

SABIC Innovative Plastics Cyclac® G320 ABS (Europe-Africa-Middle East)

Category : Polymer , Thermoplastic , ABS Polymer , Acrylonitrile Butadiene Styrene (ABS), Impact Grade, Molded

Material Notes:

CYCOLAC G320 is a super high impact resistant ABS grade. It combines impact resistance with high stiffness, good temperature resistance and processability. It has a good fit in automotive interiors where impact resistance is the main criteria. This data was supplied by SABIC-IP for the Europe-Africa-Middle East region.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Cyclac-G320-ABS-Europe-Africa-Middle-East.php

Physical Properties	Metric	English	Comments
Density	1.05 g/cc	0.0379 lb/in ³	ISO 1183
Moisture Absorption at Equilibrium	0.20 %	0.20 %	23°C / 50% RH; ISO 62
Water Absorption at Saturation	1.0 % @Temperature 23.0 °C	1.0 % @Temperature 73.4 °F	ISO 62
Linear Mold Shrinkage, Flow	0.0050 - 0.0070 cm/cm	0.0050 - 0.0070 in/in	on tensile bar; SABIC Method
Melt Flow	7.0 g/10 min @Load 10.0 kg, Temperature 220 °C	7.0 g/10 min @Load 22.0 lb, Temperature 428 °F	ISO 1133
	7.0 g/10 min @Load 10.0 kg, Temperature 220 °C	7.0 g/10 min @Load 22.0 lb, Temperature 428 °F	[cm ³ /10 min] Melt Volume Rate; ISO 1133

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	109	109	ISO 2039-2
Hardness, H358/30	80.0 MPa	11600 psi	ISO 2039-1
Tensile Strength at Break	35.0 MPa	5080 psi	5 mm/min; ISO 527
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Tensile Strength, Yield	40.0 MPa	5800 psi	5 mm/min; ISO 527
	45.0 MPa	6530 psi	50 mm/min; ISO 527
Elongation at Break	10 %	10 %	5 mm/min; ISO 527
	15 %	15 %	50 mm/min; ISO 527
Elongation at Yield	2.0 %	2.0 %	5 mm/min; ISO 527
	3.0 %	3.0 %	50 mm/min; ISO 527

Mechanical Properties	Metric	English	Comments
Tensile Modulus	2.30 GPa	334 ksi	1 mm/min; ISO 527
Flexural Yield Strength	63.0 MPa	9140 psi	2 mm/min; ISO 178
Flexural Modulus	2.30 GPa	334 ksi	2 mm/min; ISO 178
Izod Impact, Notched (ISO)	12.0 kJ/m ² @Temperature -30.0 °C	5.71 ft-lb/in ² @Temperature -22.0 °F	80*10*4; ISO 180/1A
	40.0 kJ/m ² @Temperature 23.0 °C	19.0 ft-lb/in ² @Temperature 73.4 °F	80*10*4; ISO 180/1A
Charpy Impact, Notched	1.20 J/cm ² @Temperature -30.0 °C	5.71 ft-lb/in ² @Temperature -22.0 °F	V-notch Edgew 80*10*4 sp=62mm; ISO 179/1eA
	3.80 J/cm ² @Temperature 23.0 °C	18.1 ft-lb/in ² @Temperature 73.4 °F	V-notch Edgew 80*10*4 sp=62mm; ISO 179/1eA
Taber Abrasion, mg/1000 Cycles	90 @Load 1.00 kg	90 @Load 2.20 lb	CS-17; SABIC Method

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	80.0 µm/m-°C @Temperature 23.0 - 60.0 °C	44.4 µin/in-°F @Temperature 73.4 - 140 °F	ISO 11359-2
CTE, linear, Transverse to Flow	80.0 µm/m-°C @Temperature 23.0 - 60.0 °C	44.4 µin/in-°F @Temperature 73.4 - 140 °F	ISO 11359-2
Thermal Conductivity	0.200 W/m-K	1.39 BTU-in/hr-ft ² -°F	ISO 8302
Deflection Temperature at 0.46 MPa (66 psi)	89.0 °C	192 °F	Edgew 120*10*4 sp=100mm; ISO 75/Be
Deflection Temperature at 1.8 MPa (264 psi)	77.0 °C	171 °F	Edgew 120*10*4 sp=100mm; ISO 75/Ae
Vicat Softening Point	93.0 °C	199 °F	Rate B/50; ISO 306
	95.0 °C	203 °F	Rate B/120; ISO 306
Flammability, UL94	HB @Thickness 3.17 mm	HB @Thickness 0.125 in	UL 94 by SABIC-IP
Flame Spread	25.0 mm/min @Thickness 1.00 mm	0.984 in/min @Thickness 0.0394 in	FMVSS 302
	650 °C	1200 °F	

Glow Wire Test Thermal Properties	Metric @ Thickness 1.00 mm	English @ Thickness 0.0394 in	Glow Wire Flammability Index; IEC 60695-2-12 Comments
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Electrical Properties	Metric	English	Comments
Volume Resistivity	$\geq 1.00 \times 10^{15}$ ohm-cm	$\geq 1.00 \times 10^{15}$ ohm-cm	IEC 60093
Surface Resistance	$\geq 1.00 \times 10^{15}$ ohm	$\geq 1.00 \times 10^{15}$ ohm	ROA; IEC 60093
Dielectric Constant	2.6	2.6	IEC 60250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
	2.9	2.9	IEC 60250
	@Frequency 50.0 - 60.0 Hz	@Frequency 50.0 - 60.0 Hz	
Dielectric Strength	17.0 kV/mm	432 kV/in	in oil; IEC 60243-1
	@Thickness 3.20 mm	@Thickness 0.126 in	
Dissipation Factor	0.0080	0.0080	IEC 60250
	@Frequency 50.0 - 60.0 Hz	@Frequency 50.0 - 60.0 Hz	
	0.0090	0.0090	IEC 60250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	

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

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