

General Information
Product Description

LUPLOY PC UF1004D resin is designed for Light guide panel application. It exhibits an excellent flow-ability, thermal resistance and good Optical properties.

Main Characteristics

- Very low viscosity
- Good optical properties
- Thermal stability

Applications

- Light guide panel

General

Material Status	• Commercial: Active		
Availability	• Asia Pacific	• Latin America	
	• Europe	• North America	
Features	• Good Optical Properties	• Good Thermal Stability	• Low Viscosity
Uses	• Lighting Applications		

ASTM & ISO Properties ¹

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	1.20	g/cm ³	ASTM D792
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	45	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	2000	MPa	ASTM D638
Tensile Strength ² (Yield, 23°C)	60.0	MPa	ASTM D638
Tensile Strength (Break)	48.0	MPa	ASTM D638
Tensile Elongation (Yield)	6.0	%	ASTM D638
Tensile Elongation (Break)	90	%	ASTM D638
Flexural Modulus	2200	MPa	ASTM D790
Flexural Strength	100	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact ³ (23°C, 3.18 mm)	650	J/m	ASTM D256
Instrumented Dart Impact ⁴ (23°C, 3.18 mm, Total Energy)	59.0	J	ASTM D3763
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness			ASTM D785
M-Scale	58		
R-Scale	124		
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ASTM D648
0.45 MPa, Annealed, 4.00 mm	135	°C	

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Lupoy® UF1004D

LG Chem Ltd. - Polycarbonate

Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load 1.8 MPa, Annealed, 4.00 mm	124	°C	ASTM D648
Vicat Softening Temperature	142	°C	ASTM D1525 ⁵
CLTE - Flow (-40 to 82°C)	6.8E-5	cm/cm/°C	ASTM D696
Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
0.40 mm	V-2		
1.5 mm	V-2		
3.0 mm	V-2		
Optical	Nominal Value	Unit	Test Method
Refractive Index	1.583		ASTM D542
Transmittance	91.0	%	ASTM D1003
Haze	0.100 to 1.00	%	ASTM D1003

Notes

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

² 50 mm/min

³ 0.25 mm Notch Depth

⁴ 3.39 m/sec

⁵ Rate A (50°C/h), Loading 2 (50 N)