Lupoy® 1302UV-05

LG Chem Ltd. - Polycarbonate

Saturday, July 20, 2019

General Information

Product Description

LUPOY PC 1302UV-05 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

- High viscosity
- 0% UV light transmittance at wavelength below 400 nm

Applications

- Lenses
- Goggles
- Sun Glasses
- Appliances

General			
Material Status	• Commercial: Active		
Availability	• Asia Pacific • Europe	• Latin America • North America	
Features	• Good Clarity • Good Heat Resistance	• Good Impact Resistance • High Viscosity	
Uses	• Appliances	• Eyeglasses	• Lenses
Appearance	• Clear/Transparent		
Processing Method	• Extrusion	• Injection Molding	

ASTM & ISO Properties [1]

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	1.20	g/cm³	ASTM D792
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	5.0	g/10 min	ASTM D1238
Molding Shrinkage - Flow	0.50 to 0.70	%	ASTM D955
Water Absorption (24 hr, 23°C)	0.15	%	ASTM D570
Water Absorption (Equilibrium, 23°C, 50% RH)	0.32	%	ASTM D570
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus	2410	MPa	ASTM D638
Tensile Strength (Yield)	60.0	MPa	ASTM D638
Tensile Strength (Break)	72.0	MPa	ASTM D638
Tensile Elongation (Yield)	6.0	%	ASTM D638
Tensile Elongation (Break)	150	%	ASTM D638
Flexural Modulus	2410	MPa	ASTM D790
Flexural Strength	96.0	MPa	ASTM D790
Taber Abrasion Resistance - Delta Haze [2]	45	%	ASTM D1004
Impact	**Nominal Value**	**Unit**	**Test Method**
Notched Izod Impact [3] (23°C, 3.18 mm)	900	J/m	ASTM D256
Unnotched Izod Impact (23°C)	No Break		ASTM D256
Instrumented Dart Impact [4] (23°C, 3.18 mm, Total Energy)	94.0	J	ASTM D3763

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Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness			ASTM D785
M-Scale	74		
R-Scale	118		
Thermal	**Nominal Value**	**Unit**	**Test Method**
Deflection Temperature Under Load			ASTM D648
0.45 MPa, Annealed, 4.00 mm	146	°C	
Deflection Temperature Under Load			ASTM D648
1.8 MPa, Unannealed, 4.00 mm	132	°C	
Deflection Temperature Under Load			ASTM D648
1.8 MPa, Annealed, 4.00 mm	143	°C	
Vicat Softening Temperature	151	°C	ASTM D1525 [5]
Ball Indentation Temperature	> 125	°C	IEC 60598-1
CLTE - Flow (-40 to 82°C)	6.8E-5	cm/cm/°C	ASTM D696
Electrical	**Nominal Value**	**Unit**	**Test Method**
Volume Resistivity (23°C)	2.0E+17	ohms·cm	ASTM D257
Dielectric Strength	17	kV/mm	ASTM D149
Dielectric Constant (60 Hz)	3.00		ASTM D150
Dissipation Factor (60 Hz)	1.0E-3		ASTM D150
Comparative Tracking Index (2.00 mm)	250	V	IEC 60112
Flammability	**Nominal Value**	**Unit**	**Test Method**
Flame Rating			UL 94
0.50 mm	V-2		
1.6 mm	V-2		
2.5 mm	V-2		
3.0 mm	V-2		
Glow Wire Ignition Temperature (2.0 mm, 5.0 sec)	850	°C	IEC 60695-2-13
Oxygen Index	26	%	ASTM D2863
Average Extent of Burning	3	cm	ASTM D635
Optical	**Nominal Value**	**Unit**	**Test Method**
Refractive Index	1.586		ASTM D542
Transmittance	89.0	%	ASTM D1003
Haze	0.700 to 1.50	%	ASTM D1003

Notes

[1] Typical properties: these are not to be construed as specifications.

[2] CS-10F Wheel, 500 cycles, 1000 g

[3] 0.25 mm Notch Depth

[4] 3.39 m/sec

[5] Rate A (50°C/h), Loading 2 (50 N)