

LEXANTM COPOLYMER HPFO

REGION AMERICAS

DESCRIPTION

40 MFR LEXAN High Flow Ductile Copolymer Healthcare Grade

TYPICAL PROPERTY VALUES

Revision 20190104

| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|--|----------------|-------------------|--------------|
| MECHANICAL | | | |
| Tensile Stress, yld, Type I, 50 mm/min | 60 | MPa | ASTM D 638 |
| Tensile Stress, brk, Type I, 50 mm/min | 56 | MPa | ASTM D 638 |
| Tensile Strain, yld, Type I, 50 mm/min | 5.5 | % | ASTM D 638 |
| Tensile Strain, brk, Type I, 50 mm/min | 130 | % | ASTM D 638 |
| Tensile Modulus, 5 mm/min | 2270 | MPa | ASTM D 638 |
| Flexural Stress, yld, 1.3 mm/min, 50 mm span | 100 | MPa | ASTM D 790 |
| Flexural Modulus, 1.3 mm/min, 50 mm span | 2240 | MPa | ASTM D 790 |
| Hardness, Rockwell R | 120 | - | ASTM D 785 |
| Tensile Stress, yield, 50 mm/min | 63 | MPa | ISO 527 |
| Tensile Stress, break, 50 mm/min | 56 | MPa | ISO 527 |
| Tensile Strain, yield, 50 mm/min | 6 | % | ISO 527 |
| Tensile Strain, break, 50 mm/min | 97 | % | ISO 527 |
| Tensile Modulus, 1 mm/min | 2180 | MPa | ISO 527 |
| Flexural Stress, yield, 2 mm/min | 91 | MPa | ISO 178 |
| Flexural Modulus, 2 mm/min | 2180 | MPa | ISO 178 |
| IMPACT | | | |
| Izod Impact, notched, 23°C | 728 | J/m | ASTM D 256 |
| Izod Impact, notched, 0°C | 699 | J/m | ASTM D 256 |
| Izod Impact, notched, -30°C | 110 | J/m | ASTM D 256 |
| Multiaxial Impact | 95 | J | ISO 6603 |
| Instrumented Impact Total Energy, 23°C | 56 | 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 | 58 | kJ/m ² | ISO 180/1A |
| Izod Impact, notched 80°10'3 -30°C | 11 | kJ/m ² | ISO 180/1A |
| Charpy 23°C, V-notch Edgew 80°10'3 sp=62mm | 64 | kJ/m ² | ISO 179/1eA |
| Charpy -30°C, V-notch Edgew 80°10'3 sp=62mm | 13 | 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 B/50 | 135 | °C | ASTM D 1525 |
| HDT, 0.45 MPa, 3.2 mm, unannealed | 121 | °C | ASTM D 648 |
| HDT, 1.82 MPa, 3.2mm, unannealed | 110 | °C | ASTM D 648 |
| CTE, -40°C to 40°C, flow | 8.E-05 | 1/°C | ASTM E 831 |
| CTE, -40°C to 40°C, xflow | 8.E-05 | 1/°C | ASTM E 831 |

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| CTE, -40°C to 40°C, flow | 8.E-05 | 1/°C | ISO 11359-2 |
| CTE, -40°C to 40°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 | 129 | °C | ISO 306 |
| Vicat Softening Temp, Rate B/120 | 130 | °C | ISO 306 |
| HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm | 115 | °C | ISO 75/Af |
| Relative Temp Index, Elec | 105 | °C | UL 746B |
| Relative Temp Index, Mech w/impact | 105 | °C | UL 746B |
| Relative Temp Index, Mech w/o impact | 105 | °C | UL 746B |
| PHYSICAL | | | |
| Specific Gravity | 1.2 | - | ASTM D 792 |
| Density | 1.2 | g/cm ³ | ASTM D 792 |
| Mold Shrinkage, flow, 3.2 mm | 0.5 – 0.7 | % | SABIC method |
| Melt Flow Rate, 300°C/1.2 kgf | 40 | g/10 min | ASTM D 1238 |
| Density | 1.2 | g/cm ³ | ISO 1183 |
| Water Absorption, (23°C/sat) | 0.3 | % | ISO 62 |
| Moisture Absorption (23°C / 50% RH) | 0.15 | % | ISO 62 |
| Melt Volume Rate, MVR at 300°C/1.2 kg | 38 | cm ³ /10 min | ISO 1133 |
| OPTICAL | | | |
| Light Transmission, 2.54 mm | 80 | % | ASTM D 1003 |
| Haze, 2.54 mm | <1 | % | ASTM D 1003 |
| Refractive Index | 1.582 | - | ASTM D542 |
| FLAME CHARACTERISTICS | | | |
| UL Recognized, 94HB Flame Class Rating | 0.3 | mm | UL 94 |
| INJECTION MOLDING | | | |
| Drying Temperature | 105 – 110 | °C | |
| Drying Time | 3 – 4 | hrs | |
| Drying Time (Cumulative) | 24 | hrs | |
| Melt Temperature | 260 – 305 | °C | |
| Nozzle Temperature | 255 – 300 | °C | |
| Front - Zone 3 Temperature | 260 – 305 | °C | |
| Middle - Zone 2 Temperature | 250 – 295 | °C | |
| Rear - Zone 1 Temperature | 240 – 280 | °C | |
| Mold Temperature | 50 – 80 | °C | |
| Back Pressure | 0.3 – 0.7 | MPa | |
| Screw Speed | 35 – 75 | rpm | |
| Shot to Cylinder Size | 40 – 60 | % | |
| Vent Depth | 0.038 – 0.076 | mm | |

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