

# Panlite® L-1225L

## TEIJIN LIMITED - Polycarbonate

### General Information

#### General

|                           |                     |                       |
|---------------------------|---------------------|-----------------------|
| Properties                | • Good Mold Release | • Ultra Low Viscosity |
| Uses                      | • General Purpose   |                       |
| Automotive Specifications | • GM GMP.PC.001     | • GM GMP.PC.015       |
| Appearance                | • Clear/Transparent |                       |
| Forms                     | • Pellets           |                       |
| Processing Method         | • Injection Molding |                       |

### ASTM & ISO Properties <sup>1</sup>

| Physical                                                  | Nominal Value | Unit                   | Test Method     |
|-----------------------------------------------------------|---------------|------------------------|-----------------|
| Density                                                   | 1.20          | g/cm <sup>3</sup>      | ISO 1183        |
| Melt Volume-Flow Rate (MVR) (300°C/1.2 kg)                | 18            | cm <sup>3</sup> /10min | ISO 1133        |
| 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          |
| Mechanical                                                | Nominal Value | Unit                   | Test Method     |
| Tensile Modulus (23°C)                                    | 2400          | MPa                    | ISO 527-1/1     |
| Tensile Stress (Yield, 23°C)                              | 61.0          | MPa                    | ISO 527-2/50    |
| Tensile Strain (Yield, 23°C)                              | 6.0           | %                      | ISO 527-2/50    |
| Nominal Tensile Strain at Break (23°C)                    | > 50          | %                      | ISO 527-2/50    |
| Flexural Modulus <sup>2</sup> (23°C)                      | 2350          | MPa                    | ISO 178         |
| Flexural Stress <sup>2</sup> (23°C)                       | 93.0          | MPa                    | ISO 178         |
| Impact                                                    | Nominal Value | Unit                   | Test Method     |
| Charpy Notched Impact Strength (23°C)                     | 67            | kJ/m <sup>2</sup>      | ISO 179         |
| Charpy Unnotched Impact Strength (23°C)                   | No Break      |                        | ISO 179         |
| Hardness                                                  | Nominal Value | Unit                   | Test Method     |
| Rockwell Hardness (M-Scale)                               | 77            |                        | ASTM D785       |
| Thermal                                                   | Nominal Value | Unit                   | Test Method     |
| Deflection Temperature Under Load<br>0.45 MPa, Unannealed | 139           | °C                     | ISO 75-2/B      |
| Deflection Temperature Under Load<br>1.8 MPa, Unannealed  | 126           | °C                     | ISO 75-2/A      |
| Vicat Softening Temperature                               | 146           | °C                     | ISO 306/B50     |
| CLTE - Flow                                               | 7.0E-5        | cm/cm/°C               | ISO 11359-2     |
| CLTE - Transverse                                         | 7.0E-5        | cm/cm/°C               | ISO 11359-2     |
| RTI Elec (0.75 mm)                                        | 125           | °C                     | UL 746B         |
| RTI Imp (0.75 mm)                                         | 115           | °C                     | UL 746B         |
| RTI Str (0.75 mm)                                         | 125           | °C                     | UL 746B         |

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| Electrical                     | Nominal Value | Unit    | Test Method    |
|--------------------------------|---------------|---------|----------------|
| Surface Resistivity            | > 1.0E+15     | ohms    | IEC 60093      |
| Volume Resistivity             | > 1.0E+15     | ohms·cm | IEC 60093      |
| Electric Strength <sup>3</sup> | 30            | kV/mm   | IEC 60243-1    |
| Relative Permittivity          |               |         | IEC 60250      |
| 100 Hz                         | 3.10          |         |                |
| 1 MHz                          | 3.00          |         |                |
| Dissipation Factor             |               |         | IEC 60250      |
| 100 Hz                         | 1.0E-3        |         |                |
| 1 MHz                          | 9.0E-3        |         |                |
| Comparative Tracking Index     | 250           | V       | IEC 60112      |
| 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                         | 850           | °C      |                |
| 3.0 mm                         | 960           | °C      |                |
| Glow Wire Ignition Temperature |               |         | IEC 60695-2-13 |
| 1.5 mm                         | 875           | °C      |                |
| 3.0 mm                         | 850           | °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

- <sup>1</sup> Typical properties: these are not to be construed as specifications.

<sup>2</sup> 2.0 mm/min

<sup>3</sup> short time test