

LEXAN™ COPOLYMER FST3403

REGION ASIA

DESCRIPTION

LEXAN FST3403 resin is a high flow PC Copolymer Resin, suitable for injection molding. This halogen-free flame retardant resin is EN45545 R6 HL3 compliant and an ideal candidate for train interior applications (category R6). It also meets requirements of DIN5510-2, NFPA-130 and PN-K-02511 standards. Available in opaque colors.

TYPICAL PROPERTY VALUES

Revision 20180905

| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|--|----------------|-------------------|--------------|
| MECHANICAL | | | |
| Tensile Stress, yld, Type I, 50 mm/min | 77 | MPa | ASTM D 638 |
| Tensile Stress, brk, Type I, 50 mm/min | 70 | MPa | ASTM D 638 |
| Tensile Strain, yld, Type I, 50 mm/min | 6 | % | ASTM D 638 |
| Tensile Strain, brk, Type I, 50 mm/min | 80 | % | ASTM D 638 |
| Tensile Modulus, 5 mm/min | 2600 | MPa | ASTM D 638 |
| Flexural Stress, yld, 1.3 mm/min, 50 mm span | 115 | MPa | ASTM D 790 |
| Flexural Modulus, 1.3 mm/min, 50 mm span | 2500 | MPa | ASTM D 790 |
| Tensile Stress, yield, 50 mm/min | 77 | MPa | ISO 527 |
| Tensile Stress, break, 50 mm/min | 70 | MPa | ISO 527 |
| Tensile Strain, yield, 50 mm/min | 6 | % | ISO 527 |
| Tensile Strain, break, 50 mm/min | 80 | % | ISO 527 |
| Tensile Modulus, 1 mm/min | 2600 | MPa | ISO 527 |
| Flexural Stress, yield, 2 mm/min | 110 | MPa | ISO 178 |
| Flexural Modulus, 2 mm/min | 2700 | MPa | ISO 178 |
| IMPACT | | | |
| Izod Impact, notched, 23°C | 130 | J/m | ASTM D 256 |
| Izod Impact, notched, -30°C | 90 | J/m | ASTM D 256 |
| Multiaxial Impact | 125 | J | ISO 6603 |
| Instrumented Impact Total Energy, 23°C | 80 | 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 | 13 | kJ/m ² | ISO 180/1A |
| Izod Impact, notched 80*10*3 -30°C | 6 | kJ/m ² | ISO 180/1A |
| Izod Impact, unnotched 80*10*4 +23°C | NB | kJ/m ² | ISO 180/1U |
| Izod Impact, unnotched 80*10*4 -30°C | NB | kJ/m ² | ISO 180/1U |
| Izod Impact, notched 80*10*4 +23°C | 12 | kJ/m ² | ISO 180/1A |
| Izod Impact, notched 80*10*4 -30°C | 10 | kJ/m ² | ISO 180/1A |
| Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm | 13 | kJ/m ² | ISO 179/1eA |
| Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm | 5 | 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 |
| Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm | 14 | kJ/m ² | ISO 179/1eA |
| Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm | 10 | kJ/m ² | ISO 179/1eA |
| Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm | NB | kJ/m ² | ISO 179/1eU |

| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|---|----------------|-------------------------|--------------------|
| Charpy -30°C, Unnotch Edgew 80*10*4 sp=62mm | NB | kJ/m ² | ISO 179/1eU |
| THERMAL | | | |
| Vicat Softening Temp, Rate B/50 | 114 | °C | ASTM D 1525 |
| HDT, 0.45 MPa, 3.2 mm, unannealed | 104 | °C | ASTM D 648 |
| HDT, 1.82 MPa, 3.2mm, unannealed | 93 | °C | ASTM D 648 |
| CTE, -40°C to 40°C, flow | 6.E-05 | 1/°C | ASTM E 831 |
| CTE, -40°C to 40°C, xflow | 6.E-05 | 1/°C | ASTM E 831 |
| CTE, -40°C to 40°C, flow | 6.E-05 | 1/°C | ISO 11359-2 |
| CTE, -40°C to 40°C, xflow | 6.E-05 | 1/°C | ISO 11359-2 |
| Vicat Softening Temp, Rate B/50 | 114 | °C | ISO 306 |
| Vicat Softening Temp, Rate B/120 | 115 | °C | ISO 306 |
| HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm | 105 | °C | ISO 75/Bf |
| HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm | 95 | °C | ISO 75/Af |
| PHYSICAL | | | |
| Specific Gravity | 1.33 | - | ASTM D 792 |
| Mold Shrinkage, flow | 0.5 – 0.7 | % | SABIC method |
| Mold Shrinkage, xflow | 0.5 – 0.7 | % | SABIC method |
| Melt Flow Rate, 300°C/1.2 kgf | 12 | g/10 min | ASTM D 1238 |
| Density | 1.33 | g/cm ³ | ISO 1183 |
| Melt Volume Rate, MVR at 300°C/1.2 kg | 10 | cm ³ /10 min | ISO 1133 |
| FLAME CHARACTERISTICS | | | |
| Heat release, MAHRE, 50 kW/m ² , 3 mm | <60 | kW/m ² | ISO 5660-1 |
| Smoke density, DS-4, 50 kW/m ² , 3mm | <150 | - | ISO 5659-2 |
| Smoke density, VOF4, 50 kW/m ² , 3mm | <300 | - | ISO 5659-2 |
| Smoke toxicity, CITG (8 min), 50 kW/m ² , 3 mm | 0.1 | - | ISO 5659-2 |
| Fire Safety Hazard Level - Requirement set R6 | HL3 | - | EN EN 45545-2:2013 |
| INJECTION MOLDING | | | |
| Drying Temperature | 95 – 100 | °C | |
| Drying Time | 6 – 8 | hrs | |
| Melt Temperature | 250 – 290 | °C | |
| Nozzle Temperature | 245 – 285 | °C | |
| Front - Zone 3 Temperature | 250 – 290 | °C | |
| Middle - Zone 2 Temperature | 240 – 280 | °C | |
| Rear - Zone 1 Temperature | 230 – 260 | °C | |
| Mold Temperature | 50 – 80 | °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 | |

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