

Evonik CYRO R40 Acrylic Based Multipolymer Compound

Category : Polymer , Thermoplastic , Acrylic (PMMA) , Acrylic, General Purpose, Molded

Material Notes:

CYRO® R30 and R40 acrylic-based multipolymer molding and extrusion compounds feature a new level of optical quality, minimizing cold mold haze on molded articles. In addition to outstanding appearance, these new specialty grades exhibit high durability features measured by Instrumented Impact Tests, and are easy to process, as demonstrated by spiral flow characteristics. For a rigid material, they demonstrate excellent cold temperature properties and a strong combination of chemical resistance, melt strength, and ductility. Information provided by Cyro Industries

Order this product through the following link:

http://www.lookpolymers.com/polymer_Evonik-CYRO-R40-Acrylic-Based-Multipolymer-Compound.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.07 g/cc	1.07 g/cc	ASTM D792
Water Absorption	<= 0.30 %	<= 0.30 %	ASTM D570
Linear Mold Shrinkage	0.0040 - 0.0070 cm/cm	0.0040 - 0.0070 in/in	ASTM D551
Melt Flow	12 g/10 min @Load 5.00 kg, Temperature 230 °C	12 g/10 min @Load 11.0 lb, Temperature 446 °F	ASTM D1238

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell L	40	40	ASTM D785
Tensile Strength, Yield	34.5 MPa	5000 psi	ASTM D638
Elongation at Break	27 %	27 %	ASTM D638
Elongation at Yield	4.3 %	4.3 %	ASTM D638
Tensile Modulus	1.70 GPa	247 ksi	ASTM D638
Flexural Strength	55.8 MPa	8090 psi	ASTM D790
Flexural Modulus	1.40 GPa	203 ksi	ASTM D790
Compressive Strength	36.5 MPa	5300 psi	ASTM D695
Izod Impact, Notched	0.641 J/cm @Thickness 6.35 mm, Temperature 0.000 °C	1.20 ft-lb/in @Thickness 0.250 in, Temperature 32.0 °F	ASTM D256
	0.747 J/cm @Thickness 6.35 mm, Temperature 23.0 °C	1.40 ft-lb/in @Thickness 0.250 in, Temperature 73.4 °F	ASTM D256

Mechanical Properties	Metric	English	Comments
Thermal Properties	Metric	English	Comments
CTE, linear	72.0 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	40.0 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	ASTM D696
	@Temperature 0.000 - 100 $^\circ\text{C}$	@Temperature 32.0 - 212 $^\circ\text{F}$	
Deflection Temperature at 1.8 MPa (264 psi)	68.9 $^\circ\text{C}$	156 $^\circ\text{F}$	ASTM D648
Vicat Softening Point	88.0 $^\circ\text{C}$	190 $^\circ\text{F}$	ASTM D1525
Flammability, UL94	HB	HB	

Optical Properties	Metric	English	Comments
Refractive Index	1.52	1.52	ASTM D542
Haze	2.0 %	2.0 %	ASTM D1003
Transmission, Visible	88 %	88 %	ASTM D1003

Processing Properties	Metric	English	Comments
Middle Barrel Temperature	221 $^\circ\text{C}$	430 $^\circ\text{F}$	
Front Barrel Temperature	227 $^\circ\text{C}$	440 $^\circ\text{F}$	
Nozzle Temperature	227 $^\circ\text{C}$	440 $^\circ\text{F}$	
Melt Temperature	227 $^\circ\text{C}$	440 $^\circ\text{F}$	
Mold Temperature	48.9 $^\circ\text{C}$	120 $^\circ\text{F}$	
Drying Temperature	71.1 $^\circ\text{C}$	160 $^\circ\text{F}$	3-4hrs
Injection Pressure	96.5 MPa	14000 psi	
Back Pressure	0.276 MPa	40.0 psi	
Screw Speed	30 rpm	30 rpm	

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