

SABIC Innovative Plastics Cycloy® CY6310 PC+ABS

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

Material Notes:

Flame retardant PC/ABS blend using non-brominated and non-chlorinated flame retardant systems, offering hydrolytic stability and excellent flow / impact balance for a wide variety of thin wall or large size applications including business equipment, enclosures, among others.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Cycloy-CY6310-PCABS.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.16 g/cc	1.16 g/cc	ASTM D792
Density	1.16 g/cc	0.0419 lb/in ³	ISO 1183
Moisture Absorption	0.200 %	0.200 %	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	16 g/10 min @Load 2.16 kg, Temperature 250 °C	16 g/10 min @Load 4.76 lb, Temperature 482 °F	ASTM D1238
	20 g/10 min @Load 2.16 kg, Temperature 260 °C	20 g/10 min @Load 4.76 lb, Temperature 500 °F	ASTM D1238
Melt Index of Compound	19 g/10 min @Load 2.16 kg, Temperature 260 °C	19 g/10 min @Load 4.76 lb, Temperature 500 °F	MVR [cm ³ /10 min]; ISO 1133

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	50.0 MPa	7250 psi	Type I, 50 mm/min; ASTM D638
	51.0 MPa	7400 psi	50 mm/min; ISO 527
Tensile Strength, Yield	63.0 MPa	9140 psi	Type I, 50 mm/min; ASTM D638
	63.0 MPa	9140 psi	50 mm/min; ISO 527
Elongation at Break	>= 50 %	>= 50 %	Type I, 50 mm/min; ASTM D638
	>= 50 %	>= 50 %	50 mm/min; ISO 527

Elongation at Yield Mechanical Properties	4.2 % Metric	4.2 % English	Type I, 50 mm/min; ASTM D638 Comments
	4.4 %	4.4 %	50 mm/min; ISO 527
Tensile Modulus	2.70 GPa	392 ksi	5 mm/min; ASTM D638
	2.70 GPa	392 ksi	1 mm/min; ISO 527
Flexural Yield Strength	91.0 MPa	13200 psi	2 mm/min; ISO 178
	101 MPa	14600 psi	1.3 mm/min, 50 mm span; ASTM D790
Flexural Modulus	2.65 GPa	384 ksi	2 mm/min; ISO 178
	2.70 GPa	392 ksi	1.3 mm/min, 50 mm span; ASTM D790
Izod Impact, Notched	6.00 J/cm	11.2 ft-lb/in	ASTM D256
	1.15 J/cm	2.15 ft-lb/in	ASTM D256
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Izod Impact, Notched (ISO)	50.0 kJ/m ²	23.8 ft-lb/in ²	80*10*3; ISO 180/1A
	13.0 kJ/m ²	6.19 ft-lb/in ²	80*10*3; ISO 180/1A
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Izod Impact, Unnotched (ISO)	NB	NB	80*10*3; ISO 180/1U
Charpy Impact Unnotched	NB	NB	Edgew 80*10*3 sp=62mm; ISO 179/1eU
Charpy Impact, Notched	5.50 J/cm ²	26.2 ft-lb/in ²	Edgew 80*10*3 sp=62mm; ISO 179/1eA
	1.40 J/cm ²	6.66 ft-lb/in ²	Edgew 80*10*3 sp=62mm; ISO 179/1eA
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Dart Drop, Total Energy	65.0 J	47.9 ft-lb	ASTM D3763
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Impact Test	105 J	77.4 ft-lb	Multiaxial Impact; ISO 6603

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	68.0 µm/m-°C	37.8 µin/in-°F	ASTM E 831
	@Temperature -40.0 - 40.0 °C	@Temperature -40.0 - 104 °F	
	68.0 µm/m-°C	37.8 µin/in-°F	ISO 11359-2
	@Temperature -40.0 - 40.0 °C	@Temperature -40.0 - 104 °F	

Thermal Properties	Metric $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	English $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	Comments
CTE, linear, Transverse to Flow	@Temperature -40.0 - 40.0 °C	@Temperature -40.0 - 104 °F	ASTM E 831
	70.0 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$ @Temperature -40.0 - 40.0 °C	38.9 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$ @Temperature -40.0 - 104 °F	ISO 11359-2
Hot Ball Pressure Test	<= 95.0 °C	<= 203 °F	IEC 60695-10-2
Deflection Temperature at 0.46 MPa (66 psi)	100 °C @Thickness 3.20 mm	212 °F @Thickness 0.126 in	unannealed; ASTM D648
	90.0 °C @Thickness 3.20 mm	194 °F @Thickness 0.126 in	Flatw 80*10*4 sp=64mm; ISO 75/Af unannealed; ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	90.0 °C @Thickness 3.20 mm	194 °F @Thickness 0.126 in	unannealed; ASTM D648
	88.0 °C @Thickness 3.20 mm	190 °F @Thickness 0.126 in	unannealed; ASTM D648
Vicat Softening Point	109 °C	228 °F	Rate B/50; ASTM D1525
	109 °C	228 °F	Rate B/50; ISO 306
	111 °C	232 °F	Rate B/120; ISO 306
UL RTI, Electrical	85.0 °C	185 °F	UL 746B
UL RTI, Mechanical with Impact	85.0 °C	185 °F	UL 746B
UL RTI, Mechanical without Impact	85.0 °C	185 °F	UL 746B
Flammability, UL94	V-2 @Thickness 0.750 mm	V-2 @Thickness 0.0295 in	UL 94 by SABIC-IP
	V-2 @Thickness 0.750 mm	V-2 @Thickness 0.0295 in	UL 94
	V-0 @Thickness 1.50 mm	V-0 @Thickness 0.0591 in	UL 94
	V-0 @Thickness 1.50 mm	V-0 @Thickness 0.0591 in	UL 94 by SABIC-IP
	5VB @Thickness 2.30 mm	5VB @Thickness 0.0906 in	UL 94
	5VB @Thickness 2.30 mm	5VB @Thickness 0.0906 in	UL 94 by SABIC-IP

Thermal Properties	5VA Metric	5VA English	Comments BIC-IP
	@Thickness 2.90 mm	@Thickness 0.114 in	
	5VA	5VA	UL 94
	@Thickness 2.90 mm	@Thickness 0.114 in	
Oxygen Index	30 %	30 %	ISO 4589
Glow Wire Test	960 °C	1760 °F	IEC 60695-2-12
	@Thickness 3.00 mm	@Thickness 0.118 in	

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 1.00e+15 ohm-cm	>= 1.00e+15 ohm-cm	IEC 60093
Surface Resistance	>= 1.00e+15 ohm	>= 1.00e+15 ohm	ROA; IEC 60093
Comparative Tracking Index	575 V	575 V	IEC 60112
Hot Wire Ignition, HWI	15 - 30 sec	15 - 30 sec	UL 746A
High Amp Arc Ignition, HAI	>= 120 arcs	>= 120 arcs	UL 746A

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

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