

Styrolution PS 158K GPPS

Category : Polymer , Thermoplastic , Polystyrene (PS) , Polystyrene, Transparent Grade

Material Notes:

Styrolution PS 158K is a heat resistant, rapid freezing general purpose grade. It is suitable for expanded sheet and film; for blends with high impact Styrolution PS in heat contact applications; for transparent, impact resistant applications in blends with Styrolux. High heat resistance GPPS High transparency Information provided by Styrolution

Order this product through the following link:

http://www.lookpolymers.com/polymer_Styrolution-PS-158K-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	3.0 g/10 min @Load 5.00 kg, Temperature 200 Â°C	3.0 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	55.0 MPa	7980 psi	ISO 527
Elongation at Break	3.0 %	3.0 %	ISO 527
Tensile Modulus	3.30 GPa	479 ksi	ISO 527
Flexural Strength	103 MPa	14900 psi	ISO 178
Izod Impact, Notched (ISO)	2.50 kJ/m ²	1.19 ft-lb/in ²	ISO 180/A
Charpy Impact Unnotched	1.70 J/cm ²	8.09 ft-lb/in ²	ISO 179
Charpy Impact, Notched	0.300 J/cm ²	1.43 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 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$	44.4 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$	ISO 11359
Thermal Conductivity	0.170 W/m-K	1.18 BTU-in/hr-ft $\text{Å}^2\cdot\text{Å}^\circ\text{F}$	DIN 52612-1
Deflection Temperature at 0.46 MPa (66 psi)	98.0 $\text{Å}^\circ\text{C}$	208 $\text{Å}^\circ\text{F}$	ISO 75
Deflection Temperature at 1.8 MPa (264 psi)	86.0 $\text{Å}^\circ\text{C}$	187 $\text{Å}^\circ\text{F}$	ISO 75
Vicat Softening Point	101 $\text{Å}^\circ\text{C}$	214 $\text{Å}^\circ\text{F}$	50 $\text{Å}^\circ\text{C}/\text{h}$; ISO 306
	@Load 5.10 kg	@Load 11.2 lb	
	106 $\text{Å}^\circ\text{C}$	223 $\text{Å}^\circ\text{F}$	50 $\text{Å}^\circ\text{C}/\text{h}$; ISO 306
	@Load 1.02 kg	@Load 2.25 lb	
	108 $\text{Å}^\circ\text{C}$	226 $\text{Å}^\circ\text{F}$	120 $\text{Å}^\circ\text{C}/\text{h}$; ASTM D 1525
	@Load 5.10 kg	@Load 11.2 lb	

Electrical Properties	Metric	English	Comments
Volume Resistivity	$\geq 1.00\text{e}+18$ ohm-cm	$\geq 1.00\text{e}+18$ ohm-cm	IEC 60093
Surface Resistance	$\geq 1.00\text{e}+14$ ohm	$\geq 1.00\text{e}+14$ 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 $\text{Å}^\circ\text{C}$	356 - 500 $\text{Å}^\circ\text{F}$	ISO 294
Mold Temperature	10.0 - 60.0 $\text{Å}^\circ\text{C}$	50.0 - 140 $\text{Å}^\circ\text{F}$	ISO 294
Injection Velocity	200 mm/sec	7.87 in/sec	ISO 294

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