

LG Chemical GPPS 20HR(E) PS, High Transparency, Heat Resistance

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

Material Notes:

Description: Injection Molding, PS, High Transparency, Heat ResistanceApplication: PSP, Food Tray, Electric/Electrical Component,
CoatingCAS: 9003-53-6Information provided by LG Chemical

Order this product through the following link:

http://www.lookpolymers.com/polymer_LG-Chemical-GPPS-20HRE-PS-High-Transparency-Heat-Resistance.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.05 g/cc	1.05 g/cc	ASTM D792
Maximum Moisture Content	0.010	0.010	Injection Molding
Linear Mold Shrinkage, Flow	0.0040 - 0.0080 cm/cm	0.0040 - 0.0080 in/in	ASTM D955
	@Thickness 3.20 mm	@Thickness 0.126 in	
Melt Flow	6.0 g/10 min	6.0 g/10 min	ASTM D1238 (G)
	@Load 5.00 kg, Temperature 200 Â°C	@Load 11.0 lb, Temperature 392 Â°F	
	17 g/10 min	17 g/10 min	ASTM D1238 (I)
	@Load 3.80 kg, Temperature 230 Â°C	@Load 8.38 lb, Temperature 446 Â°F	
	73 g/10 min	73 g/10 min	ASTM D1238 (G)
	@Load 10.0 kg, Temperature 220 Â°C	@Load 22.0 lb, Temperature 428 Â°F	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	121	121	ASTM D785
Tensile Strength, Yield	47.1 MPa	6830 psi	50mm/min; ASTM D638
	@Thickness 3.20 mm	@Thickness 0.126 in	
Elongation at Break	4.0 %	4.0 %	50mm/min; ASTM D638
	@Thickness 3.20 mm	@Thickness 0.126 in	
Tensile Modulus	2.86 GPa	415 ksi	1mm/min; ASTM D638
	@Thickness 3.20 mm	@Thickness 0.126 in	
Flexural Yield Strength	94.1 MPa	13700 psi	15mm/min; ASTM D790
	@Thickness 3.20 mm	@Thickness 0.126 in	
	3.24 GPa	469 ksi	

Flexural Modulus Mechanical Properties	Metric @ Thickness 3.20 mm	English @ Thickness 0.126 in	15mm/min: ASTM D790 Comments
Izod Impact, Notched	0.0981 J/cm @ Thickness 6.40 mm, Temperature 23.0 Â°C	0.184 ft-lb/in @ Thickness 0.252 in, Temperature 73.4 Â°F	ASTM D256
	0.0981 J/cm @ Thickness 6.40 mm, Temperature -30.0 Â°C	0.184 ft-lb/in @ Thickness 0.252 in, Temperature -22.0 Â°F	ASTM D256

Thermal Properties	Metric	English	Comments
Deflection Temperature at 0.46 MPa (66 psi)	93.0 Â°C @ Thickness 6.40 mm	199 Â°F @ Thickness 0.252 in	Unannealed; ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	86.0 Â°C @ Thickness 6.40 mm	187 Â°F @ Thickness 0.252 in	Unannealed; ASTM D648
Vicat Softening Point	94.0 Â°C @ Load 5.00 kg	201 Â°F @ Load 11.0 lb	50Â°C/h; ASTM D1525
UL RTI, Electrical	50.0 Â°C @ Thickness >=1.50 mm	122 Â°F @ Thickness >=0.0591 in	
	50.0 Â°C @ Thickness >=3.00 mm	122 Â°F @ Thickness >=0.118 in	
UL RTI, Mechanical with Impact	50.0 Â°C @ Thickness >=1.50 mm	122 Â°F @ Thickness >=0.0591 in	
	50.0 Â°C @ Thickness >=3.00 mm	122 Â°F @ Thickness >=0.118 in	
UL RTI, Mechanical without Impact	50.0 Â°C @ Thickness >=1.50 mm	122 Â°F @ Thickness >=0.0591 in	
	50.0 Â°C @ Thickness >=3.00 mm	122 Â°F @ Thickness >=0.118 in	
Flammability, UL94	HB @ Thickness >=1.50 mm	HB @ Thickness >=0.0591 in	
	HB	HB	

Thermal Properties	@Thickness >=3.00 mm Metric	@Thickness >=0.118 in English	Comments
Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+14 ohm-cm	1.00e+14 ohm-cm	
Dielectric Strength	42.0 kV/mm	1070 kV/in	
Arc Resistance	120 - 180 sec	120 - 180 sec	ASTM D495
Hot Wire Ignition, HWI	7.0 - 15 sec @Thickness >=1.50 mm	7.0 - 15 sec @Thickness >=0.0591 in	
	15 - 30 sec @Thickness >=3.00 mm	15 - 30 sec @Thickness >=0.118 in	
High Amp Arc Ignition, HAI	60 - 120 arcs @Thickness 1.50 mm	60 - 120 arcs @Thickness 0.0591 in	
	>= 120 arcs @Thickness 3.00 mm	>= 120 arcs @Thickness 0.118 in	
High Voltage Arc-Tracking Rate, HVTR	25.4 - 50.0 mm/min	1.00 - 1.97 in/min	

Processing Properties	Metric	English	Comments
Rear Barrel Temperature	170 - 190 Â°C	338 - 374 Â°F	Injection Molding
Middle Barrel Temperature	180 - 200 Â°C	356 - 392 Â°F	Injection Molding
Front Barrel Temperature	190 - 210 Â°C	374 - 410 Â°F	Injection Molding
Nozzle Temperature	190 - 220 Â°C	374 - 428 Â°F	Injection Molding
Melt Temperature	190 - 220 Â°C	374 - 428 Â°F	Injection Molding
Mold Temperature	40.0 - 70.0 Â°C	104 - 158 Â°F	Injection Molding
Drying Temperature	80.0 Â°C	176 Â°F	Injection Molding
Dry Time	2.00 - 4.00 hour	2.00 - 4.00 hour	Injection Molding
Back Pressure	29.4 - 58.8 MPa	4260 - 8530 psi	Injection Molding
Screw Speed	30 - 60 rpm	30 - 60 rpm	Injection Molding

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