SABIC Innovative Plastics Cycolac GPM5500S ABS (Europe)

Categories: Polymer; Thermoplastic; ABS Polymer; Acrylonitrile Butadiene Styrene (ABS), Molded

Material Notes: CYCOLAC GPM5500S is a multi purpose injection moulding grade, equal to GPM5500 but equipped with anti static agents, providing a favorable balance of engineering properties. CYCOLAC GPM5500S has a wide processing window.

This data was supplied by SABIC-IP for the Europe-Africa-Middle East region.

Vendors: No vendors are listed for this material. Please click here if you are a supplier and would like information on how to add your listing to this material.

Physical Properties	Metric	English	Comments
Density	1.05 g/cc	0.0379 lb/in³	ISO 1183
Moisture Absorption at Equilibrium	0.200 %	0.200 %	23°C/50% RH; ISO 62
Water Absorption at Saturation	1.00 %	1.00 %	ISO 62
Linear Mold Shrinkage, Flow	0.00500 - 0.00700 cm/cm	0.00500 - 0.00700 in/in	tensile bar; SABIC Method
Melt Flow	24.0 g/10 min @Load 10.0 kg, Temperature 220 °C	24.0 g/10 min @Load 22.0 lb, Temperature 428 °F	ISO 1133
	24.0 g/10 min @Load 10.0 kg, Temperature 220 °C	24.0 g/10 min @Load 22.0 lb, Temperature 428 °F	Melt Volume Rate (cm^3/10 min); ISO 1133

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	107	107	ISO 2039-2
Tensile Strength at Break	35.0 MPa	5080 psi	5 mm/min; ISO 527
	35.0 MPa	5080 psi	50 mm/min; ISO 527
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	25.0 %	25.0 %	5 mm/min; ISO 527
	35.0 %	35.0 %	50 mm/min; ISO 527
Elongation at Yield	2.00 %	2.00 %	5 mm/min; ISO 527
	2.00 %	2.00 %	50 mm/min; ISO 527
Tensile Modulus	2.40 GPa	348 ksi	1 mm/min; ISO 527
Flexural Modulus	2.30 GPa	334 ksi	2 mm/min; ISO 178
Flexural Yield Strength	70.0 MPa	10200 psi	2 mm/min; ISO 178
Charpy Impact, Notched	0.800 J/cm² @Thickness 4.00 mm, Temperature -30.0 °C	3.81 ft-lb/in² @Thickness 0.157 in, Temperature -22.0 °F	V-notch Edgew 80*10*4 sp=62mm; ISO 179/1eA
	1.60 J/cm² @Thickness 4.00 mm, Temperature 23.0 °C	7.61 ft-lb/in² @Thickness 0.157 in, Temperature 73.4 °F	V-notch Edgew 80*10*4 sp=62mm; ISO 179/1eA
Taber Abrasion, mg/1000 Cycles	105	105	CS-17, 1 kg; SABIC Method
Izod Impact, Notched (ISO)	10.0 kJ/m² @Thickness 4.00 mm, Temperature -30.0 °C	4.76 ft-lb/in² @Thickness 0.157 in, Temperature -22.0 °F	80*10*4; ISO 180/1A
	18.0 kJ/m² @Thickness 4.00 mm, Temperature 23.0 °C	8.57 ft-lb/in² @Thickness 0.157 in, Temperature 73.4 °F	80*10*4; ISO 180/1A

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 1.00e+14 ohm-cm	>= 1.00e+14 ohm-cm	IEC 60093
Surface Resistance	>= 1.00e+14 ohm	>= 1.00e+14 ohm	IEC 60093
Dielectric Constant	2.60 @Frequency 1.00e+6 Hz	2.60 @Frequency 1.00e+6 Hz	IEC 60250
	2.70 @Frequency 50.0 - 60.0 Hz	2.70 @Frequency 50.0 - 60.0 Hz	IEC 60250
Dielectric Strength	18.0 kV/mm @Thickness 3.20 mm	457 kV/in @Thickness 0.126 in	in oil; IEC 60243-1
	26.0 kV/mm @Thickness 1.60 mm	660 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
Dissipation Factor	0.00400 @Frequency 50.0 - 60.0 Hz	0.00400 @Frequency 50.0 - 60.0 Hz	IEC 60250
	0.00800 @Frequency 1.00e+6 Hz	0.00800 @Frequency 1.00e+6 Hz	IEC 60250
Comparative Tracking Index	475 V	475 V	IEC 60112

Thermal Properties	Metric	English	Comments
CTE, linear	80.0 µm/m-°C @Temperature 23.0 - 60.0 °C	44.4 µin/in-°F @Temperature 73.4 - 140 °F	Flow; 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-ft²-°F	ISO 8302
Deflection Temperature at 0.46 MPa (66 psi)	91.0 °C @Thickness 4.00 mm	196 °F @Thickness 0.157 in	Edgew 120*10*4 sp=100mm; ISO 75/Be
Deflection Temperature at 1.8 MPa (264 psi)	80.0 °C @Thickness 4.00 mm	176 °F @Thickness 0.157 in	Edgew 120*10*4 sp=100mm; ISO 75/Ae
Vicat Softening Point	98.0 °C	208 °F	Rate B/50; ISO 306
	100 °C	212 °F	Rate B/120; ISO 306
UL RTI, Electrical	65.0 °C	149 °F	UL 746B
UL RTI, Mechanical with Impact	80.0 °C	176 °F	UL 746B
UL RTI, Mechanical without Impact	65.0 °C	149 °F	UL 746B
Flammability, UL94	HB @Thickness 1.50 mm	HB @Thickness 0.0591 in	UL 94
	HB @Thickness 3.00 mm	HB @Thickness 0.118 in	UL 94
Glow Wire Test	650 °C @Thickness 1.00 mm	1200 °F @Thickness 0.0394 in	Glow Wire Flammability Index; IEC 60695-2-12

Descriptive Properties

Ball Pressure Test, 75°C	PASSES	IEC 60695-10-2
Hardness, H358/30 (MPa)	87	ISO 2039-1