

SABIC Innovative Plastics Cycloy® EFX810ME PC (Asia Pacific)

Category : Polymer , Thermoplastic , Polycarbonate (PC)

Material Notes:

Modified PC blend offering metallic look with minimal flowline visibility. This data was supplied by SABIC-IP for the Asia Pacific region.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Cycloy-EFX810ME-PC-Asia-Pacific.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.16 g/cc	1.16 g/cc	ASTM D 792
Density	1.16 g/cc	0.0419 lb/in ³	ISO 1183
Moisture Absorption at Equilibrium	0.10 %	0.10 %	23°C / 50% RH; ISO 62
Water Absorption at Saturation	0.25 % @Temperature 23.0 °C	0.25 % @Temperature 73.4 °F	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	11 g/10 min @Load 1.20 kg, Temperature 300 °C	11 g/10 min @Load 2.65 lb, Temperature 572 °F	ASTM D 1238
	11 g/10 min @Load 5.00 kg, Temperature 260 °C	11 g/10 min @Load 11.0 lb, Temperature 500 °F	[cm ³ /10 min] Melt Volume Rate; ISO 1133
	14 g/10 min @Load 5.00 kg, Temperature 260 °C	14 g/10 min @Load 11.0 lb, Temperature 500 °F	ASTM D 1238

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell L	89	89	ISO 2039-2
Tensile Strength at Break	59.0 MPa	8560 psi	Type I, 50 mm/min; ASTM D 638
	59.0 MPa	8560 psi	50 mm/min; ISO 527
Tensile Strength, Yield	61.0 MPa	8850 psi	Type I, 50 mm/min; ASTM D 638
	61.0 MPa	8850 psi	50 mm/min; ISO 527
Elongation at Break	6.0 %	6.0 %	Type I, 50 mm/min; ASTM D 638
	6.0 %	6.0 %	50 mm/min; ISO 527

Mechanical Properties	Metric	English	Comments
	4.0 %	4.0 %	50 mm/min; ISO 527
Tensile Modulus	2.40 GPa	348 ksi	5 mm/min; ASTM D 638
	2.40 GPa	348 ksi	1 mm/min; ISO 527
Flexural Yield Strength	>= 90.0 MPa	>= 13100 psi	1.3 mm/min, 50 mm span; ASTM D 790
	90.0 MPa	13100 psi	2 mm/min; ISO 178
Flexural Modulus	2.30 GPa	334 ksi	2 mm/min; ISO 178
	2.40 GPa	348 ksi	1.3 mm/min, 50 mm span; ASTM D 790
Izod Impact, Notched	0.700 J/cm	1.31 ft-lb/in	ASTM D 256
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	1.00 J/cm	1.87 ft-lb/in	ASTM D 256
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Izod Impact, Unnotched	8.50 J/cm	15.9 ft-lb/in	ASTM D 4812
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Izod Impact, Notched (ISO)	6.00 kJ/m ²	2.86 ft-lb/in ²	80*10*4; ISO 180/1A
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	8.00 kJ/m ²	3.81 ft-lb/in ²	80*10*4; ISO 180/1A
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Izod Impact, Unnotched (ISO)	50.0 kJ/m ²	23.8 ft-lb/in ²	80*10*4; ISO 180/1U
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Charpy Impact, Notched	0.700 J/cm ²	3.33 ft-lb/in ²	V-notch Edgew 80*10*4 sp=62mm; ISO 179/1eA
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	0.900 J/cm ²	4.28 ft-lb/in ²	V-notch Edgew 80*10*4 sp=62mm; ISO 179/1eA
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Impact Test	37.0 J	27.3 ft-lb	Instrumented Impact Total Energy; ASTM D 3763
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Thermal Properties	Metric	English	Comments
	70.0 µm/m-°C	38.9 µin/in-°F	
CTE, linear, Parallel to Flow	@Temperature -40.0 -	@Temperature -40.0 -	ASTM E 831

Thermal Properties	40.0 °C Metric	104 °F English	Comments
	70.0 µm/m-°C	38.9 µin/in-°F	
	@Temperature -40.0 - 40.0 °C	@Temperature -40.0 - 104 °F	ISO 11359-2
CTE, linear, Transverse to Flow	70.0 µm/m-°C	38.9 µin/in-°F	
	@Temperature -40.0 - 40.0 °C	@Temperature -40.0 - 104 °F	ASTM E 831
	70.0 µm/m-°C	38.9 µin/in-°F	
	@Temperature -40.0 - 40.0 °C	@Temperature -40.0 - 104 °F	ISO 11359-2
Thermal Conductivity	0.220 W/m-K	1.53 BTU-in/hr-ft ² -°F	ASTM E 1530
Deflection Temperature at 1.8 MPa (264 psi)	106 °C	223 °F	Flatw 80*10*4 sp=64mm; ISO 75/ Af
	106 °C	223 °F	
	@Thickness 3.20 mm	@Thickness 0.126 in	unannealed; ASTM D 648
Vicat Softening Point	134 °C	273 °F	Rate B/50; ASTM D 1525
	134 °C	273 °F	Rate B/50; ISO 306
	136 °C	277 °F	Rate B/120; ISO 306
Flammability, UL94	HB	HB	UL 94
	@Thickness 1.50 mm	@Thickness 0.0591 in	
Glow Wire Test	750 °C	1380 °F	Glow Wire Flammability Index; IEC 60695-2-12
	@Thickness 1.00 mm	@Thickness 0.0394 in	
	850 °C	1560 °F	Glow Wire Flammability Index; IEC 60695-2-12
	@Thickness 3.20 mm	@Thickness 0.126 in	

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 1.00e+15 ohm-cm	>= 1.00e+15 ohm-cm	ASTM D 257
Surface Resistance	>= 1.00e+15 ohm	>= 1.00e+15 ohm	ASTM D 257
Dielectric Constant	2.8	2.8	
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	ASTM D 150
Dielectric Strength	26.0 kV/mm	660 kV/in	
	@Thickness 1.60 mm	@Thickness 0.0630 in	in oil; ASTM D 149
	0.0070	0.0070	

Electrical Properties	Metric	English	Comments
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	

Descriptive Properties	Value	Comments
Ball Pressure Test, 125°C +/- 2°C	PASS	IEC 60695-10-2

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