

LG Chemical Lupoy 1201HP-21 Polycarbonate Resin

Category : Polymer , Thermoplastic , Polycarbonate (PC)

Material Notes:

Description: LUPOY PC 1201HP-21 resin is designed for extrusion and injection molding products. It exhibits an excellent physical property balance of heat resistance, transparency and impact strength. Main Characteristics: FDA, Low viscosity and Ultra-clean Applications: Diffuser plates and Appliances CAS: 103598-77-2 Information provided by LG Chemical

Order this product through the following link:

http://www.lookpolymers.com/polymer_LG-Chemical-Lupoy-1201HP-21-Polycarbonate-Resin.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.20 g/cc	1.20 g/cc	ASTM D792
Water Absorption	0.32 % @Temperature 23.0 Â°C	0.32 % @Temperature 73.4 Â°F	equilibrium, 50% RH; ASTM D570
	0.15 % @Temperature 23.0 Â°C, Time 86400 sec	0.15 % @Temperature 73.4 Â°F, Time 24.0 hour	ASTM D570
Linear Mold Shrinkage, Flow	0.00050 - 0.00070 cm/cm	0.00050 - 0.00070 in/in	ASTM D955
Melt Flow	21 g/10 min @Load 1.20 kg, Temperature 300 Â°C	21 g/10 min @Load 2.65 lb, Temperature 572 Â°F	ASTM D1238

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	72	72	ASTM D785
Tensile Strength, Ultimate	66.0 MPa	9570 psi	ASTM D638
Tensile Strength, Yield	60.0 MPa	8700 psi	50mm/min; ASTM D638
Elongation at Break	120 %	120 %	ASTM D638
Elongation at Yield	6.0 %	6.0 %	ASTM D638
Tensile Modulus	2.34 GPa	340 ksi	ASTM D638
Flexural Yield Strength	96.0 MPa	13900 psi	ASTM D790
Flexural Modulus	2.41 GPa	350 ksi	ASTM D790
Izod Impact, Notched	7.47 J/cm @Thickness 3.20 mm,	14.0 ft-lb/in @Thickness 0.126 in,	0.25 mm notch; ASTM D256

Mechanical Properties	Temperature 23.0 Â°C Metric	Temperature 73.4 Â°F English	Comments
Izod Impact, Unnotched	NB @Temperature 23.0 Â°C	NB @Temperature 73.4 Â°F	ASTM D256
Dart Drop, Total Energy	72.0 J @Thickness 3.20 mm	53.1 ft-lb @Thickness 0.126 in	203m/min; ASTM D3763
Abrasion	45 @Load 1.00 kg	45 @Load 2.20 lb	[%], CS-10 F wheel, 500 cycles; ASTM D1044

Thermal Properties	Metric	English	Comments
CTE, linear	68.0 Âµm/m-Â°C @Temperature -40.0 - 82.0 Â°C	37.8 Âµin/in-Â°F @Temperature -40.0 - 180 Â°F	ASTM D696
Hot Ball Pressure Test	>= 125 Â°C	>= 257 Â°F	IEC 598-1
Deflection Temperature at 0.46 MPa (66 psi)	142 Â°C @Thickness 4.00 mm	288 Â°F @Thickness 0.157 in	Annealed; ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	126 Â°C @Thickness 4.00 mm	259 Â°F @Thickness 0.157 in	Unannealed; ASTM D648
	139 Â°C @Thickness 4.00 mm	282 Â°F @Thickness 0.157 in	Annealed; ASTM D648
Vicat Softening Point	147 Â°C @Load 5.10 kg	297 Â°F @Load 11.2 lb	50Â°C/hr; ASTM D1525
Softening Point	150 - 200 Â°C	302 - 392 Â°F	melting point per MSDS
UL RTI, Electrical	80.0 Â°C @Thickness >=0.500 mm	176 Â°F @Thickness >=0.0197 in	
	125 Â°C @Thickness 1.60 - 1.70 mm	257 Â°F @Thickness 0.0630 - 0.0669 in	
	125 Â°C @Thickness >=3.00 mm	257 Â°F @Thickness >=0.118 in	
UL RTI, Mechanical with Impact	80.0 Â°C @Thickness >=0.500 mm	176 Â°F @Thickness >=0.0197 in	

Thermal Properties	115 Â°C Metric	239 Â°F English	Comments
	@Thickness 1.60 - 1.70 mm	@Thickness 0.0630 - 0.0669 in	
	115 Â°C	239 Â°F	
	@Thickness >=3.00 mm	@Thickness >=0.118 in	
UL RTI, Mechanical without Impact	80.0 Â°C	176 Â°F	
	@Thickness >=0.500 mm	@Thickness >=0.0197 in	
	125 Â°C	257 Â°F	
	@Thickness 1.60 - 1.70 mm	@Thickness 0.0630 - 0.0669 in	
	125 Â°C	257 Â°F	
	@Thickness >=3.00 mm	@Thickness >=0.118 in	
Flammability, UL94	V-2	V-2	ASTM D635
	@Thickness 0.500 mm	@Thickness 0.0197 in	
	V-2	V-2	ASTM D635
	@Thickness 1.60 mm	@Thickness 0.0630 in	
	V-2	V-2	ASTM D635
	@Thickness 2.50 - 2.70 mm	@Thickness 0.0984 - 0.106 in	
	V-2	V-2	ASTM D635
	@Thickness 3.00 mm	@Thickness 0.118 in	
Flash Point	>= 450 Â°C	>= 842 Â°F	
Oxygen Index	26 %	26 %	ASTM D2863
Glow Wire Test	850 Â°C	1560 Â°F	IEC 695-2-1
	@Thickness 2.00 mm, Time 5.00 sec	@Thickness 0.0787 in, Time 0.00139 hour	

Optical Properties	Metric	English	Comments
Refractive Index	1.586	1.586	ASTM D542
Haze	0.70 - 1.5 %	0.70 - 1.5 %	ASTM D1003
Transmission, Visible	89 %	89 %	ASTM D1003

Electrical Properties	Metric	English	Comments
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Volume Resistivity Electrical Properties	2.00e+17 ohm-cm Metric	2.00e+17 ohm-cm English	ASTM D257 Comments
Dielectric Constant	3.0 @Frequency 60.0 Hz	3.0 @Frequency 60.0 Hz	ASTM D150
Dielectric Strength	17.0 kV/mm	432 kV/in	ASTM D149
Dissipation Factor	0.0010 @Frequency 60.0 Hz	0.0010 @Frequency 60.0 Hz	ASTM D150
Arc Resistance	120 - 180 sec	120 - 180 sec	ASTM D495
Comparative Tracking Index	250 V @Thickness 2.00 mm	250 V @Thickness 0.0787 in	IEC 112
Hot Wire Ignition, HWI	30 - 60 sec @Thickness 1.60 - 1.70 mm	30 - 60 sec @Thickness 0.0630 - 0.0669 in	
	60 - 120 sec @Thickness >=3.00 mm	60 - 120 sec @Thickness >=0.118 in	
High Amp Arc Ignition, HAI	>= 120 arcs @Thickness 1.60 mm	>= 120 arcs @Thickness 0.0630 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	

Descriptive Properties	Value	Comments
Autoignition Temperature	>450Å°C	
Average Extent of Burning	ASTM D635	

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