

## SABIC Innovative Plastics Cycloy® C3650 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 high impact and excellent extrusion and thermoforming characteristics. Halogen free according to DIN VDE 0472/815 for cable channels

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_SABIC-Innovative-Plastics-Cycloy-C3650-PCABS.php](http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Cycloy-C3650-PCABS.php)

Physical Properties	Metric	English	Comments
Specific Gravity	1.20 g/cc	1.20 g/cc	ASTM D792
Density	1.18 g/cc	0.0426 lb/in <sup>3</sup>	ISO 1183
Water Absorption at Saturation	0.60 %	0.60 %	ASTM D570
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	8.5 g/10 min @Load 5.00 kg, Temperature 260 °C	8.5 g/10 min @Load 11.0 lb, Temperature 500 °F	ASTM D1238
Melt Index of Compound	8.0 g/10 min @Load 5.00 kg, Temperature 260 °C	8.0 g/10 min @Load 11.0 lb, Temperature 500 °F	MVR [cm <sup>3</sup> /10 min]; ISO 1133

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	124	124	ISO 2039-2
Hardness, H358/30	113 MPa	16400 psi	ISO 2039-1
Tensile Strength at Break	50.0 MPa	7250 psi	5 mm/min; ISO 527
	51.0 MPa	7400 psi	Type I, 50 mm/min; ASTM D638
	55.0 MPa	7980 psi	50 mm/min; ISO 527
Tensile Strength, Yield	55.0 MPa	7980 psi	5 mm/min; ISO 527
	64.0 MPa	9280 psi	Type I, 50 mm/min; ASTM D638
	65.0 MPa	9430 psi	50 mm/min; ISO 527
Elongation at Break	35 %	35 %	Type I, 50 mm/min; ASTM D638
	>= 50 %	>= 50 %	50 mm/min; ISO 527

Mechanical Properties	55 % Metric	55 % English	5 mm/min: ISO 527 Comments
Elongation at Yield	3.0 %	3.0 %	5 mm/min; ISO 527
	4.5 %	4.5 %	50 mm/min; ISO 527
	4.9 %	4.9 %	Type I, 50 mm/min; ASTM D638
Tensile Modulus	2.60 GPa	377 ksi	1 mm/min; ISO 527
	2.86 GPa	415 ksi	50 mm/min; ASTM D638
Flexural Yield Strength	100 MPa	14500 psi	2 mm/min; ISO 178
	101 MPa	14600 psi	1.3 mm/min, 50 mm span; ASTM D790
Flexural Modulus	2.68 GPa	389 ksi	1.3 mm/min, 50 mm span; ASTM D790
	2.70 GPa	392 ksi	2 mm/min; ISO 178
Izod Impact, Notched	6.94 J/cm	13.0 ft-lb/in	ASTM D256
Izod Impact, Notched (ISO)	45.0 kJ/m <sup>2</sup>	21.4 ft-lb/in <sup>2</sup>	80*10*4; ISO 180/1A
	13.0 kJ/m <sup>2</sup> @Temperature -30.0 °C	6.19 ft-lb/in <sup>2</sup> @Temperature -22.0 °F	80*10*4; ISO 180/1A
	15.0 kJ/m <sup>2</sup> @Temperature 0.000 °C	7.14 ft-lb/in <sup>2</sup> @Temperature 32.0 °F	80*10*4; ISO 180/1A
Charpy Impact, Notched	4.80 J/cm <sup>2</sup>	22.8 ft-lb/in <sup>2</sup>	Edgew 80*10*4 sp=62mm; ISO 179/1eA
	1.30 J/cm <sup>2</sup> @Temperature -30.0 °C	6.19 ft-lb/in <sup>2</sup> @Temperature -22.0 °F	Edgew 80*10*4 sp=62mm; ISO 179/1eA
Dart Drop, Total Energy	64.0 J	47.2 ft-lb	ASTM D3763
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	72.0 μm/m-°C	40.0 μin/in-°F	ASTM E 831
	@Temperature -40.0 - 40.0 °C	@Temperature -40.0 - 104 °F	
	80.0 μm/m-°C	44.4 μin/in-°F	ISO 11359-2
	@Temperature 23.0 - 60.0 °C	@Temperature 73.4 - 140 °F	
CTE, linear, Transverse to Flow	72.0 μm/m-°C	40.0 μin/in-°F	ASTM E 831

Thermal Properties	@Temperature -40.0 - Metric 40.0 °C	@Temperature -40.0 - English 100 °F	Comments
	80.0 µm/m-°C	44.4 µin/in-°F	
	@Temperature 23.0 - 60.0 °C	@Temperature 73.4 - 140 °F	ISO 11359-2
Thermal Conductivity	0.200 W/m-K	1.39 BTU-in/hr-ft <sup>2</sup> -°F	ISO 8302
Deflection Temperature at 0.46 MPa (66 psi)	102 °C	216 °F	Edgew 120*10*4 sp=100mm; ISO 75/Be
	100 °C	212 °F	
	@Thickness 3.20 mm	@Thickness 0.126 in	unannealed; ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	91.0 °C	196 °F	Edgew 120*10*4 sp=100mm; ISO 75/Ae
	88.0 °C	190 °F	
	@Thickness 3.20 mm	@Thickness 0.126 in	unannealed; ASTM D648
Vicat Softening Point	108 °C	226 °F	Rate B/50; ISO 306
	110 °C	230 °F	Rate B/120; ISO 306
	110 °C	230 °F	Rate B/50; ASTM D1525
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	V-0	V-0	UL 94
	@Thickness 1.49 mm	@Thickness 0.0587 in	
	5VB	5VB	UL 94
	@Thickness 2.48 mm	@Thickness 0.0976 in	
Oxygen Index	37 %	37 %	ISO 4589

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
Dielectric Constant	2.7	2.7	
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	IEC 60250
	2.8	2.8	
			IEC 60250

Electrical Properties	@Frequency 50.0 - 60.0 Metric Hz	@Frequency 50.0 - 60.0 English Hz	Comments
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	
Dissipation Factor	0.0040	0.0040	IEC 60250
	@Frequency 50.0 - 60.0 Hz	@Frequency 50.0 - 60.0 Hz	
	0.0060	0.0060	IEC 60250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
	0.0060	0.0060	ASTM D150
	@Frequency 50.0 - 60.0 Hz	@Frequency 50.0 - 60.0 Hz	
Comparative Tracking Index	600 V	600 V	IEC 60112

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