

ACRYLITE® Resist impact-modified (zk)

ACRYLITE® Resist acrylic polymers are specially formulated to offer enhanced impact resistance and toughness. They offer excellent clarity similar to standard PMMA. ACRYLITE® Resist polymers are resistant to the adverse affects of outdoor weathering and they have improved chemical resistance over standard grades of ACRYLITE® polymers. ACRYLITE® Resist grades can easily be blended with ACRYLITE® acrylic polymers to optimize impact properties and processability.



Decreasing
impact
strength
↓

ACRYLITE® Resist acrylic polymers

Available in eight grades

ACRYLITE® Resist zk6	Maximum impact strength, low flow and a balanced property spectrum. The product is found in a wide variety of applications.
ACRYLITE® Resist zkD	Maximum impact resistance and medium flow characteristics. It is used in applications that require a higher level of processability than what ACRYLITE® zk6 can provide.
ACRYLITE® Resist zk6SR	Maximum impact resistance, low flow and is specially formulated to provide high melt strength for extrusion applications.
ACRYLITE® Resist zkM	Medium impact strength and medium flow. Often used for electronic instrumentation windows, security camera and automotive signal lens applications.
ACRYLITE® Resist zkX	Medium impact strength with low flow. Frequently used in sheet and profile extrusion applications.
ACRYLITE® Resist zk5BR	Medium impact strength with medium flow. It has the highest heat deflection temperature of any ACRYLITE® Resist grade.
ACRYLITE® Resist zkF	Medium impact strength with maximum flow. It is the most processable ACRYLITE® Resist grade.
ACRYLITE® Resist zkP	Medium impact grade with medium flow characteristics. Found in appliance applications.

Food contact approvals

The crystal-clear ACRYLITE® Resist molding compounds conform to FDA Regulation 21CFR177.1010.

ACRYLITE® Resist grades

Properties	ASTM Method	ACRYLITE® Resist zk6	ACRYLITE® Resist zkD	ACRYLITE® Resist zk6SR	ACRYLITE® Resist zkM	ACRYLITE® Resist zkX	ACRYLITE® Resist zk5BR	ACRYLITE® Resist zkF	ACRYLITE® Resist zkP
OPTICAL									
Light Transmission, %	D-1003	91.5	91.5	91	91.5	91.5	>90	92	92
Haze, %	D-1003	1	1	1	1	1	<2	1	1
Refractive Index	D-542	1.49	1.49	1.49	1.49	1.49	1.49	1.49	1.49
Yellowness Index	D-1925	0.3	0.3	0.2	0.3	0.3	0.3	0.3	0.3
RHEOLOGICAL									
Melt Flow Rate, g/10 min @ 230°C & 3.8 kg	D-1238	1.7	5.8	1.3	3.5	1	3.4	13	4.5
MECHANICAL									
Tensile Strength, psi (MPa)	D-638	6,300 (43.4)	6,400 (44.1)	6,000 (41)	8,500 (58.6)	9,300 (64.1)	9000 (62)	8,200 (56.2)	10500 (72.4)
Tensile Modulus, x10 ⁶ psi (GPa)	D-638	0.22 (1.5)	0.23 (1.6)	0.23 (1.6)	0.32 (2.2)	0.37 (2.5)	0.36 (2.5)	0.33 (2.3)	0.40 (2.8)
Tensile Elongation @ Yield, %	D-638	5	5	5	5	5	5	5	5
Tensile Elongation @ Break, %	D-638	55	40	60	30	25	30	25	20
Flexural Strength, psi (MPa)	D-790	8,600 (59.3)	9,400 (64.8)	8,000 (55.2)	13,000 (89.6)	15,000 (103.4)	12,900 (88.7)	10,000 (68.9)	15,700 (72.4)
Flexural Modulus, x10 ⁶ psi (GPa)	D-790	0.22 (1.5)	0.23 (1.6)	0.2 (1.4)	0.32 (2.2)	0.35 (2.5)	0.33 (2.3)	0.29 (2.0)	0.40 (2.8)
Notched Izod, ft-lb/in (J/m) ¼ bar @23°C	D-256	1.1 (58.1)	1.1 (58.1)	1.1 (58.1)	0.85 (44.9)	0.85 (44.9)	0.80 (41.6)	0.75 (39.6)	0.60 (31.5)
Notched Izod, ft-lb/in (J/m) ¼ bar @0°C	D-256	0.70 (36.8)	0.65 (34.1)	0.8 (43)	0.50 (26.3)	0.60 (31.7)	0.50 (26.3)	0.45 (23.9)	0.35 (18.5)
Rockwell Hardness, M scale	D-785	40	33	40	68	70	70	65	80
PHYSICAL									
DTL, °F (°C) @ 264 psi, annealed	D-648	194 (90)	190 (88)	181 (83)	196 (91)	200 (93)	210 (99)	196 (91)	198 (92)
Vicat Softening Point, °F (°C)	D-1525	201 (94)	201 (94)	196 (91)	210 (99)	230 (110)	217 (103)	208 (98)	219 (104)
Specific Gravity	D-792	1.16	1.16	1.16	1.18	1.16	1.18	1.17	1.18
Water Absorption, % max	D-570	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Mold Shrinkage, in/in, mm/mm	D-955	0.004 - 0.007	0.003 - 0.006	0.004 - 0.007	0.003 - 0.006	0.004 - 0.007	0.004 - 0.007	0.003 - 0.006	0.003 - 0.006
Coefficient of Linear Expansion in/in/°F, 32 - 212°F (mm/mm °C, 0-100°C)	D-696	0.00004 (0.000072)	0.000052 (0.0000936)	0.00005 (0.00009)	0.00004 (0.000072)	0.00004 (0.000072)	0.00004 (0.000072)	0.00004 (0.000072)	0.00004 (0.000072)
UL Flammability Class		UL 94 HB (f1)	UL 94 HB	UL 94 HB (f1)	UL 94 HB (f1)	UL 94 HB (f1)	UL 94 HB	UL 94 HB	UL 94 HB (f1)
CLASS	D-788	PMMA 0231V1	PMMA 0221V3	PMMA 0231V1	PMMA 0221V3	PMMA 0221V1	PMMA 0221V3	PMMA 0221V5	PMMA 0221V3

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