

Lexan* Resin EXL1112T

Americas: COMMERCIAL

Lexan* EXL1112T polycarbonate (PC) siloxane copolymer resin is a transparent injection molding (IM) grade. This resin offers good low temperature (-20 C) ductility in combination with high flow characteristics and excellent processability with opportunities for shorter IM cycle times compared to standard PC resins. Lexan EXL1112T resin is a general purpose product available in transparent and opaque colors and may be an excellent candidate for a broad range of applications.

Property

| TYPICAL PROPERTIES ⁽¹⁾ | | | |
|--|----------|-------------------|----------------|
| MECHANICAL | Value | Unit | Standard |
| Tensile Stress, yld, Type I, 50 mm/min | 58 | MPa | ASTM D 638 |
| Tensile Stress, brk, Type I, 50 mm/min | 57 | MPa | ASTM D 638 |
| Tensile Strain, yld, Type I, 50 mm/min | 5.7 | % | ASTM D 638 |
| Tensile Strain, brk, Type I, 50 mm/min | 117.9 | % | ASTM D 638 |
| Tensile Modulus, 50 mm/min | 2260 | MPa | ASTM D 638 |
| Flexural Stress, yld, 1.3 mm/min, 50 mm span | 94 | MPa | ASTM D 790 |
| Flexural Modulus, 1.3 mm/min, 50 mm span | 2240 | MPa | ASTM D 790 |
| Tensile Stress, yield, 50 mm/min | 57 | MPa | ISO 527 |
| Tensile Stress, break, 50 mm/min | 56 | MPa | ISO 527 |
| Tensile Strain, yield, 50 mm/min | 5.4 | % | ISO 527 |
| Tensile Strain, break, 50 mm/min | 119.4 | % | ISO 527 |
| Tensile Modulus, 1 mm/min | 2340 | MPa | ISO 527 |
| Flexural Stress, yield, 2 mm/min | 89 | MPa | ISO 178 |
| Flexural Modulus, 2 mm/min | 2140 | MPa | ISO 178 |
| Hardness, Rockwell L | 89 | - | ISO 2039-2 |
| IMPACT | Value | Unit | Standard |
| Izod Impact, notched, 23°C | 736 | J/m | ASTM D 256 |
| Izod Impact, notched, -30°C | 618 | J/m | ASTM D 256 |
| Instrumented Impact Total Energy, 23°C | 74 | J | ASTM D 3763 |
| Izod Impact, unnotched 80*10*3 +23°C | NB | kJ/m ² | ISO 180/1U |
| Izod Impact, unnotched 80*10*3 -30°C | NB | kJ/m ² | ISO 180/1U |
| Izod Impact, notched 80*10*3 +23°C | 65 | kJ/m ² | ISO 180/1A |
| Izod Impact, notched 80*10*3 -30°C | 55 | kJ/m ² | ISO 180/1A |
| Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm | 65 | kJ/m ² | ISO 179/1eA |
| Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm | 45 | kJ/m ² | ISO 179/1eA |
| Charpy 23°C, Unnotch Edgew 80*10*3 sp=62mm | NB | kJ/m ² | ISO 179/1eU |
| Charpy -30°C, Unnotch Edgew 80*10*3 sp=62mm | NB | kJ/m ² | ISO 179/1eU |
| THERMAL | Value | Unit | Standard |
| Vicat Softening Temp, Rate A/50 | 138 | °C | ASTM D 1525 |
| HDT, 1.82 MPa, 3.2mm, unannealed | 121 | °C | ASTM D 648 |
| CTE, -40°C to 95°C, flow | 7.48E-05 | 1/°C | ASTM E 831 |
| CTE, -40°C to 95°C, xflow | 7.64E-05 | 1/°C | ASTM E 831 |
| CTE, 23°C to 80°C, flow | 7.48E-05 | 1/°C | ISO 11359-2 |
| CTE, 23°C to 80°C, xflow | 7.64E-05 | 1/°C | ISO 11359-2 |
| Ball Pressure Test, 125°C +/- 2°C | pass | - | IEC 60695-10-2 |
| Vicat Softening Temp, Rate B/50 | 138 | °C | ISO 306 |

| | | | |
|---|--------------|-------------------------|-----------------|
| Vicat Softening Temp, Rate B/120 | 139 | °C | ISO 306 |
| HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm | 116 | °C | ISO 75/Af |
| Relative Temp Index, Elec | 130 | °C | UL 746B |
| Relative Temp Index, Mech w/o impact | 130 | °C | UL 746B |
| PHYSICAL | Value | Unit | Standard |
| Specific Gravity | 1.19 | - | ASTM D 792 |
| Mold Shrinkage, flow, 3.2 mm | 0.4 - 0.8 | % | SABIC Method |
| Mold Shrinkage, xflow, 3.2 mm | 0.4 - 0.8 | % | SABIC Method |
| Melt Flow Rate, 300°C/1.2 kgf | 20 | g/10 min | ASTM D 1238 |
| Density | 1.19 | g/cm ³ | ISO 1183 |
| Water Absorption, (23°C/sat) | 0.12 | % | ISO 62 |
| Moisture Absorption (23°C / 50% RH) | 0.09 | % | ISO 62 |
| Melt Volume Rate, MVR at 300°C/1.2 kg | 19 | cm ³ /10 min | ISO 1133 |
| OPTICAL | Value | Unit | Standard |
| Light Transmission | 82 | % | ASTM D 1003 |
| Haze | 3 | % | ASTM D 1003 |
| ELECTRICAL | Value | Unit | Standard |
| Volume Resistivity | >1.E+15 | Ohm-cm | ASTM D 257 |
| Surface Resistivity | >1.E+15 | Ohm | ASTM D 257 |
| FLAME CHARACTERISTICS | Value | Unit | Standard |
| UL Recognized, 94HB Flame Class Rating (3) | 1.5 | mm | UL 94 |
| Glow Wire Flammability Index 960°C, passes at | 3 | mm | IEC 60695-2-12 |
| Glow Wire Ignitability Temperature, 0.8 mm | 850 | °C | IEC 60695-2-13 |
| Glow Wire Ignitability Temperature, 3.0 mm | 850 | °C | IEC 60695-2-13 |

Source GMD, last updated:09/15/2004

Processing

| Parameter | Value | Unit |
|-----------------------------|---------------|------|
| Injection Molding | | |
| Drying Temperature | 120 | °C |
| Drying Time | 3 - 4 | hrs |
| Drying Time (Cumulative) | 48 | hrs |
| Maximum Moisture Content | 0.02 | % |
| Melt Temperature | 295 - 315 | °C |
| Nozzle Temperature | 290 - 310 | °C |
| Front - Zone 3 Temperature | 295 - 315 | °C |
| Middle - Zone 2 Temperature | 280 - 305 | °C |
| Rear - Zone 1 Temperature | 215 - 295 | °C |
| Mold Temperature | 70 - 95 | °C |
| Back Pressure | 0.3 - 0.7 | MPa |
| Screw Speed | 40 - 70 | rpm |
| Shot to Cylinder Size | 40 - 60 | % |
| Vent Depth | 0.025 - 0.076 | mm |

Source GMD, last updated:09/15/2004

• NOTE: Back Pressure, Screw Speed, Shot to Cylinder Size and Vent Depth are only mentioned as general guidelines. These may not apply or need adjustment in specific situations such as low shot sizes, thin wall molding and gas-assist molding.

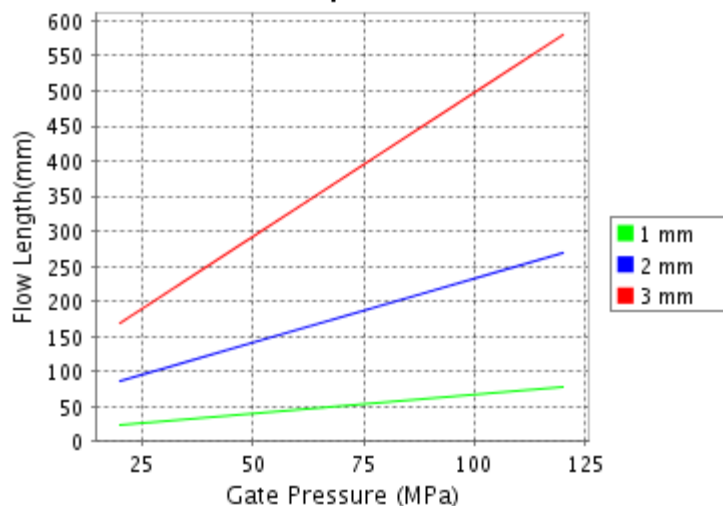
CALCULATED FLOW LENGTH INDICATION

Moldflow® Radial Flow Analysis

Lexan® DMX1132

Melt Temperature : 290°C

Mold Temperature : 90°C



Note: Technical support is recommended if Gate Pressure is greater than 80 MPa. Contact your local representative.

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THESE PROPERTY VALUES ARE NOT INTENDED FOR SPECIFICATION PURPOSES.

PLEASE CHECK WITH YOUR [\(LOCAL SALES OFFICE\)](#) FOR AVAILABILITY IN YOUR REGION

(1) Typical values only. Variations within normal tolerances are possible for various colors. All values are measured after at least 48 hours storage at 23°C/50% relative humidity. All properties, except the melt volume and melt flow rates, are measured on injection molded samples. All samples tested under ISO test standards are prepared according to ISO 294.

(2) Only typical data for selection purposes. Not to be used for part or tool design.

(3) This rating is not intended to reflect hazards presented by this or any other material under actual fire conditions.

(4) Internal measurements according to UL standards.

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