

LG Chemical ALPHALAC SG910 HIPS

Category : Polymer , Thermoplastic , Polystyrene (PS) , Polystyrene, Impact Modified

Material Notes:

High gloss and high impact equivalent to ABS, Excellent mechanical properties compare with general HIPS, Meet requirements for cost and quality, Applications include housing of electric appliances CAS No. 9003-55-8 Information provided by LG Chemical

Order this product through the following link:

http://www.lookpolymers.com/polymer_LG-Chemical-ALPHALAC-SG910-HIPS.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.04 g/cc	1.04 g/cc	ASTM D792
Maximum Moisture Content	0.010	0.010	Injection Molding
Melt Flow	4.0 g/10 min	4.0 g/10 min	ASTM D1238(G)
	@Load 5.00 kg, Temperature 200 Â°C	@Load 11.0 lb, Temperature 392 Â°F	
	10 g/10 min	10 g/10 min	ASTM D1238(I)
	@Load 3.80 kg, Temperature 230 Â°C	@Load 8.38 lb, Temperature 446 Â°F	
	46 g/10 min	46 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	102	102	ASTM D785
Tensile Strength, Yield	34.3 MPa	4980 psi	50mm/min; ASTM D638
	@Thickness 3.20 mm	@Thickness 0.126 in	
Elongation at Break	38 %	38 %	50mm/min; ASTM D638
	@Thickness 3.20 mm	@Thickness 0.126 in	
Elongation at Yield	6.0 %	6.0 %	50mm/min; ASTM D638
	@Thickness 3.20 mm	@Thickness 0.126 in	
Tensile Modulus	2.09 GPa	303 ksi	1mm/min; ASTM D638
	@Thickness 3.20 mm	@Thickness 0.126 in	
Flexural Yield Strength	52.0 MPa	7540 psi	15mm/min; ASTM D790
	@Thickness 3.20 mm	@Thickness 0.126 in	
	2.23 GPa	323 ksi	

Flexural Modulus Mechanical Properties	Metric @ Thickness 3.20 mm	English @ Thickness 0.126 in	15mm/min: ASTM D790 Comments
Izod Impact, Notched	0.588 J/cm	1.10 ft-lb/in	ASTM D256
	@Thickness 6.50 mm, Temperature -30.0 Â°C	@Thickness 0.256 in, Temperature -22.0 Â°F	
	0.588 J/cm	1.10 ft-lb/in	ASTM D256
	@Thickness 3.20 mm, Temperature -30.0 Â°C	@Thickness 0.126 in, Temperature -22.0 Â°F	
	1.18 J/cm	2.20 ft-lb/in	ASTM D256
	@Thickness 6.50 mm, Temperature 23.0 Â°C	@Thickness 0.256 in, Temperature 73.4 Â°F	
	1.86 J/cm	3.49 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)	85.0 Â°C	185 Â°F	Unannealed; ASTM D648
	@Thickness 6.40 mm	@Thickness 0.252 in	
Vicat Softening Point	92.0 Â°C	198 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	

Thermal Properties	Metric @Thickness >=3.00 mm	English @Thickness >=0.118 in	Comments
Flammability, UL94	HB	HB	
	@Thickness >=1.50 mm	@Thickness >=0.0591 in	
	HB	HB	
	@Thickness >=3.00 mm	@Thickness >=0.118 in	

Electrical Properties	Metric	English	Comments
Arc Resistance	60 - 120 sec	60 - 120 sec	ASTM D495
Comparative Tracking Index	400 - 600 V	400 - 600 V	
Hot Wire Ignition, HWI	7.0 - 15 sec	7.0 - 15 sec	
	@Thickness >=1.50 mm	@Thickness >=0.0591 in	
	15 - 30 sec	15 - 30 sec	
	@Thickness >=3.00 mm	@Thickness >=0.118 in	
High Amp Arc Ignition, HAI	>= 120 arcs	>= 120 arcs	
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	>= 120 arcs	>= 120 arcs	
	@Thickness 3.00 mm	@Thickness 0.118 in	
High Voltage Arc-Tracking Rate, HVTR	10.0 - 25.4 mm/min	0.394 - 1.00 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

Processing Properties

Metric 20 50 rpm

English 20 50 rpm

Comments Injection Molding

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