

SABIC Innovative Plastics Cycolac® MG47 ABS

Category : Polymer , Thermoplastic , ABS Polymer

Material Notes:

Multi-purpose, injection molding ABS providing a favorable balance of engineering properties.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Cycolac-MG47-ABS.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.04 g/cc	1.04 g/cc	ASTM D792
Density	1.04 g/cc	0.0376 lb/in ³	ISO 1183
Viscosity	225000 cP	225000 cP	Melt Viscosity, 240°C, 1000 sec-1; ASTM D3825
Linear Mold Shrinkage, Flow	0.0050 - 0.0080 cm/cm @Thickness 3.20 mm	0.0050 - 0.0080 in/in @Thickness 0.126 in	SABIC Method
Melt Flow	5.6 g/10 min @Load 3.80 kg, Temperature 230 °C	5.6 g/10 min @Load 8.38 lb, Temperature 446 °F	ASTM D1238
	18 g/10 min @Load 10.0 kg, Temperature 220 °C	18 g/10 min @Load 22.0 lb, Temperature 428 °F	ISO 1133

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	32.0 MPa	4640 psi	50 mm/min; ISO 527
	33.0 MPa	4790 psi	Type I, 5 mm/min; ASTM D638
Tensile Strength, Yield	44.0 MPa	6380 psi	Type I, 5 mm/min; ASTM D638
	46.0 MPa	6670 psi	50 mm/min; ISO 527
Elongation at Break	24 %	24 %	Type I, 5 mm/min; ASTM D638
	51.1 %	51.1 %	50 mm/min; ISO 527
Elongation at Yield	2.0 %	2.0 %	Type I, 5 mm/min; ASTM D638
	2.5 %	2.5 %	50 mm/min; ISO 527
Tensile Modulus	2.27 GPa	329 ksi	5 mm/min; ASTM D638
Flexural Yield Strength	72.0 MPa	10400 psi	1.3 mm/min, 50 mm span; ASTM D790

Flexural Modulus Mechanical Properties	2.34 GPa Metric	339 ksi English	1.3 mm/min, 50 mm span; ASTM D790 Comments
Izod Impact, Notched	3.20 J/cm	5.99 ft-lb/in	ASTM D256
Izod Impact, Notched (ISO)	23.0 kJ/m ²	10.9 ft-lb/in ²	80*10*4; ISO 180/1A
	13.0 kJ/m ² @Temperature -30.0 °C	6.19 ft-lb/in ² @Temperature -22.0 °F	80*10*4; ISO 180/1A
Charpy Impact, Notched	2.60 J/cm ²	12.4 ft-lb/in ²	Edgew 80*10*4 sp=62mm; ISO 179/1eA
Dart Drop, Total Energy	30.0 J @Temperature 23.0 °C	22.1 ft-lb @Temperature 73.4 °F	ASTM D3763

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	88.2 µm/m-°C @Temperature -40.0 - 40.0 °C	49.0 µin/in-°F @Temperature -40.0 - 104 °F	ASTM E 831
CTE, linear, Transverse to Flow	88.2 µm/m-°C @Temperature -40.0 - 40.0 °C	49.0 µin/in-°F @Temperature -40.0 - 104 °F	ASTM E 831
Deflection Temperature at 0.46 MPa (66 psi)	96.0 °C @Thickness 3.20 mm	205 °F @Thickness 0.126 in	unannealed; ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	81.0 °C	178 °F	Flatw 80*10*4 sp=64mm; ISO 75/Af
	82.0 °C @Thickness 3.20 mm	180 °F @Thickness 0.126 in	unannealed; ASTM D648
Vicat Softening Point	97.0 °C	207 °F	Rate B/50; ISO 306
	98.0 °C	208 °F	Rate B/50; ASTM D1525
	99.0 °C	210 °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	HB @Thickness 1.52 mm	HB @Thickness 0.0598 in	UL 94

Electrical Properties	Metric	English	Comments
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Electrical Properties	Metric ^{0 sec}	English ^{1 sec}	Comments ^{STM D495}
Comparative Tracking Index	>= 600 V	>= 600 V	UL 746A
Hot Wire Ignition, HWI	15 - 30 sec	15 - 30 sec	UL 746A
High Amp Arc Ignition, HAI	>= 120 arcs	>= 120 arcs	UL 746A
High Voltage Arc-Tracking Rate, HVTR	80.0 - 150 mm/min	3.15 - 5.91 in/min	UL 746A

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