

# Lumiloy® GP2300

LG Chem Ltd. - Polyphenylene Ether

Monday, August 12, 2024

## General Information

### Product Description

General Purpose

Application

Electrical & Electronic Parts, Water pump Housing, Impaellers

Material Type

mPPE/GF

### General

Material Status	• Commercial: Active		
Availability	• Asia Pacific	• Latin America	
	• Europe	• North America	
Filler / Reinforcement	• Glass Fiber		
Uses	• Electrical/Electronic Applications	• General Purpose	• Housings

## ASTM & ISO Properties

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity			
-- 1	1.28	g/cm <sup>3</sup>	ASTM D792
23°C	1.28	g/cm <sup>3</sup>	ISO 1183
Melt Mass-Flow Rate (MFR) (280°C/5.0 kg)	9.0	g/10 min	ASTM D1238 ISO 1133
Melt Volume-Flow Rate (MVR) (280°C/5.0 kg)	9.5	cm <sup>3</sup> /10min	ISO 1133
Molding Shrinkage			ASTM D955 ISO 294-4
Flow : 2.00 mm	0.20 to 0.40	%	
Across Flow : 2.00 mm	0.30 to 0.60	%	
Water Absorption			ASTM D570
24 hr, 23°C, 50% RH	0.10	%	
Equilibrium, 23°C, 50% RH	0.10	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
3.20 mm <sup>2</sup>	9820	MPa	ASTM D638
4.00 mm	9360	MPa	ISO 527-1/1
Tensile Stress			
Yield, 4.00 mm	120	MPa	ISO 527-2/5
Break, 3.20 mm <sup>2</sup>	118	MPa	ASTM D638
Break, 4.00 mm	120	MPa	ISO 527-2/5
Tensile Elongation			
Break, 3.20 mm <sup>2</sup>	2.5	%	ASTM D638
Break, 4.00 mm	2.0	%	ISO 527-2/5

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Mechanical	Nominal Value	Unit	Test Method
Flexural Modulus			
3.20 mm <sup>3</sup>	6400	MPa	ASTM D790
4.00 mm <sup>4</sup>	7170	MPa	ISO 178
Flexural Strength			
3.20 mm <sup>3</sup>	172	MPa	ASTM D790
4.00 mm <sup>4</sup>	170	MPa	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			ISO 179
-30°C, 4.00 mm	9.9	kJ/m <sup>2</sup>	
23°C, 4.00 mm	12	kJ/m <sup>2</sup>	
Notched Izod Impact			
-30°C, 3.20 mm	91	J/m	ASTM D256
23°C, 3.20 mm	110	J/m	ASTM D256
-30°C, 4.00 mm	10	kJ/m <sup>2</sup>	ISO 180
23°C, 4.00 mm	11	kJ/m <sup>2</sup>	ISO 180
Unnotched Izod Impact Strength (23°C)	33	kJ/m <sup>2</sup>	ISO 180
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (R-Scale)	121		ASTM D785 ISO 2039-2
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, Unannealed, 6.40 mm	144	°C	ASTM D648
0.45 MPa, Unannealed, 4.00 mm	147	°C	ISO 75-2/Bf
1.8 MPa, Unannealed, 6.40 mm	138	°C	ASTM D648
1.8 MPa, Unannealed, 4.00 mm	141	°C	ISO 75-2/Af
Vicat Softening Temperature	144	°C	ISO 306/B50 ASTM D1525 <sup>5</sup>
CLTE			
Flow : -30 to 80°C	2.6E-5	cm/cm/°C	ASTM D696
Flow : -30 to 80°C	26	ppm/K	ISO 11359-2
Transverse : -30 to 80°C	7.5E-5	cm/cm/°C	ASTM D696
Transverse : -30 to 80°C	75	ppm/K	ISO 11359-2
RTI Elec (0.8 mm)	65.0	°C	UL 746B
RTI Imp (0.8 mm)	65.0	°C	UL 746B
RTI Str (0.8 mm)	65.0	°C	UL 746B
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity (23°C)	1.0E+13	ohms	ASTM D257
Volume Resistivity (23°C)	1.0E+15	ohms·cm	ASTM D257
Dielectric Strength (23°C, 2000 µm)	36	kV/mm	ASTM D149
Dielectric Constant (23°C)	3.10		ASTM D150
Comparative Tracking Index (CTI) <sup>6</sup>	PLC 4		UL 746A
Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
0.8 mm		HB	
1.5 mm		HB	
3.0 mm		HB	

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### Processing Information

Injection	Nominal Value	Unit
Drying Temperature	90 to 100	°C
Drying Time	4.0 to 5.0	hr
Suggested Max Moisture	0.020	%
Rear Temperature	260 to 300	°C
Middle Temperature	270 to 310	°C
Front Temperature	270 to 310	°C
Nozzle Temperature	270 to 310	°C
Processing (Melt) Temp	280 to 320	°C
Mold Temperature	70 to 110	°C

### Notes

<sup>1</sup> 23°C

<sup>2</sup> 5.0 mm/min

<sup>3</sup> 1.3 mm/min

<sup>4</sup> 2.0 mm/min

<sup>5</sup> Rate A (50°C/h), Loading 2 (50 N)

<sup>6</sup> Solution A