	175 - 349	.0005 - .0020	349 - 524	.0005 - .0020
1/2	38 - 76	.0005 - .0010	76 - 115	.0005 - .0010	115 - 153	.0005 - .0020	153 - 306	.0005 - .0030	306 - 458	.0010 - .0030
9/16	34 - 68	.0005 - .0020	68 - 104	.0005 - .0020	104 - 136	.0005 - .0020	136 - 272	.0005 - .0030	272 - 412	.0010 - .0030
3/8	31 - 61	.0005 - .0020	61 - 92	.0005 - .0020	92 - 122	.0005 - .0020	122 - 244	.0010 - .0040	244 - 367	.0010 - .0040
11/16	28 - 56	.0005 - .0020	56 - 84	.0005 - .0020	84 - 111	.0005 - .0020	111 - 222	.0010 - .0040	222 - 337	.0010 - .0040
3/4	26 - 51	.0005 - .0020	51 - 76	.0005 - .0020	76 - 102	.0010 - .0040	102 - 203	.0010 - .0040	203 - 306	.0010 - .0040
13/16	24 - 47	.0010 - .0030	47 - 71	.0010 - .0030	71 - 94	.0010 - .0040	94 - 189	.0010 - .0040	189 - 284	.0010 - .0040
7/8	22 - 44	.0010 - .0030	44 - 65	.0010 - .0030	65 - 87	.0010 - .0040	87 - 175	.0010 - .0040	175 - 262	.0020 - .0060
15/16	20 - 40	.0010 - .0030	40 - 62	.0010 - .0030	62 - 81	.0010 - .0040	81 - 163	.0010 - .0040	163 - 246	.0020 - .0060
1	19 - 38	.0010 - .0030	38 - 58	.0010 - .0030	58 - 76	.0010 - .0040	76 - 153	.0020 - .0060	153 - 229	.0020 - .0060
1-1/8	34	.0015 - .0040	34 - 51	.0015 - .0040	51 - 68	.0015 - .0050	68 - 136	.0020 - .0060	136 - 204	.0020 - .0060
1-1/4	31	.0015 - .0040	31 - 46	.0015 - .0040	46 - 61	.0015 - .0050	61 - 122	.0020 - .0060	122 - 183	.0020 - .0060
1-3/8	28	.0015 - .0040	28 - 42	.0015 - .0040	42 - 55	.0015 - .0050	55 - 111	.0020 - .0060	111 - 167	.0030 +
1-1/2	26	.0015 - .0040	26 - 38	.0015 - .0040	38 - 51	.0020 +	51 - 102	.0030 +	102 - 153	.0030 +
1-5/8	24	.0020 +	35	.0020 +	35 - 47	.0020 +	47 - 94	.0030 +	94 - 141	.0030 +
1-3/4	22	.0020 +	32	.0020 +	32 - 43	.0020 +	43 - 87	.0030 +	87 - 131	.0030 +
1-7/8	20	.0020 +	30	.0020 +	30 - 40	.0030 +	40 - 81	.0030 +	81 - 122	.0030 +
2	19	.0020 +	29	.0030 +	29 - 38	.0030 +	38 - 76	.0030 +	76 - 115	.0030 +
2-1/8	18	.0030 +	28	.0030 +	36	.0030 +	36 - 72	.0030 +	72 - 108	.0030 +
2-1/4	17	.0030 +	26	.0030 +	34	.0030 +	34 - 68	.0030 +	68 - 102	.0030 +
2-3/8	16	.0030 +	25	.0030 +	32	.0030 +	32 - 64	.0030 +	64 - 97	.0030 +
2-1/2	15	.0030 +	23	.0030 +	30	.0030 +	30 - 61	.0030 +	61 - 92	.0030 +
2-5/8	15	.0030 +	22	.0030 +	29	.0030 +	29 - 58	.0030 +	58 - 88	.0030 +
2-3/4	14	.0030 +	21	.0030 +	28	.0030 +	28 - 56	.0030 +	56 - 83	.0030 +
2-7/8	14	.0030 +	20	.0030 +	27	.0030 +	27 - 53	.0030 +	53 - 80	.0030 +
3	13	.0030 +	19	.0030 +	26	.0030 +	26 - 51	.0030 +	51 - 76	.0030 +

Speed and Feed Data for Regular HSS and Cobalt HSS End Mills in Selected Materials - Cont.

Material	Machine steel Hard brass and bronze Electrolytic copper Mild steel fornings		Cast iron Mild steel Half-hard brass and bronze		Brass and bronze Alloyed aluminum Abrasive plastics		Aluminum Plastics Wood	
End Mill Style	HSS 2 or more flute		HSS surface treatment helpful in cast iron 2 or more flute		High Helix HSS 1 to 6 flutes		High Helix HSS 1 to 6 flutes	
Speed (all dia.)	60-80 SFM		80-100 SFM		100-200 SFM		200-600 SFM	
Mill Diameter	Speed (RPM)	Feed (Chip Load per Tooth)	Speed (RPM)	Feed (Chip Load per Tooth)	Speed (RPM)	Feed (Chip Load per Tooth)	Speed (RPM)	Feed (Chip Load per Tooth)
1/16	3667 - 4888	.0002 - .0005	4888 - 6111	.0002 - .0005	6111 - 12222	.0002 - .0005	12222 +	.0002 - .0005
3/32	2750 - 3259	.0002 - .0005	3259 - 4073	.0002 - .0005	4073 - 8146	.0002 - .0005	8146 +	.0002 - .0005
1/8	1833 - 2440	.0002 - .0010	2440 - 3056	.0002 - .0010	3056 - 6112	.0002 - .0010	6112 +	.0002 - .0010
3/16	1222 - 1625	.0002 - .0010	1625 - 2037	.0002 - .0010	2037 - 4074	.0002 - .0010	4074 - 12222	.0002 - .0010
1/4	917 - 1222	.0005 - .0020	1222 - 1528	.0005 - .0020	1528 - 3056	.0005 - .0020	3056 - 9168	.0005 - .0020
5/16	733 - 978	.0005 - .0020	978 - 1222	.0005 - .0020	1222 - 2444	.0005 - .0020	2444 - 7332	.0005 - .0020
3/8	611 - 815	.0010 - .0030	815 - 1019	.0010 - .0030	1019 - 2038	.0005 - .0030	2038 - 6114	.0005 - .0020
7/16	524 - 698	.0010 - .0030	698 - 873	.0010 - .0030	873 - 1746	.0005 - .0030	1746 - 5238	.0005 - .0020
1/2	458 - 611	.0010 - .0030	611 - 764	.0010 - .0030	764 - 1528	.0005 - .0030	1528 - 4584	.0005 - .0020
9/16	412 - 543	.0010 - .0040	543 - 678	.0010 - .0040	678 - 1356	.0005 - .0040	1356 - 4071	.0005 - .0030
3/8	367 - 489	.0010 - .0040	489 - 611	.0010 - .0040	611 - 1222	.0005 - .0040	1222 - 3666	.0005 - .0030
11/16	337 - 444	.0010 - .0040	444 - 555	.0010 - .0040	555 - 1110	.0005 - .0040	1110 - 3330	.0005 - .0030
3/4	306 - 407	.0010 - .0040	407 - 509	.0020 - .0060	509 - 1018	.0010 - .0060	1018 - 3054	.0010 - .0040
13/16	284 - 379	.0020 - .0060	379 - 469	.0020 - .0060	469 - 938	.0010 - .0060	938 - 2814	.0010 - .0040
7/8	262 - 349	.0020 - .0060	349 - 436	.0020 - .0060	436 - 872	.0010 - .0060	872 - 2616	.0010 - .0040
15/16	246 - 326	.0020 - .0060	326 - 407	.0020 - .0060	407 - 814	.0010 - .0060	814 - 2442	.0010 - .0040
1	229 - 306	.0020 - .0060	306 - 382	.0020 - .0060	382 - 764	.0020 +	764 - 2292	.0020 +
1-1/8	204 - 272	.0020 - .0060	272 - 340	.0030 +	340 - 680	.0020 +	680 - 2040	.0020 +
1-1/4	183 - 244	.0030 +	244 - 306	.0030 +	306 - 612	.0020 +	612 - 1836	.0020 +
1-3/8	167 - 222	.0030 +	222 - 278	.0030 +	278 - 556	.0020 +	556 - 1668	.0020 +
1-1/2	153 - 204	.0030 +	204 - 255	.0030 +	255 - 510	.0030 +	510 - 1530	.0020 +
1-5/8	141 - 188	.0030 +	188 - 235	.0030 +	235 - 470	.0030 +	470 - 1410	.0020 +
1-3/4	131 - 175	.0030 +	175 - 218	.0030 +	218 - 436	.0030 +	436 - 1308	.0020 +
1-7/8	122 - 163	.0030 +	163 - 204	.0030 +	201 - 408	.0030 +	408 - 1224	.0030 +
2	115 - 153	.0030 +	153 - 191	.0030 +	191 - 382	.0030 +	382 - 1146	.0030 +
2-1/8	108 - 144	.0030 +	144 - 179	.0030 +	179 - 358	.0030 +	358 - 1074	.0030 +
2-1/4	102 - 136	.0030 +	136 - 170	.0030 +	170 - 340	.0030 +	340 - 1020	.0030 +
2-3/8	97 - 128	.0030 +	128 - 161	.0030 +	161 - 322	.0030 +	322 - 966	.0030 +
2-1/2	92 - 122	.0030 +	122 - 153	.0030 +	153 - 306	.0030 +	306 - 918	.0030 +
2-5/8	88 - 116	.0030 +	116 - 145	.0030 +	145 - 290	.0030 +	290 - 870	.0030 +
2-3/4	83 - 111	.0030 +	111 - 139	.0030 +	139 - 278	.0030 +	278 - 834	.0030 +
2-7/8	80 - 106	.0030 +	106 - 132	.0030 +	132 - 264	.0030 +	264 - 792	.0030 +
3	76 - 102	.0030 +	102 - 127	.0030 +	127 - 254	.0030 +	254 - 762	.0030 +

End Mill Speed, Feed and Power Calculations

To Find	Known Values	Formulae
Peripheral cutting speed (SFM)	Mill diameter (D) Rotational speed (RPM)	SFM = 0.262 x RPM x D SFM estimated = (RPM x D) / 4
Rotational speed (RPM)	Peripheral cutting speed (SFM) Mill diameter (D)	RPM = SFM / (0.262 x D) RPM estimated = (4 x SFM) / D
Machine feed rate (IPM)	Rotational speed (RPM) Number of flutes (Teeth), (T) Feed per tooth (IPT)	IPM = T x IPT x RPM
Feed per tooth (IPT)	Machine feed rate IPM Rotational speed (RPM) Number of teeth (T)	IPT = IPM / (RPM x T)
Feed per revolution (IPR)	Machine feed rate (IPM)	IPR = IPM / RPM
Cutting power input (HP)	Width of cut (WOC) Depth of cut (DOC) Machine feed rate (IPM) Workpiece material power constant (K)	HP = WOC x DOC x IPM x K

Power Constants* for Use In Power Calculations

Work Material	K (Constant)
Aluminum	0.3
Brass	0.4
Bronze	0.5
Cast Irons	
Ferritic	0.7
Pearlitic	1.0
Chilled	1.7
Malleable Iron	1.0
Copper	0.5

Work Material	K (Constant)
High Temp Alloys	
Ferritic	1.7
Austenitic	2.0
Nickel Base	2.5
Cobalt Base	2.5
High Tensile Alloys	
180,000 – 220,000 psi	2.0
222,000 – 260,000 psi	2.5
260,000 – 300,000 psi	3.3
Magnesium	0.3

Work Material	K (Constant)
Stainless Steel	
Free Machining	1.0
Others	1.7
Steel	
Up to 150 Brinell	1.4
Up to 300 Brinell	1.7
Up to 400 Brinell	2.0
Up to 500 Brinell	2.5
Titanium	
Under 100,000 psi	1.3
100,000 – 135,000 psi	1.7
135,000 psi and up	2.5

*The power constant is the horsepower required to remove one cubic inch of material per minute, assuming a 60% power efficiency at the spindle nose and a 25% allowance for dulling of the end mill.

Definition of Symbols and Measurement Units

Symbol	Definition	Measurement Unit
SFM	Cutting speed	Surface feet per minute
RPM	Rotational speed	Revolutions per minute
D	Mill diameter	Inches
IPT	Feed per tooth	Inches per tooth
IPM	Machine feed rate	Inches per minute
IPR	Feed per revolution	Inches per revolution
HP	Cutting power input	Horsepower
K	Power constant	Horsepower per cubic inch per minute
WOC	Width of cut	Inches
DOC	Depth of cut	Inches
T	Number of flutes (teeth)	–

Problem	Solution
Tool breakage	• Reduce feed rate • Decrease width and depth of cut • Hold shank deeper or use shorter end mill • Regrind at an earlier stage
Excessive wear	• Increase feed and speed • Decrease spindle speed • Use another coolant • Use end mill with coating (TiN, TiCN, TiAlN, AlTiN) • Change tool to correct helix angle • Change to smaller relief angle • Change chip size or clear chips with more coolant or air pressure
Reduced tool life	• Use end mill with coating (TiN, TiCN, TiAlN, AlTiN) • Change to correct helix angle and primary relief • Regrind at an earlier stage
Chipped cutting edges	• Reduce feed rate on first cut • Use better machine or tool holder • Change parameters of machine or tool holder • Hold shank deeper or use shorter end mill • Decrease primary relief and cutting angle • Reduce radial width of cut
Chip packing	• Decrease width and depth of cut • Use an end mill with fewer flutes • Use higher coolant pressure and reposition nozzle to point of cut or use air pressure
Work piece burrs	• Correct cutting parameters • Change to correct cutting angle • Regrind at an earlier stage
Rough surface finish	• Reduce feed rate • Increase RPM • Grind concave angle on bottom teeth • Change chip size or clear chips with coolant or air pressure • Regrind at an earlier stage
Squealing and chattering	• Correct feed and speed • Use better machine or tool holder • Change parameters of machine or tool holder • Improve clamping rigidity • Decrease width and depth of cut • Hold shank deeper or use shorter end mill • Decrease relief angle
Side wall taper in workpiece	• Reduce feed rate • Hold shank deeper or use shorter end mill • Use multiflute end mill • Use end mill with higher rigidity
No dimensional accuracy	• Decrease width and depth of cut • Repair machine or tool holder • Change machine or tool holder • Change parameters of machine or tool holder • Use multiflute end mill • Use end mill with higher rigidity

NOTES:

NOTES:

Tap & Drill Chart

FRACTIONAL • WIRE • LETTER • METRIC

TAP DRILL SIZES

Tap Size	Tap Drill Size	m/m	Decimal Equiv. of Tap Drill	Probable % of Thread
0-80	56		.0465	74
	3/64	1.20	.0469	72
1-64	54	1.40	.0550	81
	53	1.50	.0595	59
1-72	53	1.50	.0595	67
	1/16		.0625	50
2-56	51		.0670	75
	50	1.75	.0700	62
2-64	50	1.80	.0700	71
	49		.0730	56
3-48	48	2.00	.0760	79
	5/64		.0781	71
3-56	46	2.10	.0810	71
	45		.0820	66
4-40	44		.0860	75
	43	2.25	.0890	66
	42		.0935	51
	3/32		.0938	50
4-48	42	2.35	.0935	62
	3/32		.0938	60
5-40	39		.0995	73
	38	2.60	.1015	67
5-44	38		.1015	74
	37	2.60	.1040	65
6-32	36	2.70	.1065	73
	7/64		.1095	66
6-40	33	2.90	.1130	72
	32		.1160	62
8-32	29	3.40	.1360	64
8-36	29	3.50	.1360	72
	9/64		.1406	60
10-24	25	3.80	.1495	71
10-32	5/32		.1563	78
	21	4.00	.1590	72
12-24	11/64		.1719	78
	17	4.50	.1730	76
12-28	16		.1770	80
	15	4.60	.1800	73
1/4-20	9		.1960	80
	7	5.10	.2010	72
	13/64		.2031	69
1/4-28	3		.2130	75
	7/32	5.50	.2188	59
5/16-18	F	6.50	.2570	74
	G		.2610	68
5/16-24	H		.2660	78
	I	6.90	.2720	70
3/8-16	5/16	8.00	.3125	74
	O		.3160	69

Tap Size	Tap Drill Size	m/m	Decimal Equiv. of Tap Drill	Probable % of Thread
3/8-24	Q	8.50	.3320	75
	R		.3390	58
7/16-14	23/64	9.30	.3594	81
	U		.3680	70
7/16-20	W		.3860	75
	25/64	9.90	.3906	68
1/2-13	27/64	10.75	.4219	75
	7/16		.4375	58
1/2-20	29/64	11.50	.4531	67
9/16-12	15/32		.4688	84
	31/64	12.00	.4844	69
9/16-18	1/2		.5000	82
	33/64	13.00	.5156	60
5/8-11	17/32	13.50	.5313	76
	35/64		.5469	63
5/8-18	9/16		.5625	82
	37/64	14.50	.5781	60
3/4-10	41/64		.6406	81
	21/32	16.50	.6563	69
3/4-16	11/16	17.50	.6875	72
7/8-9	49/64	18.50	.7656	73
	25/32		.7813	62
7/8-14	51/64		.7969	79
	13/16	20.50	.8125	62
1-8	7/8	22.50	.8750	74
	57/64		.8906	64
1-12	29/32		.9063	82
	59/64	23.50	.9219	68
1-14	59/64		.9219	79
	15/16	23.50	.9375	62
1-1/8-7	63/64	25.00	.9844	73
	1		1.0000	65
1-1/8-12	1-1/32		1.0313	82
	1-3/64	26.50	1.0469	67
1-1/4-7	1-3/32		1.0938	81
	1-7/64	28.00	1.1094	73
	1-1/8		1.1250	64
1-1/4-12	1-5/32		1.1563	81
	1-11/64	29.50	1.1719	67
1-3/8-6	1-13/64		1.2031	77
	1-7/32	31.00	1.2188	69
	1-15/64		1.2344	62
1-3/8-12	1-9/32		1.2813	81
	1-19/64	33.00	1.2969	66
1-1/2-6	1-11/32	34.00	1.3438	69
	1-23/64		1.3594	62
1-1/2-12	1-13/32		1.4063	80
	1-27/64	36.00	1.4219	66

PIPE TAP DRILL SIZES

Tap Size	NPT Tap Drill		NPS Tap Drill	
	Inches	m/m	Inches	m/m
1/16 - 27	D	6.25	1/4	6.35
1/8 - 27	Q	8.50	11/32	8.75
1/4 - 18	7/16	11.00	7/16	11.50
3/8 - 18	9/16	14.50	37/64	15.00
1/2 - 14	45/64	18.00	23/32	18.50
3/4 - 14	29/32	23.00	59/64	23.50
1 - 11 1/2	1 9/64	29.00	1 5/32	29.50
1 1/4 - 11 1/2	1 31/64	38.00	1 1/2	38.50
1 1/2 - 11 1/2	1 47/64	44.00	1 3/4	44.50
2 - 11 1/2	2 13/64	56.00	2 7/32	57.00
2 1/2 - 8	2 5/8	66.68	2 21/32	67.47

METRIC TAP, DRILL SIZES

Tap Size	Tap Drill Size	Tap Size	Tap Drill Size
1.50 x .35	1.10	12.00 x 1.25	11.00
2.00 x .40	1.60	12.00 x 1.50	10.50
2.00 x .45	1.50	12.00 x 1.75	10.50
2.00 x .50	1.50	13.00 x 1.50	11.50
2.30 x .40	1.90	13.00 x 1.75	11.50
2.50 x .45	2.00	13.00 x 2.00	11.00
2.60 x .45	2.10	14.00 x 1.25	13.00
3.00 x .50	2.50	14.00 x 1.75	12.50
3.00 x .60	2.40	14.00 x 2.00	12.00
3.00 x .75	2.25	15.00 x 1.75	13.50
3.50 x .60	2.90	15.00 x 2.00	13.00
4.00 x .70	3.30	16.00 x 2.00	14.00
4.00 x .75	3.25	17.00 x 2.00	15.00
4.50 x .75	3.75	18.00 x 1.50	16.50
5.00 x .75	4.25	18.00 x 2.00	16.00
5.00 x .80	4.20	18.00 x 2.50	15.50
5.00 x .90	4.10	19.00 x 2.50	16.50
5.00 x 1.00	4.00	20.00 x 2.00	18.00
5.50 x .75	4.75	20.00 x 2.50	17.50
5.50 x .90	4.60	22.00 x 2.50	19.50
6.00 x 1.00	5.00	24.00 x 3.00	21.00
6.00 x 1.25	4.80	26.00 x 3.00	23.00
7.00 x 1.00	6.00	27.00 x 3.00	24.00
7.00 x 1.25	5.80	28.00 x 3.00	25.00
8.00 x 1.00	7.00	30.00 x 3.50	26.50
8.00 x 1.25	6.80	32.00 x 3.50	28.50
9.00 x 1.00	8.00	33.00 x 3.50	29.50
9.00 x 1.25	7.80	34.00 x 3.50	30.50
10.00 x 1.25	8.80	36.00 x 4.00	32.00
10.00 x 1.50	8.60	38.00 x 4.00	34.00
11.00 x 1.50	9.60		

Recommended tap drill sizes for approximately 75% depth of thread.