CYCOLAC* GPM5500S Resin

Acrylonitrile Butadiene Styrene

SABIC Innovative Plastics Europe

IDES | Prospector

Product Description

CYCOLAC GPM5500S is a multi purpose injection moulding grade, equal to GPM5500 but equiped with anti static agents, providing a favourable balance of engineering properties. CYCOLAC GPM5500S has a wide processing window. It is recommended for applications in telecommunications, domestic appliance and office equipment.

General

Material Status	• Commercial: Active		
Availability	• Europe		
Additive	• Antistatic		
Features	• Antistatic	• Good Processability	
Uses	• Appliance Components	• Business Equipment	• Telecommunications
RoHS Compliance	• RoHS Compliant		
Forms	• Pellets		
Processing Method	• Injection Molding		

Physical	Nominal Value	Unit	Test Method
Density	1.05	g/cm³	ISO 1183
Melt Mass-Flow Rate (MFR) (220°C/10.0 kg)	24	g/10 min	ISO 1133
Melt Volume-Flow Rate (MVR) (220°C/10.0 kg)	24.0	cm³/10min	ISO 1133
Molding Shrinkage - Flow	0.50 to 0.70	%	ASTM D955
Water Absorption			ISO 62
Saturation, 23°C	1.0	%	
Equilibrium, 23°C, 50% RH	0.20	%	

Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	2400	MPa	ISO 527-2/1
Tensile Stress			
Yield	40.0	MPa	ISO 527-2/5
Yield	45.0	MPa	ISO 527-2/50
Break	35.0	MPa	ISO 527-2/5 ISO 527-2/50
Tensile Strain			
Yield	2.0	%	ISO 527-2/5 ISO 527-2/50
Break	25	%	ISO 527-2/5
Break	35	%	ISO 527-2/50
Flexural Modulus [2]	2300	MPa	ISO 178
Flexural Strength [2, 3]	70.0	MPa	ISO 178
Taber Abrasion Resistance			ASTM D1044
1000 Cycles, 1000 g, CS-17 Wheel	105	mg	

Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-30°C	8.0	kJ/m²	
23°C	16	kJ/m²	
Notched Izod Impact Strength			ISO 180/1A
-30°C	10.0	kJ/m²	
23°C	18.0	kJ/m²	

Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (R-Scale)	107		ISO 2039-2
Ball Indentation Hardness (H 358/30)	87.0	MPa	ISO 2039-1

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Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature [4]			
0.45 MPa, Unannealed, 100 mm Span	91.0	°C	ISO 75-2/Be
1.8 MPa, Unannealed, 100 mm Span	80.0	°C	ISO 75-2/Ae
Vicat Softening Temperature			
--	98.0	°C	ISO 306/B50
--	100	°C	ISO 306/B120
Ball Pressure Test (75°C)	Pass		IEC 60695-10-2
CLTE			ISO 11359-2
Flow: 23 to 60°C	0.000080	cm/cm/°C	
Transverse: 23 to 60°C	0.000080	cm/cm/°C	
Thermal Conductivity	0.20	W/m/K	ISO 8302

Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	> 1.0E+14	ohms	IEC 60093
Volume Resistivity	> 1.0E+14	ohm·cm	IEC 60093
Relative Permittivity			IEC 60250
50 Hz	2.70		
60 Hz	2.70		
1 MHz	2.60		
Dissipation Factor			IEC 60250
50 Hz	0.0040		
60 Hz	0.0040		
1 MHz	0.0080		
Comparative Tracking Index	475	V	IEC 60112
Electric Strength			IEC 60243-1
0.800 mm, in Oil	35	kV/mm	
1.60 mm, in Oil	26	kV/mm	
3.20 mm, in Oil	18	kV/mm	

Flammability	Nominal Value	Unit	Test Method
Flame Rating - UL			UL 94
1.50 mm	HB		
3.00 mm	HB		
Glow Wire Flammability Index (1.00 mm)	650	°C	IEC 60695-2-12

UL 746	Nominal Value	Unit	Test Method
RTI Str	65.0	°C	UL 746
RTI Imp	80.0	°C	UL 746
RTI Elec	65.0	°C	UL 746

Injection	Nominal Value	Unit
Drying Temperature	85.0 to 95.0	°C
Drying Time	2.0 to 4.0	hr
Suggested Max Moisture	0.10	%
Hopper Temperature	60.0 to 80.0	°C
Rear Temperature	200 to 240	°C
Middle Temperature	220 to 260	°C
Front Temperature	220 to 260	°C
Nozzle Temperature	210 to 250	°C
Processing (Melt) Temp	220 to 260	°C
Mold Temperature	40.0 to 80.0	°C

Notes

[1] Typical properties: these are not to be construed as specifications.

[2] 2.0 mm/min

[3] Yield

[4] 120*10*4 mm

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