

Panlite® L-1225Z100

TEIJIN LIMITED - Polycarbonate

Thursday, October 8, 2020

General Information			
Product Description			
Weather Resistant grade			
General			
Material Status	• Commercial: Active		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Features	• Good Mold Release	• Good Weather Resistance	• Low Viscosity
Uses	• Automotive Applications	• General Purpose	• LEDs
Automotive Specifications	• GM GMP.PC.009		
Appearance	• Clear/Transparent		
Forms	• Pellets		
Processing Method	• Injection Molding		

ASTM & ISO Properties ¹			
Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	1.20	g/cm ³	JIS K7112
Density	1.20	g/cm ³	ISO 1183
Melt Volume-Flow Rate (MVR) (300°C/1.2 kg)	12	cm ³ /10min	ISO 1133
Molding Shrinkage - Flow	0.50 to 0.70	%	ASTM D955
Molding Shrinkage - Across Flow	0.50 to 0.70	%	ASTM D955
Molding Shrinkage			Internal Method
Across Flow : 4.00 mm	0.50 to 0.70	%	
Flow : 4.00 mm	0.50 to 0.70	%	
Water Absorption (24 hr, 23°C)	0.20	%	ISO 62
Water Absorption (Saturation, 23°C)	0.20	%	ASTM D570
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	2130	MPa	ASTM D638
Tensile Modulus	2400	MPa	ISO 527-2/1
Tensile Strength (Yield)	63.0	MPa	ASTM D638
Tensile Stress (Yield)	61.0	MPa	ISO 527-2/50
Tensile Strength (Break)	77.0	MPa	ASTM D638
Tensile Elongation (Yield)	6.0	%	ASTM D638
Tensile Strain (Yield)	6.0	%	ISO 527-2/50
Tensile Elongation (Break)	140	%	ASTM D638
Nominal Tensile Strain at Break	> 50	%	ISO 527-2/50
Flexural Modulus	2260	MPa	ASTM D790
Flexural Modulus ²	2400	MPa	ISO 178
Flexural Strength	93.0	MPa	ASTM D790
Flexural Stress ²	94.0	MPa	ISO 178
Compressive Strength	76.0	MPa	ASTM D695

Disclaimer:

- The numerical values described in the data sheet are typical numerical values produced with a standard test method, and they do not guarantee the product's performance in a particular application.
- The flammability as described in the data sheet is an evaluation that resulted from a small-scale test, and it cannot be applied as it is to evaluate the actual risk of fire.
- Please contact us if you wish to use the product in medical equipment, food containers and packaging, and toys.
- If you wish to use various additives (antibacterial agents, stabilizers and flame retardants) or coloring agents with this resin, please consult with Teijin Ltd. beforehand. However, please note that Teijin Ltd. does not offer any kind of guarantee or bear any responsibility with regards to using this resin in any of these applications.
- The contents of the data sheet may change without notice.
- For other details, please see the Material Safety Data Sheet (MSDS) before use.
- Please contact the Resin & Plastic Processing Business Unit of Teijin Ltd. for detailed data.
- The raw materials used in our products may be subject to regulations depending on the type of system that exists to manage chemical substances in places to which our products are delivered. In addition, a separate application may need to be filed depending on the brand. There are also cases where imports of our products are not approved. If you are an importer or exporter and intend to import or export our products to new destinations, please make sure you contact us for details of regulatory compliance in those destinations.

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Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength	71	kJ/m ²	ISO 179
Charpy Unnotched Impact Strength	No Break		ISO 179
Notched Izod Impact			ASTM D256
3.20 mm	830	J/m	
6.40 mm	130	J/m	
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (M-Scale)	77		ASTM D785
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			JIS K7207
0.45 MPa, Unannealed	141	°C	
Heat Deflection Temperature (0.45 MPa, Unannealed)	141	°C	ISO 75-2/B
Deflection Temperature Under Load			JIS K7207
1.8 MPa, Unannealed	131	°C	
Heat Deflection Temperature (1.8 MPa, Unannealed)	128	°C	ISO 75-2/A
Vicat Softening Temperature	148	°C	ISO 306/B50
CLTE - Flow	7.0E-5	cm/cm/°C	ASTM D696
CLTE - Flow	7.0E-5	cm/cm/°C	ISO 11359-2
CLTE - Transverse	7.0E-5	cm/cm/°C	ASTM D696
CLTE - Transverse	7.0E-5	cm/cm/°C	ISO 11359-2
RTI Elec (0.75 mm)	125	°C	UL 746
RTI Imp (0.75 mm)	115	°C	UL 746
RTI Str (0.75 mm)	125	°C	UL 746
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	> 1.0E+15	ohms	IEC 60093
Volume Resistivity	3.0E+16	ohms·cm	ASTM D257
Volume Resistivity	> 1.0E+15	ohms·cm	IEC 60093
Dielectric Strength ³ (1.60 mm)	30	kV/mm	ASTM D149
Electric Strength ⁴	30	kV/mm	IEC 60243-1
Dielectric Constant			ASTM D150
60 Hz	2.95		
1 MHz	2.90		
Relative Permittivity			IEC 60250
100 Hz	3.10		
1 MHz	3.00		
Dissipation Factor			ASTM D150
60 Hz	4.0E-4		
1 MHz	9.0E-3		
Dissipation Factor			IEC 60250
100 Hz	1.0E-3		
1 MHz	9.0E-3		
Arc Resistance	100	sec	ASTM D495
Comparative Tracking Index	250	V	IEC 60112

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Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
1.9 mm		HB	
0.40 mm		V-2	
Glow Wire Flammability Index			IEC 60695-2-12
1.5 mm	825	°C	
3.2 mm	875	°C	
Glow Wire Ignition Temperature			IEC 60695-2-13
1.5 mm	850	°C	
3.2 mm	875	°C	
Optical	Nominal Value	Unit	Test Method
Refractive Index	1.585		ASTM D542
Light Transmittance (3000 μm)	88.0	%	ASTM D1003

Processing Information			
Injection	Nominal Value	Unit	
Drying Temperature	120	°C	
Drying Time	> 5.0	hr	
Processing (Melt) Temp	270 to 320	°C	
Mold Temperature	80 to 120	°C	

Notes

- ¹ Typical properties: these are not to be construed as specifications.
- ² 2.0 mm/min
- ³ Quick Voltage rise method
- ⁴ short time test

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