

SABIC Innovative Plastics Cycology® C6840 PC+ABS

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

Material Notes:

Cycology* C6840 resin is an injection moldable, flame retardant PC/ABS blend. It contains non-chlorinated & non-brominated flame retardant systems intended to meet governmental regulations and various voluntary environmental labels. Key features of Cycology C6840 resin including very good flow, balanced impact property, heat resistance, hydrolytic stability and all color options make this grade an ideal candidate for thin wall applications.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Cycology-C6840-PCABS.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.18 g/cc	1.18 g/cc	ASTM D792
Density	1.19 g/cc	0.0430 lb/in ³	ISO 1183
Moisture Absorption	0.100 %	0.100 %	23°C / 50% RH; ISO 62
Water Absorption at Saturation	0.20 %	0.20 %	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	26 g/10 min @Load 2.16 kg, Temperature 260 °C	26 g/10 min @Load 4.76 lb, Temperature 500 °F	ASTM D1238
Melt Index of Compound	23 g/10 min @Load 2.16 kg, Temperature 260 °C	23 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	40.0 MPa	5800 psi	Type I, 50 mm/min; ASTM D638
	44.0 MPa	6380 psi	50 mm/min; ISO 527
Tensile Strength, Yield	55.0 MPa	7980 psi	Type I, 50 mm/min; ASTM D638
	56.0 MPa	8120 psi	50 mm/min; ISO 527
Elongation at Break	51 %	51 %	Type I, 50 mm/min; ASTM D638
	60 %	60 %	50 mm/min; ISO 527
Elongation at Yield	3.6 %	3.6 %	Type I, 50 mm/min; ASTM D638
	4.0 %	4.0 %	50 mm/min; ISO 527

Mechanical Properties	Metric	English	Comments
	2.58 GPa	374 ksi	5 mm/min; ASTM D638
Flexural Strength	90.0 MPa	13100 psi	2 mm/min; ISO 178
Flexural Yield Strength	92.0 MPa	13300 psi	1.3 mm/min, 50 mm span; ASTM D790
Flexural Modulus	2.50 GPa	363 ksi	1.3 mm/min, 50 mm span; ASTM D790
	2.60 GPa	377 ksi	2 mm/min; ISO 178
Izod Impact, Notched	5.00 J/cm	9.37 ft-lb/in	ASTM D256
	1.10 J/cm	2.06 ft-lb/in	ASTM D256
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Izod Impact, Notched (ISO)	15.0 kJ/m ²	7.14 ft-lb/in ²	80*10*3; ISO 180/1A
	10.0 kJ/m ²	4.76 ft-lb/in ²	80*10*3; ISO 180/1A
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Charpy Impact, Notched	1.50 J/cm ²	7.14 ft-lb/in ²	Edgew 80*10*3 sp=62mm; ISO 179/1eA
	1.00 J/cm ²	4.76 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	40.0 J	29.5 ft-lb	ASTM D3763
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	60.0 µm/m-°C	33.3 µin/in-°F	ASTM E 831
	@Temperature -40.0 - 40.0 °C	@Temperature -40.0 - 104 °F	
	75.0 µm/m-°C	41.7 µin/in-°F	ISO 11359-2
	@Temperature -40.0 - 40.0 °C	@Temperature -40.0 - 104 °F	
CTE, linear, Transverse to Flow	60.0 µm/m-°C	33.3 µin/in-°F	ASTM E 831
	@Temperature -40.0 - 40.0 °C	@Temperature -40.0 - 104 °F	
	75.0 µm/m-°C	41.7 µin/in-°F	ISO 11359-2
	@Temperature -40.0 - 40.0 °C	@Temperature -40.0 - 104 °F	
Thermal Conductivity			ISO 8302

Thermal Properties	0.200 W/m-K Metric	1.39 BTU-in/hr-ft ² -°F English	Comments
Deflection Temperature at 0.46 MPa (66 psi)	89.0 °C @Thickness 3.20 mm	192 °F @Thickness 0.126 in	unannealed; ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	78.0 °C	172 °F	Edgew 120*10*4 sp=100mm; ISO 75/Ae
	85.0 °C @Thickness 3.20 mm	185 °F @Thickness 0.126 in	unannealed; ASTM D648
	85.0 °C @Thickness 6.40 mm	185 °F @Thickness 0.252 in	unannealed; ASTM D648
Vicat Softening Point	93.0 °C	199 °F	Rate B/50; ASTM D1525
	93.0 °C	199 °F	Rate B/50; ISO 306
	96.0 °C	205 °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	V-0 @Thickness 1.50 mm	V-0 @Thickness 0.0591 in	UL 94
	5VB @Thickness 2.00 mm	5VB @Thickness 0.0787 in	UL 94

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 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
	35.0 kV/mm @Thickness 0.800 mm	889 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

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