SABIC Innovative Plastics Cycoloy® CX1440 PC+ABS

Category : Polymer , Thermoplastic , ABS Polymer , Polycarbonate/ABS Alloy, Unreinforced , Polycarbonate (PC)

Material Notes:

CYCOLOY CX1440 is a general purpose PC+ABS blend specially developped for thin wall applications requiring weld line strength and high flow with a good balance of properties

Order this product through the following link:
http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Cycoloy-CX1440-PCABS.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.15 g/cc	1.15 g/cc	ASTM D792
Density	1.15 g/cc	0.0415 lb/in³	ISO 1183
Moisture Absorption	0.160 %	0.160 %	23°C / 50% RH; ISO 62
Water Absorption at Saturation	0.60 %	0.60 %	ISO 62
Linear Mold Shrinkage, Flow	0.0040 - 0.0060 cm/cm @Thickness 3.20 mm	0.0040 - 0.0060 in/in @Thickness 0.126 in	SABIC Method
Melt Flow	22 g/10 min @Load 5.00 kg, Temperature 260 °C	22 g/10 min @Load 11.0 lb, Temperature 500 °F	ASTM D1238
Melt Index of Compound	20 g/10 min @Load 5.00 kg, Temperature 260 °C	20 g/10 min @Load 11.0 lb, Temperature 500 °F	MVR [cm^3/10 min]; ISO 1133

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell L	90	90	ISO 2039-2
Tensile Strength at Break	45.0 MPa	6530 psi	Type I, 50 mm/min; ASTM D638
	45.0 MPa	6530 psi	5 mm/min; ISO 527
	45.0 MPa	6530 psi	50 mm/min; ISO 527
Tensile Strength, Yield	45.0 MPa	6530 psi	5 mm/min; ISO 527
	50.0 MPa	7250 psi	50 mm/min; ISO 527
	50.0 MPa	7250 psi	Type I, 50 mm/min; ASTM D638
Elongation at Break	45 %	45 %	Type I, 50 mm/min; ASTM D638
	50 %	50 %	50 mm/min; ISO 527

Mechanical Properties	Metric	English	Comments
	60 %	60 %	5 mm/min; ISO 527
Elongation at Yield	5.0 %	5.0 %	Type I, 50 mm/min; ASTM D638
	5.0 %	5.0 %	5 mm/min; ISO 527
	5.0 %	5.0 %	50 mm/min; ISO 527
Tensile Modulus	2.40 GPa	348 ksi	5 mm/min; ASTM D638
	2.40 GPa	348 ksi	1 mm/min; ISO 527
Flexural Yield Strength	80.0 MPa	11600 psi	1.3 mm/min, 50 mm span; ASTM D790
	80.0 MPa	11600 psi	2 mm/min; ISO 178
Flexural Modulus	2.30 GPa	334 ksi	1.3 mm/min, 50 mm span; ASTM D790
	2.30 GPa	334 ksi	2 mm/min; ISO 178
Izod Impact, Notched	1.00 J/cm	1.87 ft-lb/in	Izod Impact, double-gated, 23°C; SABIC Method
	4.50 J/cm	8.43 ft-lb/in	ASTM D256
	2.50 J/cm @Temperature -30.0 °C	4.68 ft-lb/in @Temperature -22.0 °F	ASTM D256
Izod Impact, Notched (ISO)	40.0 kJ/m²	19.0 ft-lb/in²	80*10*3; ISO 180/1A
	20.0 kJ/m² @Temperature -30.0 °C	9.52 ft-lb/in² @Temperature -22.0 °F	80*10*3; ISO 180/1A
Charpy Impact, Notched	4.00 J/cm²	19.0 ft-lb/in²	Edgew 80*10*3 sp=62mm; ISO 179/1eA
	2.00 J/cm² @Temperature -30.0 °C	9.52 ft-lb/in² @Temperature -22.0 °F	Edgew 80*10*3 sp=62mm; ISO 179/1eA
Dart Drop, Total Energy	25.0 J @Temperature -30.0 °C	18.4 ft-lb @Temperature -22.0 °F	ASTM D3763
	55.0 J @Temperature 23.0 °C	40.6 ft-lb @Temperature 73.4 °F	ASTM D3763
Impact Test	70.0 J	51.6 ft-lb	Multiaxial Impact; ISO 6603
Taber Abrasion, mg/1000 Cycles	70	70	CS-17, 1 kg; SABIC Method

Thermal Properties	Metric	English	Comments

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	71.0 µm/m-°C @Temperature -40.0 - 40.0 °C	39.4 µin/in-°F @Temperature -40.0 - 104 °F	ISO 11359-2
	75.0 µm/m-°C @Temperature -40.0 - 40.0 °C	41.7 µin/in-°F @Temperature -40.0 - 104 °F	ASTM E 831
CTE, linear, Transverse to Flow	73.0 µm/m-°C @Temperature -40.0 - 40.0 °C	40.6 µin/in-°F @Temperature -40.0 - 104 °F	ISO 11359-2
	77.0 µm/m-°C @Temperature -40.0 - 40.0 °C	42.8 µin/in-°F @Temperature -40.0 - 104 °F	ASTM E 831
Thermal Conductivity	0.200 W/m-K	1.39 BTU-in/hr-ft²-°F	ASTM C177
	0.200 W/m-K	1.39 BTU-in/hr-ft²-°F	ISO 8302
Hot Ball Pressure Test	<= 100 °C	<= 212 °F	IEC 60695-10-2
Deflection Temperature at 0.46 MPa (66 psi)	117 °C	243 °F	Edgew 120*10*4 sp=100mm; ISO 75/Be
	115 °C @Thickness 3.20 mm	239 °F @Thickness 0.126 in	unannealed; ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	95.0 °C	203 °F	Edgew 120*10*4 sp=100mm; ISO 75/Ae
	95.0 °C @Thickness 3.20 mm	203 °F @Thickness 0.126 in	unannealed; ASTM D648
Vicat Softening Point	113 °C	235 °F	Rate B/50; ASTM D1525
	114 °C	237 °F	Rate B/50; ISO 306
	116 °C	241 °F	Rate B/120; ISO 306
UL RTI, Electrical	60.0 °C	140 °F	UL 746B
UL RTI, Mechanical with Impact	60.0 °C	140 °F	UL 746B
UL RTI, Mechanical without Impact	60.0 °C	140 °F	UL 746B
Flammability, UL94	HB @Thickness 0.750 mm	HB @Thickness 0.0295 in	UL 94
	HB @Thickness 3.00 mm	HB @Thickness 0.118 in	UL 94

Thermal Properties	Metric	English	Comments
	650 °C @Thickness 3.20 mm	1200 °F @Thickness 0.126 in	IEC 60695-2-12

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 1.00e+15 ohm-cm	>= 1.00e+15 ohm-cm	ASTM D257
Surface Resistance	>= 1.00e+15 ohm	>= 1.00e+15 ohm	ASTM D257
Dielectric Constant	2.7 @Frequency 1.00e+6 Hz	2.7 @Frequency 1.00e+6 Hz	IEC 60250
	2.9 @Frequency 50.0 - 60.0 Hz	2.9 @Frequency 50.0 - 60.0 Hz	IEC 60250
Dielectric Strength	27.0 kV/mm @Thickness 1.60 mm	686 kV/in @Thickness 0.0630 in	in oil; IEC 60243-1
	36.0 kV/mm @Thickness 0.800 mm	914 kV/in @Thickness 0.0315 in	in oil; IEC 60243-1
Dissipation Factor	0.010 @Frequency 50.0 - 60.0 Hz	0.010 @Frequency 50.0 - 60.0 Hz	IEC 60250
	0.011 @Frequency 1.00e+6 Hz	0.011 @Frequency 1.00e+6 Hz	IEC 60250

Descriptive Properties	Value	Comments
Ball Pressure Test, 75°C +/- 2°C	passes	IEC 60695-10-2

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