SABIC Innovative Plastics Cycoloy® XCY620S PC+ABS

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

Material Notes:

PC+ ABS Automotive applications

Order this product through the following link:
http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Cycoloy-XCY620S-PCABS.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.14 g/cc	1.14 g/cc	ASTM D792
Density	1.14 g/cc	0.0412 lb/in³	ISO 1183
Water Absorption	0.30 % @Time 86400 sec	0.30 % @Time 24.0 hour	ISO 62-1
Moisture Absorption	0.130 %	0.130 %	23°C / 50% RH; ISO 62
Water Absorption at Saturation	0.40 %	0.40 %	ISO 62
Linear Mold Shrinkage, Flow	0.0050 - 0.0070 cm/cm @Thickness 3.20 mm	0.0050 - 0.0070 in/in @Thickness 0.126 in	SABIC Method
Linear Mold Shrinkage, Transverse	0.0050 - 0.0070 cm/cm @Thickness 3.20 mm	0.0050 - 0.0070 in/in @Thickness 0.126 in	SABIC Method
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
	25 g/10 min @Load 5.00 kg, Temperature 265 °C	25 g/10 min @Load 11.0 lb, Temperature 509 °F	MVR [cm^3/10 min]; ISO 1133

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	56.0 MPa	8120 psi	50 mm/min; ISO 527
Tensile Strength, Yield	54.0 MPa	7830 psi	50 mm/min; ISO 527
Elongation at Break	100 %	100 %	50 mm/min; ISO 527
Elongation at Yield	4.5 %	4.5 %	50 mm/min; ISO 527
Tensile Modulus	2.20 GPa	319 ksi	1 mm/min; ISO 527
Flexural Yield Strength	82.0 MPa	11900 psi	2 mm/min; ISO 178

Mechanical Properties	Metric	English	Comments
	86.0 MPa	12500 psi	1.3 mm/min, 50 mm span; ASTM D790
Flexural Modulus	2.20 GPa	319 ksi	2 mm/min; ISO 178
	2.30 GPa	334 ksi	1.3 mm/min, 50 mm span; ASTM D790
Izod Impact, Notched (ISO)	55.0 kJ/m²	26.2 ft-lb/in²	80*10*4; ISO 180/1A
	40.0 kJ/m² @Temperature -30.0 °C	19.0 ft-lb/in² @Temperature -22.0 °F	80*10*4; ISO 180/1A
Charpy Impact Unnotched	NB	NB	Edgew 80*10*3 sp=62mm; ISO 179/1eU
Charpy Impact, Notched	6.00 J/cm²	28.6 ft-lb/in²	Edgew 80*10*4 sp=62mm; ISO 179/1eA
	4.50 J/cm² @Temperature -30.0 °C	21.4 ft-lb/in² @Temperature -22.0 °F	Edgew 80*10*4 sp=62mm; ISO 179/1eA
Dart Drop, Total Energy	55.0 J @Temperature 23.0 °C	40.6 ft-lb @Temperature 73.4 °F	ASTM D3763
	65.0 J @Temperature -30.0 °C	47.9 ft-lb @Temperature -22.0 °F	ASTM D3763

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	70.0 µm/m-°C @Temperature -40.0 - 40.0 °C	38.9 µin/in-°F @Temperature -40.0 - 104 °F	ASTM E 831
CTE, linear, Transverse to Flow	70.0 µm/m-°C @Temperature -40.0 - 40.0 °C	38.9 µin/in-°F @Temperature -40.0 - 104 °F	ASTM E 831
Hot Ball Pressure Test	<= 100 °C	<= 212 °F	IEC 60695-10-2
Deflection Temperature at 0.46 MPa (66 psi)	126 °C	259 °F	Flatw 80*10*4 sp=64mm; ISO 75/Bf
	128 °C @Thickness 3.20 mm	262 °F @Thickness 0.126 in	unannealed; ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	106 °C	223 °F	Flatw 80*10*4 sp=64mm; ISO 75/Af
	108 °C @Thickness 3.20 mm	226 °F @Thickness 0.126 in	unannealed; ASTM D648
Vicat Softening Point	129 °C	264 °F	Rate B/50; ASTM D1525

Thermal Properties	Metric	English	Comments
	130 °C	266 °F	Rate B/120; ISO 306

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 1.00e+16 ohm-cm	>= 1.00e+16 ohm-cm	IEC 60093
Surface Resistance	>= 1.00e+16 ohm	>= 1.00e+16 ohm	ROA; IEC 60093
Dielectric Strength	17.0 kV/mm @Thickness 3.20 mm	432 kV/in @Thickness 0.126 in	in oil; IEC 60243-1
	25.0 kV/mm @Thickness 1.60 mm	635 kV/in @Thickness 0.0630 in	in oil; IEC 60243-1
	39.0 kV/mm @Thickness 0.800 mm	991 kV/in @Thickness 0.0315 in	in oil; IEC 60243-1

Descriptive Properties	Value	Comments
Ball Pressure Test, 75°C +/- 2°C	PASSES	IEC 60695-10-2
Izod Impact, unnotched 80*10*3 +23°C	PASSESkJ/m^2	ISO 180/1U

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