

Evonik CYRO CyRex® 953 Acrylic-Polycarbonate Alloy

Category : Polymer , Thermoplastic , Acrylic (PMMA) , Acrylic/Polycarbonate Alloy , Polycarbonate (PC)

Material Notes:

CYREX 953 alloy is an opaque, acrylic-polycarbonate alloy with an impact strength that is higher than polycarbonate. Typical properties of CYREX acrylic-polycarbonate alloy are: outstanding impact strength and toughness, excellent processing characteristics, very good chemical resistance, good heat resistance. The special property of CYREX 200-8005 alloy is high impact strength at cold temperature, high melt flow rate. Application: Used for injection molding and extrusion of both thin and thick wall applications.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Evonik-CYRO-CyRex-953-Acrylic-Polycarbonate-Alloy.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.15 g/cc	1.15 g/cc	ASTM D792
Bulk Density	0.650 g/cc	0.0235 lb/in ³	ASTM D1895
Water Absorption	<= 0.26 %	<= 0.26 %	ASTM D570
Linear Mold Shrinkage	0.0040 - 0.0080 cm/cm	0.0040 - 0.0080 in/in	ASTM D951
Melt Flow	1.9 g/10 min @Load 3.80 kg, Temperature 230 °C	1.9 g/10 min @Load 8.38 lb, Temperature 446 °F	ASTM D1238

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	44	44	ASTM D785
Tensile Strength at Break	54.2 MPa	7860 psi	ASTM D638
Elongation at Break	88 %	88 %	ASTM D638
Elongation at Yield	4.2 %	4.2 %	ASTM D638
Tensile Modulus	2.07 GPa	300 ksi	ASTM D638
Flexural Strength	86.2 MPa	12500 psi	ASTM D790
Flexural Modulus	2.07 GPa	300 ksi	ASTM D790
Izod Impact, Notched	13.9 J/cm @Diameter 3.17 mm	26.1 ft-lb/in @Diameter 0.125 in	bar; ASTM D256
	9.13 J/cm @Diameter 6.35 mm, Temperature 0.000 °C	17.1 ft-lb/in @Diameter 0.250 in, Temperature 32.0 °F	BAR; ASTM D256

Thermal Properties	Metric	English	Comments
CTE, linear	93.6 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$ @Temperature 0.000 - 100 $^{\circ}\text{C}$	52.0 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$ @Temperature 32.0 - 212 $^{\circ}\text{F}$	ASTM D696
Deflection Temperature at 1.8 MPa (264 psi)	103 $^{\circ}\text{C}$ @Thickness 6.35 mm	217 $^{\circ}\text{F}$ @Thickness 0.250 in	Annealed; ASTM D648
Vicat Softening Point	135 $^{\circ}\text{C}$	275 $^{\circ}\text{F}$	ASTM D1525

Optical Properties	Metric	English	Comments
Transmission, Visible	0.0 %	0.0 %	Opaque; ASTM D1003

Processing Properties	Metric	English	Comments
Middle Barrel Temperature	199 - 266 $^{\circ}\text{C}$	390 - 510 $^{\circ}\text{F}$	Cylinder Temp
Melt Temperature	238 - 266 $^{\circ}\text{C}$	460 - 510 $^{\circ}\text{F}$	
Mold Temperature	65.6 - 98.9 $^{\circ}\text{C}$	150 - 210 $^{\circ}\text{F}$	
Drying Temperature	82.2 $^{\circ}\text{C}$	180 $^{\circ}\text{F}$	
Dry Time	3 - 4 hour	3 - 4 hour	

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