

SABIC Innovative Plastics Cycology® CM6140 PC+ABS

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

Material Notes:

Cycology resin grade CM6140 is a flame retardant, filled PC/ABS blend. It is of non-brominated & non-chlorinated FR system to meet UL94 V0 at 0.8mm. Key features include thin wall FR, higher stiffness, balanced properties in flow, impact and heat designed for various thin wall applications.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Cycology-CM6140-PCABS.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.26 g/cc	1.26 g/cc	ASTM D792
Density	1.25 g/cc	0.0452 lb/in ³	ISO 1183
Water Absorption	0.10 % @Time 86400 sec	0.10 % @Time 24.0 hour	ASTM D570
Moisture Absorption	0.0100 %	0.0100 %	50% RH, 24 hrs; ASTM D570
	0.0100 %	0.0100 %	23°C / 50% RH; ISO 62
Water Absorption at Saturation	0.090 %	0.090 %	ISO 62
Linear Mold Shrinkage, Flow	0.0030 - 0.0050 cm/cm @Thickness 3.20 mm	0.0030 - 0.0050 in/in @Thickness 0.126 in	SABIC Method
Linear Mold Shrinkage, Transverse	0.0040 - 0.0060 cm/cm @Thickness 3.20 mm	0.0040 - 0.0060 in/in @Thickness 0.126 in	SABIC Method
Melt Flow	17.5 g/10 min @Load 2.16 kg, Temperature 260 °C	17.5 g/10 min @Load 4.76 lb, Temperature 500 °F	ASTM D1238
Melt Index of Compound	14 g/10 min @Load 5.00 kg, Temperature 220 °C	14 g/10 min @Load 11.0 lb, Temperature 428 °F	MVR [cm ³ /10 min]; ISO 1133

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	50.0 MPa	7250 psi	Type I, 5 mm/min; ASTM D638
	50.0 MPa	7250 psi	5 mm/min; ISO 527
Tensile Strength, Yield	65.0 MPa	9430 psi	Type I, 50 mm/min; ASTM D638
	65.0 MPa	9430 psi	Type I, 5 mm/min; ASTM D638

Elongation at Break Mechanical Properties	15 % Metric	15 % English	50 mm/min; ISO 527 Comments
	100 %	100 %	Type I, 5 mm/min; ASTM D638
Elongation at Yield	3.5 %	3.5 %	5 mm/min; ISO 527
	4.0 %	4.0 %	Type I, 5 mm/min; ASTM D638
Tensile Modulus	3.20 GPa	464 ksi	1 mm/min; ISO 527
	3.50 GPa	508 ksi	5 mm/min; ASTM D638
Flexural Yield Strength	97.0 MPa	14100 psi	2 mm/min; ISO 178
	100 MPa	14500 psi	1.3 mm/min, 50 mm span; ASTM D790
Flexural Modulus	3.30 GPa	479 ksi	1.3 mm/min, 50 mm span; ASTM D790
	3.45 GPa	500 ksi	2 mm/min; ISO 178
Izod Impact, Notched	2.00 J/cm	3.75 ft-lb/in	ASTM D256
	0.880 J/cm @Temperature -30.0 °C	1.65 ft-lb/in @Temperature -22.0 °F	ASTM D256
Izod Impact, Notched (ISO)	10.0 kJ/m²	4.76 ft-lb/in²	80*10*3; ISO 180/1A
	5.00 kJ/m² @Temperature -30.0 °C	2.38 ft-lb/in² @Temperature -22.0 °F	80*10*3; ISO 180/1A
Charpy Impact, Notched	1.00 J/cm²	4.76 ft-lb/in²	Edgew 80*10*3 sp=62mm; ISO 179/1eA
	0.500 J/cm² @Temperature -30.0 °C	2.38 ft-lb/in² @Temperature -22.0 °F	Edgew 80*10*3 sp=62mm; ISO 179/1eA
Dart Drop, Total Energy	50.0 J @Temperature 23.0 °C	36.9 ft-lb @Temperature 73.4 °F	ASTM D3763

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	55.0 µm/m-°C @Temperature -40.0 - 40.0 °C	30.6 µin/in-°F @Temperature -40.0 - 104 °F	ASTM E 831
	55.0 µm/m-°C @Temperature -40.0 - 40.0 °C	30.6 µin/in-°F @Temperature -40.0 - 104 °F	ISO 11359-2
CTE, linear, Transverse to Flow	60.0 µm/m-°C	33.3 µin/in-°F	ASTM E 831

Thermal Properties	Metric @Temperature -40.0 - 40.0 °C	English @Temperature -40.0 - 104 °F	Comments
	60.0 µm/m-°C	33.3 µin/in-°F	ISO 11359-2
	@Temperature -40.0 - 40.0 °C	@Temperature -40.0 - 104 °F	
Deflection Temperature at 0.46 MPa (66 psi)	97.0 °C	207 °F	unannealed; ASTM D648
	@Thickness 6.40 mm	@Thickness 0.252 in	
Deflection Temperature at 1.8 MPa (264 psi)	80.0 °C	176 °F	Flatw 80*10*4 sp=64mm; ISO 75/Af
	83.0 °C	181 °F	unannealed; ASTM D648
	@Thickness 3.20 mm	@Thickness 0.126 in	
	89.0 °C	192 °F	unannealed; ASTM D648
	@Thickness 6.40 mm	@Thickness 0.252 in	
Vicat Softening Point	91.0 °C	196 °F	Rate B/50; ASTM D1525
	98.0 °C	208 °F	Rate B/50; ISO 306
	102 °C	216 °F	Rate B/120; ISO 306
Flammability, UL94	V-1	V-1	UL 94
	@Thickness 0.600 mm	@Thickness 0.0236 in	
	V-0	V-0	UL 94
	@Thickness 0.800 mm	@Thickness 0.0315 in	
	5VB	5VB	UL 94
	@Thickness 1.50 mm	@Thickness 0.0591 in	
Glow Wire Test	800 °C	1470 °F	IEC 60695-2-13
	850 °C	1560 °F	IEC 60695-2-13
	960 °C	1760 °F	IEC 60695-2-12
	@Thickness 0.800 mm	@Thickness 0.0315 in	

Electrical Properties	Metric	English	Comments
Volume Resistivity	2.68e+16 ohm-cm	2.68e+16 ohm-cm	ASTM D257
Surface Resistance	3.54e+15 ohm	3.54e+15 ohm	ASTM D257

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

Descriptive Properties	Value	Comments
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