

SABIC Innovative Plastics Cycology® XCY620 PC+ABS

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

Material Notes:

PC+ ABS Automotive applications, High Impact and High Flow, ductility at low temperature, excellent properties retention after Hydrolytic and Heat Aging

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Cycology-XCY620-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/in ³	ISO 1183
Moisture Absorption	0.150 %	0.150 %	23°C / 50% RH; ISO 62
Water Absorption at Saturation	0.40 %	0.40 %	ISO 62
Viscosity	195000 cP	195000 cP	Melt Viscosity, 260°C, 1500 sec-1; ISO 11443
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 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	18 g/10 min @Load 5.00 kg, Temperature 260 °C	18 g/10 min @Load 11.0 lb, Temperature 500 °F	MVR [cm ³ /10 min]; ISO 1133

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	51.0 MPa	7400 psi	50 mm/min; ISO 527
	52.0 MPa	7540 psi	Type I, 50 mm/min; ASTM D638
Tensile Strength, Yield	54.0 MPa	7830 psi	50 mm/min; ISO 527
	55.0 MPa	7980 psi	Type I, 50 mm/min; ASTM D638
Elongation at Break	115 %	115 %	Type I, 50 mm/min; ASTM D638
	115 %	115 %	50 mm/min; ISO 527

Elongation at Yield Mechanical Properties	4.5 % Metric	4.5 % English	50 mm/min; ISO 527 Comments
	4.7 %	4.7 %	Type I, 50 mm/min; ASTM D638
Tensile Modulus	2.20 GPa	319 ksi	1 mm/min; ISO 527
	2.30 GPa	334 ksi	5 mm/min; ASTM D638
Flexural Yield Strength	83.0 MPa	12000 psi	2 mm/min; ISO 178
	89.0 MPa	12900 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	6.40 J/cm	12.0 ft-lb/in	ASTM D256
	4.80 J/cm	8.99 ft-lb/in	ASTM D256
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Izod Impact, Notched (ISO)	55.0 kJ/m ²	26.2 ft-lb/in ²	80*10*4; ISO 180/1A
	70.0 kJ/m ²	33.3 ft-lb/in ²	80*10*3; ISO 180/1A
	45.0 kJ/m ²	21.4 ft-lb/in ²	80*10*3; ISO 180/1A
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	45.0 kJ/m ²	21.4 ft-lb/in ²	80*10*4; ISO 180/1A
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Charpy Impact, Notched	6.00 J/cm ²	28.6 ft-lb/in ²	Edgew 80*10*4 sp=62mm; ISO 179/1eA
	7.00 J/cm ²	33.3 ft-lb/in ²	Edgew 80*10*3 sp=62mm; ISO 179/1eA
	4.50 J/cm ²	21.4 ft-lb/in ²	Edgew 80*10*3 sp=62mm; ISO 179/1eA
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	4.50 J/cm ²	21.4 ft-lb/in ²	Edgew 80*10*4 sp=62mm; ISO 179/1eA
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Dart Drop, Total Energy	56.0 J	41.3 ft-lb	ASTM D3763
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	70.0 J	51.6 ft-lb	ASTM D3763
	@Temperature -30.0 °C	@Temperature -22.0 °F	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	70.0 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	38.9 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	ASTM E 831
	@Temperature -40.0 - 40.0 $^\circ\text{C}$	@Temperature -40.0 - 104 $^\circ\text{F}$	
	70.0 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	38.9 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	ISO 11359-2
	@Temperature -40.0 - 40.0 $^\circ\text{C}$	@Temperature -40.0 - 104 $^\circ\text{F}$	
CTE, linear, Transverse to Flow	70.0 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	38.9 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	ASTM E 831
	@Temperature -40.0 - 40.0 $^\circ\text{C}$	@Temperature -40.0 - 104 $^\circ\text{F}$	
	70.0 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	38.9 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	ISO 11359-2
	@Temperature -40.0 - 40.0 $^\circ\text{C}$	@Temperature -40.0 - 104 $^\circ\text{F}$	
Thermal Conductivity	0.200 W/m-K	1.39 BTU-in/hr-ft ² - $^\circ\text{F}$	ISO 8302
Deflection Temperature at 0.46 MPa (66 psi)	126 $^\circ\text{C}$	259 $^\circ\text{F}$	Flatw 80*10*4 sp=64mm; ISO 75/Bf
Deflection Temperature at 1.8 MPa (264 psi)	105 $^\circ\text{C}$	221 $^\circ\text{F}$	Flatw 80*10*4 sp=64mm; ISO 75/Af
	107 $^\circ\text{C}$	225 $^\circ\text{F}$	unannealed; ASTM D648
	@Thickness 3.20 mm	@Thickness 0.126 in	
Vicat Softening Point	127 $^\circ\text{C}$	261 $^\circ\text{F}$	Rate B/50; ASTM D1525
	127 $^\circ\text{C}$	261 $^\circ\text{F}$	Rate B/50; ISO 306
	129 $^\circ\text{C}$	264 $^\circ\text{F}$	Rate B/120; ISO 306

Electrical Properties	Metric	English	Comments
Volume Resistivity	$\geq 1.00\text{e}+15$ ohm-cm	$\geq 1.00\text{e}+15$ ohm-cm	IEC 60093
Surface Resistance	$\geq 1.00\text{e}+15$ ohm	$\geq 1.00\text{e}+15$ ohm	ROA; IEC 60093
Dielectric Strength	17.0 kV/mm	432 kV/in	in oil; IEC 60243-1
	@Thickness 3.20 mm	@Thickness 0.126 in	
	25.0 kV/mm	635 kV/in	in oil; IEC 60243-1
	@Thickness 1.60 mm	@Thickness 0.0630 in	
	35.0 kV/mm	889 kV/in	in oil; IEC 60243-1
	@Thickness 0.800 mm	@Thickness 0.0315 in	

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

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