

Styrolution PS 168N GPPS

Category : Polymer , Thermoplastic , Polystyrene (PS) , Polystyrene, Molded, Unreinforced

Material Notes:

Styrolution PS 168N is a high molecular weight, heat resistant grade used where high strength is required. Suitable for physically or chemically expanded extruded sheet. Also use as a blend component with high impact polystyrene or Styrolux SBC. High molecular weight, heat resistant grade used where high strength is required. Suitable for physically or chemically expanded extruded sheet. Suitable for physically or chemically expanded extruded sheet. Blend with high impact polystyrene or Styrolux SBC. Information provided by Styrolution

Order this product through the following link:

http://www.lookpolymers.com/polymer_Styrolution-PS-168N-GPPS.php

Physical Properties	Metric	English	Comments
Density	1.048 g/cc	0.03786 lb/in ³	ISO 1183
Moisture Absorption at Equilibrium	<= 0.10 % @Temperature 23.0 Â°C	<= 0.10 % @Temperature 73.4 Â°F	50% RH; ISO 62
Water Absorption at Saturation	<= 0.10 % @Temperature 23.0 Â°C	<= 0.10 % @Temperature 73.4 Â°F	ISO 62
Linear Mold Shrinkage	0.0030 - 0.0060 cm/cm	0.0030 - 0.0060 in/in	ISO 294-4
Melt Flow	1.2 g/10 min @Load 5.00 kg, Temperature 200 Â°C	1.2 g/10 min @Load 11.0 lb, Temperature 392 Â°F	ISO 1133

Mechanical Properties	Metric	English	Comments
Ball Indentation Hardness	150 MPa	21800 psi	ISO 2039-1
Tensile Strength, Yield	59.0 MPa	8560 psi	ISO 527
Elongation at Break	3.0 %	3.0 %	ISO 527
Tensile Modulus	3.30 GPa	479 ksi	ISO 527
Flexural Strength	106 MPa	15400 psi	ISO 178
Izod Impact, Notched (ISO)	2.00 kJ/m ² @Temperature 23.0 Â°C	0.952 ft-lb/in ² @Temperature 73.4 Â°F	ISO 180/A
	2.00 kJ/m ² @Temperature -30.0 Â°C	0.952 ft-lb/in ² @Temperature -22.0 Â°F	ISO 180/A

Charpy Impact Unnotched Mechanical Properties	$\leq 2.50 \text{ J/cm}^2$ Metric	$\leq 11.9 \text{ ft-lb/in}^2$ English	ISO 179 Comments
Charpy Impact, Notched	0.400 J/cm ²	1.90 ft-lb/in ²	ISO 179
Tensile Creep Modulus, 1 hour	3300 MPa	479000 psi	ISO 899
Tensile Creep Modulus, 1000 hours	2600 MPa	377000 psi	ISO 899

Thermal Properties	Metric	English	Comments
CTE, linear	80.0 $\mu\text{m/m}\cdot\text{}^\circ\text{C}$	44.4 $\mu\text{in/in}\cdot\text{}^\circ\text{F}$	ISO 11359
Thermal Conductivity	0.170 W/m-K	1.18 BTU-in/hr-ft ² - $^\circ\text{F}$	DIN 52612-1
Deflection Temperature at 0.46 MPa (66 psi)	98.0 $^\circ\text{C}$	208 $^\circ\text{F}$	ISO 75
Deflection Temperature at 1.8 MPa (264 psi)	86.0 $^\circ\text{C}$	187 $^\circ\text{F}$	ISO 75
Vicat Softening Point	101 $^\circ\text{C}$	214 $^\circ\text{F}$	50 $^\circ\text{C/h}$; ISO 306
	@Load 5.10 kg	@Load 11.2 lb	
	108 $^\circ\text{C}$	226 $^\circ\text{F}$	120 $^\circ\text{C/h}$; ASTM D 1525
	@Load 5.10 kg	@Load 11.2 lb	

Electrical Properties	Metric	English	Comments
Volume Resistivity	$\geq 1.00\text{e}+18 \text{ ohm-cm}$	$\geq 1.00\text{e}+18 \text{ ohm-cm}$	IEC 60093
Surface Resistance	$\geq 1.00\text{e}+14 \text{ ohm}$	$\geq 1.00\text{e}+14 \text{ ohm}$	IEC 60093
Dielectric Constant	2.5	2.5	IEC 60250
	@Frequency 100 Hz	@Frequency 100 Hz	
Dielectric Strength	135 kV/mm	3430 kV/in	Short Time; IEC 60243-1
	@Thickness 1.50 mm	@Thickness 0.0591 in	
Dissipation Factor	0.000050	0.000050	IEC 60250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
	0.000090	0.000090	IEC 60250
	@Frequency 100 Hz	@Frequency 100 Hz	

Processing Properties	Metric	English	Comments
Melt Temperature	180 - 260 $^\circ\text{C}$	356 - 500 $^\circ\text{F}$	ISO 294
Mold Temperature	10.0 - 60.0 $^\circ\text{C}$	50.0 - 140 $^\circ\text{F}$	ISO 294

Processing Properties	Metric	English	Comments
Injection Velocity	200 mm/sec	7.87 in/sec	ISO 234

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