

LG Chemical ER451 ABS, Heat Resistance

Category : Polymer , Thermoplastic , ABS Polymer , Acrylonitrile Butadiene Styrene (ABS), Heat Resistant, Molded

Material Notes:

Feature: Injection Molding, Heat Resistance
 Application: Automotives Interior & Exterior Housing (garnish etc)
 CAS No. 25120-20-1, 9003-56-9, 25747-74-7 and 9003-54-7
 Information provided by LG Chemical

Order this product through the following link:

http://www.lookpolymers.com/polymer_LG-Chemical-ER451-ABS-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 - 0.0070 cm/cm @Thickness 3.20 mm	0.0040 - 0.0070 in/in @Thickness 0.126 in	ASTM D955
Melt Flow	15 g/10 min @Load 10.0 kg, Temperature 220 Å°C	15 g/10 min @Load 22.0 lb, Temperature 428 Å°F	ASTM D1238

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	108	108	ASTM D785
Tensile Strength, Yield	48.1 MPa @Thickness 3.20 mm	6970 psi @Thickness 0.126 in	50 mm/min; ASTM D638
Elongation at Break	25 % @Thickness 3.20 mm	25 % @Thickness 0.126 in	50 mm/min; ASTM D638
Flexural Yield Strength	77.5 MPa @Thickness 3.20 mm	11200 psi @Thickness 0.126 in	15 mm/min; ASTM D790
Flexural Modulus	2.55 GPa @Thickness 3.20 mm	370 ksi @Thickness 0.126 in	15 mm/min; ASTM D790
Izod Impact, Notched	2.45 J/cm @Thickness 6.40 mm, Temperature 23.0 Å°C	4.59 ft-lb/in @Thickness 0.252 in, Temperature 73.4 Å°F	ASTM D256
	2.75 J/cm @Thickness 3.20 mm, Temperature 23.0 Å°C	5.14 ft-lb/in @Thickness 0.126 in, Temperature 73.4 Å°F	ASTM D256
	0.981 J/cm	1.84 ft-lb/in	

Izod Impact, Unnotched Mechanical Properties	Metric	English	ASTM D256 Comments
	@Thickness 6.40 mm, Temperature -30.0 Å°C	@Thickness 0.252 in, Temperature -22.0 Å°F	
	1.18 J/cm	2.20 ft-lb/in	
	@Thickness 3.20 mm, Temperature -30.0 Å°C	@Thickness 0.126 in, Temperature -22.0 Å°F	ASTM D256

Thermal Properties	Metric	English	Comments
Deflection Temperature at 0.46 MPa (66 psi)	99.0 Å°C @Thickness 6.40 mm	210 Å°F @Thickness 0.252 in	Unannealed; ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	91.0 Å°C @Thickness 6.40 mm	196 Å°F @Thickness 0.252 in	Unannealed; ASTM D648
Vicat Softening Point	99.0 Å°C @Load 5.00 kg	210 Å°F @Load 11.0 lb	50Å°C/h; ASTM D1525
UL RTI, Electrical	60.0 Å°C @Thickness >=1.50 mm	140 Å°F @Thickness >=0.0591 in	UL 746B
	60.0 Å°C @Thickness >=3.00 mm	140 Å°F @Thickness >=0.118 in	UL 746B
UL RTI, Mechanical with Impact	60.0 Å°C @Thickness >=1.50 mm	140 Å°F @Thickness >=0.0591 in	UL 746B
	60.0 Å°C @Thickness >=3.00 mm	140 Å°F @Thickness >=0.118 in	UL 746B
UL RTI, Mechanical without Impact	60.0 Å°C @Thickness >=1.50 mm	140 Å°F @Thickness >=0.0591 in	UL 746B
	60.0 Å°C @Thickness >=3.00 mm	140 Å°F @Thickness >=0.118 in	UL 746B
Flammability, UL94	HB @Thickness >=1.50 mm	HB @Thickness >=0.0591 in	
	HB @Thickness >=3.00 mm	HB @Thickness >=0.118 in	

Electrical Properties	Metric	English	Comments
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Electrical Properties	Metric <small>14 ohm-cm</small>	English <small>14 ohm-cm</small>	Comments
Dielectric Strength	30.0 kV/mm	762 kV/in	
Arc Resistance	60 - 120 sec	60 - 120 sec	ASTM D495
Comparative Tracking Index	>= 600 V	>= 600 V	Solution A; IEC 60112
Hot Wire Ignition, HWI	15 - 30 sec @Thickness >=3.00 mm	15 - 30 sec @Thickness >=0.118 in	
	30 - 60 sec @Thickness >=1.50 mm	30 - 60 sec @Thickness >=0.0591 in	
High Amp Arc Ignition, HAI	>= 120 arcs @Thickness 3.00 mm	>= 120 arcs @Thickness 0.118 in	
	>= 120 arcs @Thickness 1.50 mm	>= 120 arcs @Thickness 0.0591 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	180 - 210 Â°C	356 - 410 Â°F	Injection Molding
Middle Barrel Temperature	210 - 230 Â°C	410 - 446 Â°F	Injection Molding
Front Barrel Temperature	230 - 240 Â°C	446 - 464 Â°F	Injection Molding
Nozzle Temperature	230 - 240 Â°C	446 - 464 Â°F	Injection Molding
Melt Temperature	220 - 240 Â°C	428 - 464 Â°F	Injection Molding
Mold Temperature	40.0 - 60.0 Â°C	104 - 140 Â°F	Injection Molding
Drying Temperature	80.0 - 90.0 Â°C	176 - 194 Â°F	Injection Molding
Dry Time	3.00 - 4.00 hour	3.00 - 4.00 hour	Injection Molding
Back Pressure	29.4 - 58.8 MPa	4260 - 8530 psi	Injection Molding
Screw Speed	50 - 100 rpm	50 - 100 rpm	Injection Molding

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