



LEXAN™ Resin EXL1434T

Europe-Africa-Middle East: COMMERCIAL

LEXAN EXL1434T polycarbonate (PC) siloxane copolymer resin is a UV stabilized transparent injection molding grade. This resin offers extreme low temperature (-40 C) ductility in combination with medium flow characteristics and excellent processability with opportunities for shorter IM cycle times compared to standard PC. LEXAN EXL1434T resin is a UV stabilized general purpose product available in transparent and opaque colors and is an excellent candidate for a broad range of applications.

| TYPICAL PROPERTIES ¹ | TYPICAL VALUE | Unit | Standard |
|--|---------------|---------------------|-------------|
| MECHANICAL | | | |
| Tensile Stress, yld, Type I, 50 mm/min | 580 | kgf/cm ² | ASTM D 638 |
| Tensile Stress, brk, Type I, 50 mm/min | 600 | kgf/cm ² | ASTM D 638 |
| Tensile Strain, yld, Type I, 50 mm/min | 5.6 | % | ASTM D 638 |
| Tensile Strain, brk, Type I, 50 mm/min | 123.9 | % | ASTM D 638 |
| Tensile Modulus, 50 mm/min | 22300 | kgf/cm ² | ASTM D 638 |
| Flexural Stress, yld, 1.3 mm/min, 50 mm span | 930 | kgf/cm ² | ASTM D 790 |
| Flexural Modulus, 1.3 mm/min, 50 mm span | 22200 | kgf/cm ² | ASTM D 790 |
| Tensile Stress, yield, 50 mm/min | 56 | MPa | ISO 527 |
| Tensile Stress, break, 50 mm/min | 55 | MPa | ISO 527 |
| Tensile Strain, yield, 50 mm/min | 5.4 | % | ISO 527 |
| Tensile Strain, break, 50 mm/min | 108.5 | % | ISO 527 |
| Tensile Modulus, 1 mm/min | 2300 | MPa | ISO 527 |
| Flexural Stress, yield, 2 mm/min | 88 | MPa | ISO 178 |
| Flexural Modulus, 2 mm/min | 2120 | MPa | ISO 178 |
| Hardness, Rockwell L | 87 | - | ISO 2039-2 |
| IMPACT | | | |
| Izod Impact, notched, 23°C | 84 | cm-kgf/cm | ASTM D 256 |
| Izod Impact, notched, -30°C | 72 | cm-kgf/cm | ASTM D 256 |
| Instrumented Impact Total Energy, 23°C | 769 | cm-kgf | ASTM D 3763 |
| Instrumented Impact Total Energy, -30°C | 789 | cm-kgf | 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 |

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(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.

(5) Measurements made from laboratory test coupon. Actual shrinkage may vary outside of range due to differences in processing conditions, equipment, part geometry and tool design. It is recommended that mold shrinkage studies be performed with surrogate or legacy tooling prior to cutting tools for new molded article.

(6) Needs hard coat to consistently pass 60 sec Vertical Burn.

Source GMD, last updated:

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| IMPACT | | | |
| 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 | 70 | kJ/m ² | ISO 179/1eA |
| Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm | 60 | 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 | | | |
| Vicat Softening Temp, Rate A/50 | 138 | °C | ASTM D 1525 |
| HDT, 1.82 MPa, 3.2mm, unannealed | 120 | °C | ASTM D 648 |
| CTE, -40°C to 95°C, flow | 6.7E-05 | 1/°C | ASTM E 831 |
| CTE, -40°C to 95°C, xflow | 8.E-05 | 1/°C | ASTM E 831 |
| CTE, 23°C to 80°C, flow | 6.7E-05 | 1/°C | ISO 11359-2 |
| CTE, 23°C to 80°C, xflow | 8.E-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 | | | |
| Specific Gravity | 1.19 | - | ASTM D 792 |
| Mold Shrinkage, flow, 3.2 mm (5) | 0.4 - 0.8 | % | SABIC Method |
| Mold Shrinkage, xflow, 3.2 mm (5) | 0.4 - 0.8 | % | SABIC Method |
| Melt Flow Rate, 300°C/1.2 kgf | 10 | g/10 min | ASTM D 1238 |
| Density | 1.19 | g/cm ³ | ISO 1183 |

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Source GMD, last updated:

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| TYPICAL PROPERTIES ¹ | TYPICAL VALUE | Unit | Standard |
|---|---------------|-------------------------|----------------|
| PHYSICAL | | | |
| 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 | 9 | cm ³ /10 min | ISO 1133 |
| OPTICAL | | | |
| Light Transmission, 2.54 mm | 82 | % | ASTM D 1003 |
| Haze, 2.54 mm | 3 | % | ASTM D 1003 |
| ELECTRICAL | | | |
| Volume Resistivity | >1.E+15 | Ohm-cm | ASTM D 257 |
| Surface Resistivity | >1.E+15 | Ohm | ASTM D 257 |
| FLAME CHARACTERISTICS | | | |
| UL Recognized, 94V-2 Flame Class Rating (3) | 3 | 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 |

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| PROCESSING PARAMETERS | TYPICAL 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 |

• 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.

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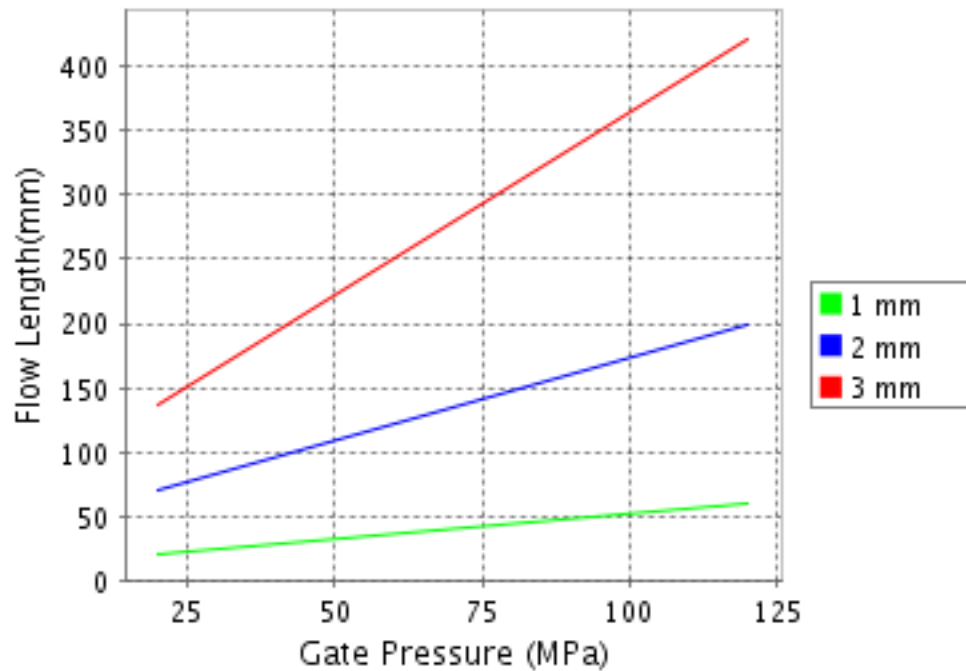
CALCULATED FLOW LENGTH INDICATION

Moldflow® Radial Flow Analysis

LEXAN® EXL1434T

Melt Temperature : 305°C

Mold Temperature : 85°C



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

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