

LG Chemical ALPHALAC SG970 HIPS

Category : Polymer , Thermoplastic , Polystyrene (PS) , Polystyrene, Impact Grade, Glass Filled

Material Notes:

Description: Injection Molding, General Purpose, Good Processability, High glossApplication: Air Conditioner Panel, Washer CoverCAS No. 9003-55-8Information provided by LG Chemical

Order this product through the following link:

http://www.lookpolymers.com/polymer_LG-Chemical-ALPHALAC-SG970-HIPS.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 - 0.0060 cm/cm @Thickness 3.20 mm	0.0040 - 0.0060 in/in @Thickness 0.126 in	ASTM D955
Melt Flow	6.5 g/10 min @Load 5.00 kg, Temperature 200 Â°C	6.5 g/10 min @Load 11.0 lb, Temperature 392 Â°F	ASTM D1238

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	110	110	ASTM D785
Tensile Strength, Yield	35.3 MPa @Thickness 3.20 mm	5120 psi @Thickness 0.126 in	50mm/min; ASTM D638
Elongation at Break	50 % @Thickness 3.20 mm	50 % @Thickness 0.126 in	50mm/min; ASTM D638
Elongation at Yield	>= 5.0 % @Thickness 3.20 mm	>= 5.0 % @Thickness 0.126 in	50mm/min; ASTM D638
Flexural Yield Strength	53.9 MPa @Thickness 3.20 mm	7820 psi @Thickness 0.126 in	15mm/min; ASTM D790
Flexural Modulus	2.55 GPa @Thickness 3.20 mm	370 ksi @Thickness 0.126 in	15mm/min; ASTM D790
Izod Impact, Notched	0.392 J/cm @Thickness 6.50 mm, Temperature -30.0 Â°C	0.735 ft-lb/in @Thickness 0.256 in, Temperature -22.0 Â°F	ASTM D256
	0.490 J/cm	0.918 ft-lb/in	ASTM D256

Mechanical Properties	Metric @Thickness 3.20 mm, Temperature -30.0 Â°C	English @Thickness 0.126 in, Temperature -22.0 Â°F	Comments
	0.981 J/cm	1.84 ft-lb/in	ASTM D256
	@Thickness 6.50 mm, Temperature 23.0 Â°C	@Thickness 0.256 in, Temperature 73.4 Â°F	
	1.18 J/cm	2.20 ft-lb/in	ASTM D256
	@Thickness 3.20 mm, Temperature 23.0 Â°C	@Thickness 0.126 in, Temperature 73.4 Â°F	

Thermal Properties	Metric	English	Comments
Deflection Temperature at 0.46 MPa (66 psi)	93.0 Â°C	199 Â°F	Unannealed; ASTM D648
	@Thickness 6.40 mm	@Thickness 0.252 in	
Deflection Temperature at 1.8 MPa (264 psi)	83.0 Â°C	181 Â°F	Unannealed; ASTM D648
	@Thickness 6.40 mm	@Thickness 0.252 in	
Vicat Softening Point	91.0 Â°C	196 Â°F	50Â°C/h; ASTM D1525
	@Load 5.00 kg	@Load 11.0 lb	
UL RTI, Electrical	50.0 Â°C	122 Â°F	
	@Thickness >=1.50 mm	@Thickness >=0.0591 in	
	50.0 Â°C	122 Â°F	
	@Thickness >=3.00 mm	@Thickness >=0.118 in	
UL RTI, Mechanical with Impact	50.0 Â°C	122 Â°F	
	@Thickness >=1.50 mm	@Thickness >=0.0591 in	
	50.0 Â°C	122 Â°F	
	@Thickness >=3.00 mm	@Thickness >=0.118 in	
UL RTI, Mechanical without Impact	50.0 Â°C	122 Â°F	
	@Thickness >=1.50 mm	@Thickness >=0.0591 in	
	50.0 Â°C	122 Â°F	
	@Thickness >=3.00 mm	@Thickness >=0.118 in	
Flammability, UL94	HB	HB	
	@Thickness >=1.50 mm	@Thickness >=0.0591 in	
	HB	HB	

Thermal Properties	@Thickness >=2.50 mm Metric	@Thickness >=0.0984 English	Comments
	HB	HB	
	@Thickness >=3.00 mm	@Thickness >=0.118 in	

Electrical Properties	Metric	English	Comments
Arc Resistance	180 - 240 sec	180 - 240 sec	ASTM D495
Hot Wire Ignition, HWI	15 - 30 sec	15 - 30 sec	
	@Thickness >=3.00 mm	@Thickness >=0.118 in	
High Amp Arc Ignition, HAI	>= 120 arcs	>= 120 arcs	
	@Thickness 3.00 mm	@Thickness 0.118 in	

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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