

## LG Chemical AF312A ABS, Flame Retardant

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

### Material Notes:

Feature: Injection Molding, Flame Retardant  
 Application: Electric/Electronic Applications (TV, Monitor Housing) IT/OA device  
 CAS No. 9003-56-9, 79-94-7 and 1309-64-4  
 Information provided by LG Chemical

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_LG-Chemical-AF312A-ABS-Flame-Retardant.php](http://www.lookpolymers.com/polymer_LG-Chemical-AF312A-ABS-Flame-Retardant.php)

Physical Properties	Metric	English	Comments
Specific Gravity	1.19 g/cc	1.19 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	55 g/10 min @Load 10.0 kg, Temperature 220 Å°C	55 g/10 min @Load 22.0 lb, Temperature 428 Å°F	ASTM D1238

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	104	104	ASTM D785
Tensile Strength, Yield	43.1 MPa @Thickness 3.20 mm	6260 psi @Thickness 0.126 in	50 mm/min; ASTM D638
Elongation at Break	20 % @Thickness 3.20 mm	20 % @Thickness 0.126 in	50 mm/min; ASTM D638
Elongation at Yield	>= 5.0 % @Thickness 3.20 mm	>= 5.0 % @Thickness 0.126 in	50 mm/min; ASTM D638
Tensile Modulus	2.26 GPa @Thickness 3.20 mm	327 ksi @Thickness 0.126 in	1 mm/min; ASTM D638
Flexural Yield Strength	70.6 MPa @Thickness 6.40 mm	10200 psi @Thickness 0.252 in	15 mm/min; ASTM D790
Flexural Modulus	2.65 GPa @Thickness 6.40 mm	384 ksi @Thickness 0.252 in	15 mm/min; ASTM D790
Izod Impact, Notched	2.26 J/cm @Thickness 6.40 mm,	4.22 ft-lb/in @Thickness 0.252 in,	ASTM D256

Mechanical Properties	Temperature 23.0 Â°C Metric	Temperature 73.4 Â°F English	Comments
	2.35 J/cm @Thickness 3.20 mm, Temperature 23.0 Â°C	4.41 ft-lb/in @Thickness 0.126 in, Temperature 73.4 Â°F	ASTM D256
Izod Impact, Unnotched	0.785 J/cm @Thickness 6.40 mm, Temperature -30.0 Â°C	1.47 ft-lb/in @Thickness 0.252 in, Temperature -22.0 Â°F	ASTM D256
	0.785 J/cm @Thickness 3.20 mm, Temperature -30.0 Â°C	1.47 ft-lb/in @Thickness 0.126 in, Temperature -22.0 Â°F	ASTM D256

Thermal Properties	Metric	English	Comments
Deflection Temperature at 0.46 MPa (66 psi)	84.0 Â°C @Thickness 6.40 mm	183 Â°F @Thickness 0.252 in	Unannealed; ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	76.0 Â°C @Thickness 6.40 mm	169 Â°F @Thickness 0.252 in	Unannealed; ASTM D648
Vicat Softening Point	83.0 Â°C @Load 5.00 kg	181 Â°F @Load 11.0 lb	50Â°C/h; ASTM D1525
UL RTI, Electrical	85.0 Â°C @Thickness >=1.50 mm	185 Â°F @Thickness >=0.0591 in	UL 746B
	85.0 Â°C @Thickness >=2.00 mm	185 Â°F @Thickness >=0.0787 in	
	85.0 Â°C @Thickness >=2.50 mm	185 Â°F @Thickness >=0.0984 in	
	85.0 Â°C @Thickness >=3.00 mm	185 Â°F @Thickness >=0.118 in	
UL RTI, Mechanical with Impact	75.0 Â°C @Thickness >=1.50 mm	167 Â°F @Thickness >=0.0591 in	UL 746B
	75.0 Â°C @Thickness >=2.00 mm	167 Â°F @Thickness >=0.0787 in	
	75.0 Â°C	167 Â°F	

Thermal Properties	Metric	English	Comments
	@Thickness >=2.50 mm	@Thickness >=0.0984 in	
	75.0 Å°C	167 Å°F	
	@Thickness >=3.00 mm	@Thickness >=0.118 in	
UL RTI, Mechanical without Impact	75.0 Å°C	167 Å°F	UL 746B
	@Thickness >=1.50 mm	@Thickness >=0.0591 in	
	75.0 Å°C	167 Å°F	
	@Thickness >=2.00 mm	@Thickness >=0.0787 in	
	75.0 Å°C	167 Å°F	
	@Thickness >=2.50 mm	@Thickness >=0.0984 in	
	75.0 Å°C	167 Å°F	
	@Thickness >=3.00 mm	@Thickness >=0.118 in	
Flammability, UL94	V-0	V-0	
	@Thickness >=1.50 mm	@Thickness >=0.0591 in	
	V-0	V-0	
	@Thickness >=2.00 mm	@Thickness >=0.0787 in	
	V-0	V-0	
	@Thickness >=2.50 mm	@Thickness >=0.0984 in	
	V-0	V-0	
	@Thickness >=3.00 mm	@Thickness >=0.118 in	

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+14 ohm-cm	1.00e+14 ohm-cm	
Dielectric Strength	30.0 kV/mm	762 kV/in	
Arc Resistance	0.00 - 60 sec	0.00 - 60 sec	ASTM D495
Hot Wire Ignition, HWI	15 - 30 sec	15 - 30 sec	
	@Thickness >=1.50 mm	@Thickness >=0.0591 in	
	15 - 30 sec	15 - 30 sec	

Electrical Properties	Metric	English	Comments
	15 - 30 sec	15 - 30 sec	
	@Thickness >=2.50 mm	@Thickness >=0.0984 in	
	60 - 120 sec	60 - 120 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 2.00 mm	@Thickness 0.0787 in	
	>= 120 arcs	>= 120 arcs	
	@Thickness 2.50 mm	@Thickness 0.0984 in	
	>= 120 arcs	>= 120 arcs	
	@Thickness 3.00 mm	@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	180 - 200 Â°C	356 - 392 Â°F	Injection Molding
Middle Barrel Temperature	190 - 210 Â°C	374 - 410 Â°F	Injection Molding
Front Barrel Temperature	200 - 220 Â°C	392 - 428 Â°F	Injection Molding
Nozzle Temperature	200 - 230 Â°C	392 - 446 Â°F	Injection Molding
Melt Temperature	200 - 230 Â°C	392 - 446 Â°F	Injection Molding
Mold Temperature	40.0 - 60.0 Â°C	104 - 140 Â°F	Injection Molding
Drying Temperature	70.0 - 80.0 Â°C	158 - 176 Â°F	Injection Molding
Dry Time	2.00 - 4.00 hour	2.00 - 4.00 hour	Injection Molding
Back Pressure	0.490 - 0.981 MPa	71.1 - 142 psi	Injection Molding
Screw Speed	30 - 60 rpm	30 - 60 rpm	Injection Molding

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