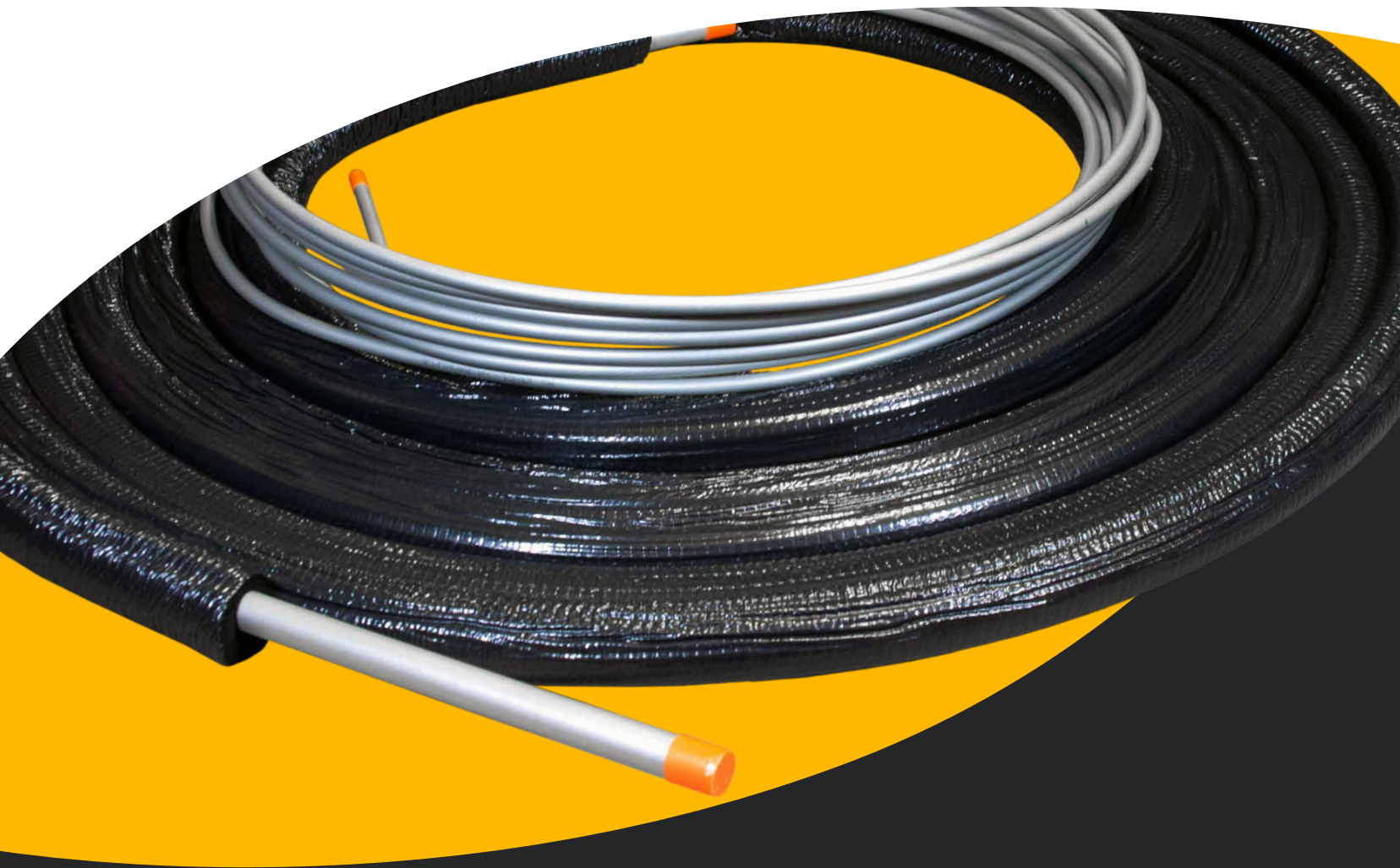


DURO DYNE®
Duro-Line™
STEEL LINE SETS



THE *FUTURE* OF HVAC TUBING

PROUDLY MADE  IN THE USA

WHY DURO-LINE™?

Duro-Line is made to defend yourself from the high price volatility and supply chain disruptions of copper and poor malleability & weather resistance of aluminum. It's exceptional flexibility, consistent roundness and corrosion resistance are unmatched rendering itself as the future of HVAC line sets.

- Patented technology with 40 years of proven history in refrigeration industry
- A high quality Duro Dyne® product carried across 3 strategically located distribution centers for on-time delivery
- Superior corrosion resistance compared to copper; tested for 40 years
- Supports operating temperatures at -55° F to 500° F
- Provides ~40% higher operating pressure than copper with burst pressure over 7000 psi



Duro-Line HVAC Tubing warrants its product to be free of any defect in workmanship and materials. Duro-Line HVAC Tubing carries a 20-year limited warranty when installed by a certified licensed HVAC/R contractor.

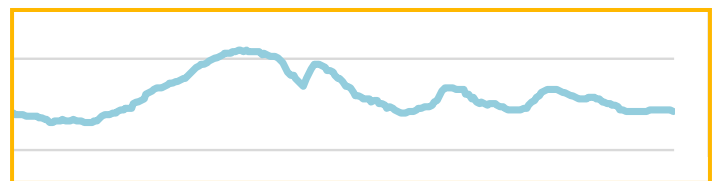
This warranty shall not apply to altered, repaired, or misuse through negligence or otherwise. Nor does the warranty cover replacements or repairs necessitated by loss or damage resulting from any cause beyond the control of Duro-Line, including but not limited to, acts of God, acts of government, floods and fires.



ADVANTAGES

- A significantly less volatile commodity than copper
- Avoids supply chain disruptions that are common with copper
- Higher strength & durability
- A sustainable alternative to copper, aluminum or plastic
- Quick and easy to install
- Lighter weight than copper
- UL compliant to operating design pressures of 700psi (1,100psi on 1/4" and 3/8") at a continuous operating temperature of 250°F
- Corrosion tested to 40 years, and warranted to 20 years*
- Similar mechanical properties of copper
- (Tensile/Yield/Elongation)

5 YEAR PRICE VOLATILITY



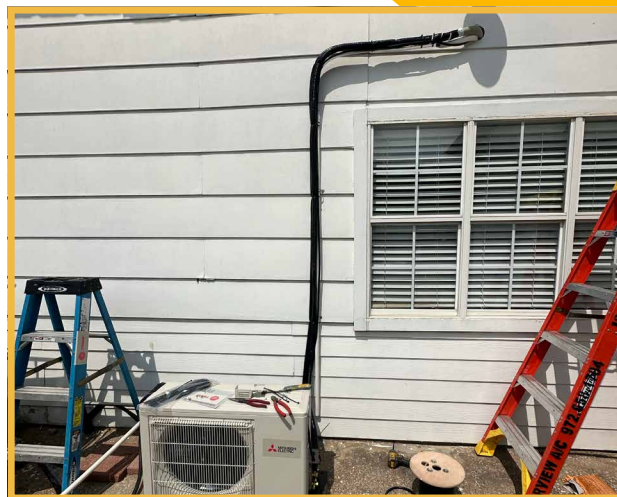
— COPPER — STEEL



ArmaFlex® Sheild
Insulation with moisture
and UV-resistant coating

INSTALLATION: NO SPECIAL TOOLS OR FITTINGS NEEDED

- For applications requiring brazing, we recommend swedging the end of the Duro-Line tube for proper joint connection and utilizing brazing rods with a silver content above 45% for strong brazing. **For best results, we recommend Solderweld Sil Sol-56.**
- Duro-Line HVAC tubing does not require any special cutting, bending or chamfering tools. All standard HVAC compression and press fittings are suitable (NIBCO®, SB1 Series, ZOOMLOCK® and RLS®). Duro-Line tubing adapts to all other typical copper installation requirements.
- Duro-Line does recommend that when using a tube bender, the tube bender outer pads should be lubricated on the surface of the pads.
- The polymer corrosion resistant coating on the Duro-Line tube is dry and can cause the Delrin bending pads to grip the tube and not slide. Prior to installation, if the pads are lubricated, they will slide easily and the tube will bend perfectly.



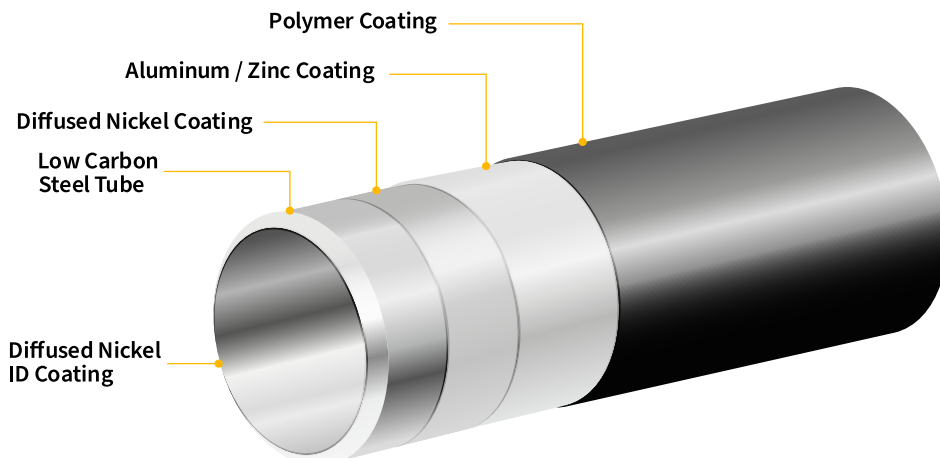
KEY SPECIFICATIONS

- **Tests to meet ASTM B280 and ASTM B1003:** Note that ASTM B280 Specifies COPPER Tubing. Alt-Line tests to the other specifications in ASTM B280 such as mechanical, cleanliness, pressure ratings, Eddy Current testing, etc.
- **Approved Refrigerants:** R32, R134A, R143A, R290, R404A, R407, R410A, R417A, R421A, R422, R424A, R427A, R434A, R437A, R433A, R445A, R446A, R447A, R448A, R449, R450A, R451, R452, R453A, R454, R455A, R456A, R507, R513, R600, R600a, R718, R1234yf, R1234ze, Ethylene Glycol
- **Standard Lengths:** 15', 25', 35', 50', 82', 100', and 164' coils in all diameters. 10' and 20' Straight Lengths. Insulated custom coils up to 164' available. Uninsulated coils available from 50'-2,500'.



DURO-LINE™ TECHNOLOGY

- Diffused nickel inner layer
- Diffused nickel outer layer
- Aluminum/zinc layer coating
- Aluminum enriched epoxy paint layer
- Low carbon steel tube



TUBE SIZES AND PRESSURES

PRODUCT	NOMINAL TUBE OD (INCH)	NOMINAL WALL THICKNESS (INCH)	WEIGHT/FOOT (LBS)	DESIGN PRESSURE (PSIG)	CONTINUOUS OPERATING TEMP
Liquid Line	1/4	0.026	0.06	1,100	250°F
	3/8	0.026	0.10	1,100	250°F
	1/2	0.026	0.13	700	250°F
Suction Line	3/8	0.026	0.10	1,100	250°F
	1/2	0.026	0.13	700	250°F
	5/8	0.026	0.17	700	250°F
	3/4	0.026	0.20	700	250°F
	7/8	0.026	0.40	700	250°F

INSULATION TYPICAL PROPERTIES

PROPERTY	VALUE	TEST METHOD
Thermal Conductivity: Btu • in/h • ft ² • °F (W/mK)	1/4	-
75°F Mean Temperature (24°C) 100°F Mean Temperature (38°C)	0.25 (0.036) 0.257 (0.037)	ASTM C 177 or C 518
Water Vapor Permeability: Perm-in. [Kg/(s • m • Pa)]	0.03 (0.435 x 10 ⁻¹³)	ASTM E 96, Procedure A Meets Class 1 rating
Flame Spread and Smoke Developed Index through 1" wall thickness	25/50 rated	ASTM E 84, UL 723, CAN ULC S102.2 ②
Water Absorption, % by Volume	0.2 %	ASTM C 1763
Maximum Service Temperature	220°F (82°C)	ASTM C 534
Minimum Service Temperature ①	-297°F (-183°C)	ASTM C 534
Ozone Resistance:	Good	ASTM C 1149 ③
UV Weather Resistance	Excellent: no deterioration	ASTM G154 tested to 5000 hours
Hot Surface Performance at 250°F (121°C)	Pass	ASTM C411 NFPA 90A and NFPA 90B

- ① CAN ULC S102.2 for up to 3/4" wall thickness
- ② At -40 °F (-73 °C), the insulation becomes hard and brittle. This hardening characteristic does not affect thermal efficiency or water vapor permeability.
- ③ Meets the UV resistance requirements of ASTM C1775 which describes requirements for insulation protective jacketing used outdoors.

R-value	1/4" (6 mm)	3/8" (10 mm)	1/2" (13 mm)	5/8" (16 mm)	3/4" (19 mm)	7/8" (22 mm)	1-1/8" (29 mm)
1/2" (13 mm) Wall	3.8	3.3	3.3	3.3	3.3	3.3	3.3

TUBE TESTING METHODS

- ASTM E8 – Tensile Test
- ASTM E18 – RW Hardness Test
- ASTM B153 – Expansion Test
- ASTM B1003 – Cleanness Test
- ASTM B1003 – Pressure Test
- ASTM B968 – Flattening Test
- ASTM B88 – Hydrostatic Pressure Test
- ASTM B117 – Salt Spray Fog Test
- UL 207 - Line Set Refrigerant Tubing

INSULATION SPECIFICATION COMPLIANCE

- ASTM C 534
- 2012 IECC: Section R403.3.1
- 2012 IECC: Section C403.2.8
- 2015 IECC: Section R403.4.1
- 2015 IECC: Section C403.2.10
- Plenum Rated according to the International Mechanical Code (IMC)
- California Building Energy Efficiency Standards, Title 24, Section 120.3 b (1 and 2) and c

FEATURES & BENEFITS

- Provides ~40% higher operating pressure than copper and will support continuous demand operating pressures at 5,500 psi
- Supports operation temps at -55o F to 500o F and approved testing with new A2L refrigerants.
- Burst pressure tested above 7,000 psi.
- UV Insulated Lineset Coils up to 164 ft. and up to 30K feet of uninsulated coils
- Durability tested to exceed new A2L refrigerants.
- Carries all known HVAC & refrigeration refrigerants

APPLICATIONS

- Unitary Line Sets
- VRF Systems
- Ductless Mini-Splits
- Multi-Split Systems
- Commercial Installations
- High Corrosive Areas (Coastal Communities)

Other combinations and sizes available by request, including single lines & uninsulated straights and coils.

PART NO.	DESCRIPTION
SLS383425	3/8 LL, 3/4 SL X 25' W/Insulation
SLS383435	3/8 LL, 3/4 SL X 35' W/Insulation
SLS383450	3/8 LL, 3/4 SL X 50' W/Insulation
SLS387825	3/8 LL, 7/8 SL X 25' W/Insulation
SLS387835	3/8 LL, 7/8 SL X 35' W/Insulation
SLS387850	3/8 LL, 7/8 SL X 50' W/Insulation
SLS143815	1/4 LL, 3/8 SL X 15' W/Insulation Both Lines
SLS143825	1/4 LL, 3/8 SL X 25' W/Insulation Both Lines

PART NO.	DESCRIPTION
SLS143850	1/4 LL, 3/8 SL X 50' W/Insulation Both Lines
SLS141215	1/4 LL, 1/2 SL X 15' W/Insulation Both Lines
SLS141225	1/4 LL, 1/2 SL X 25' W/Insulation Both Lines
SLS141250	1/4 LL, 1/2 SL X 50' W/Insulation Both Lines
SLS385825	3/8 LL, 5/8 SL X 25' W/Insulation
SLS385835	3/8 LL, 5/8 SL X 35' W/Insulation
SLS385850	3/8 LL, 5/8 SL X 50' W/Insulation

FAQ's

What is line set protection, and what coating does Duro-Line™ have?

Line set protection is a covering that protects the tubing from physical damage, harsh weather elements, and wear and tear. Line set protection helps prolong the lifespan of the line set and ensures efficient operation. Duro-Line utilizes a scientifically enhanced Aluminum/Zinc-based coating for superior resistance against environment induced corrosion. The addition of a specially formulated Nickel coating on inner and outer tube surfaces greatly enhances protection in high humidity environments

Can you replace old line set with Duro-Line™ Steel tubing?

Yes, especially if old line set is damaged pr losing too much energy it's best to replace with Duro-Line to ensure that the HVAC system operates efficiently

Is a line set necessary when replacing an air conditioner?

Yes, a line set is necessary when replacing an air conditioner. This is because the line set connects the indoor and outdoor units, and it is difficult to connect a new air conditioner to an old line set. Using a new line set ensures that your HVAC system operates efficiently and effectively

What size Duro-Line™ do I need for mini-split AC unit?

The size of the Duro-Line lineset you need for mini-split AC unit depends on the BTU capacity of the AC unit and the distance between the indoor and outdoor units. Typically, a 1-ton mini-split AC unit requires a 1/4 inch line set, while a 2-ton AC unit requires a 3/8 inch line set

Does Duro-Line use standard fittings?

Yes, all standard fitting including RLS®, ZoomLock®, Airsept Smart Splice, SmartLock®, NIBCO® and SB1 fittings work with Duro-Line. We recommend SB1 push fittings

Can Duro-Line™ be cut with aftermarket tubing cutters?

Yes

Can you use a tube bender on Duro-Line™?

Yes, Duro-Line does not require any special cutting, bending or chamfering tools. However, we recommend that when using a tube bender, the outer pads should be lubricated on the surface of outer pads to ensure they slide smooth and bend perfectly

Does Duro-Line™ kink easily?

No. While Duro-Line is stiffer than standard copper tubing, kinking is not a concern if a tube bender is used properly

Can you attach temp probes to the Duro-Line™ to measure refrigerant temperature?

Yes. Non-marring clamps must be used to protect the tube coating

Can you run refrigeration flushing fluids through Duro-Line™?

Yes

Is the Duro-Line™ Insulation UV rated?

Yes. Armaflex Shield insulation is ASTM G154 tested to 5000 hours per brochure

Can Duro-Line™ be used on heat pumps?

Yes

Is the copper flare gasket required to be used with the female fittings?

Yes. HVAC sealant such as Supco® 3S or NYLOG is also required on both sides of gasket





P: 631.249.9000 | E: durodyne@durodyne.com | F: Fax: 631.249.8346

durodyne.com

