

LEXAN™ COPOLYMER FST9705

REGION ASIA

DESCRIPTION

High viscosity Proprietary Polycarbonate Ester, OSU 55/55 compliant, low smoke, flame retardant resin

TYPICAL PROPERTY VALUES

Revision 20170913

| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|--|----------------|-------------------|--------------|
| MECHANICAL | | | |
| Tensile Stress, yld, Type I, 50 mm/min | 72 | MPa | ASTM D 638 |
| Tensile Stress, brk, Type I, 50 mm/min | 73 | MPa | ASTM D 638 |
| Tensile Strain, yld, Type I, 50 mm/min | 6.7 | % | ASTM D 638 |
| Tensile Strain, brk, Type I, 50 mm/min | 102 | % | ASTM D 638 |
| Tensile Modulus, 5 mm/min | 2610 | 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 | 74 | MPa | ISO 527 |
| Tensile Stress, break, 50 mm/min | 76 | MPa | ISO 527 |
| Tensile Strain, yield, 50 mm/min | 6.8 | % | ISO 527 |
| Tensile Strain, break, 50 mm/min | 109 | % | ISO 527 |
| Tensile Modulus, 1 mm/min | 2500 | MPa | ISO 527 |
| Flexural Stress, yield, 2 mm/min | 107 | MPa | ISO 178 |
| Flexural Modulus, 2 mm/min | 2320 | MPa | ISO 178 |
| IMPACT | | | |
| Izod Impact, notched, 23°C | 194 | J/m | ASTM D 256 |
| Izod Impact, notched, -30°C | 112 | J/m | ASTM D 256 |
| Instrumented Impact Total Energy, 23°C | 80 | J | ASTM D 3763 |
| Izod Impact, notched 80*10*4 +23°C | 16 | 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*4 sp=62mm | 24 | kJ/m ² | ISO 179/1eA |
| THERMAL | | | |
| Vicat Softening Temp, Rate B/50 | 140 | °C | ASTM D 1525 |
| HDT, 1.82 MPa, 3.2mm, unannealed | 121 | °C | ASTM D 648 |
| CTE, -40°C to 40°C, flow | 5.7E-05 | 1/°C | ASTM E 831 |

| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|--|----------------|-------------------------|----------------|
| CTE, -40°C to 40°C, xflow | 6.E-05 | 1/°C | ASTME 831 |
| CTE, -40°C to 40°C, flow | 5.7E-05 | 1/°C | ISO 11359-2 |
| CTE, -40°C to 40°C, xflow | 6.E-05 | 1/°C | ISO 11359-2 |
| Ball Pressure Test, approximate maximum | 125 | °C | IEC 60695-10-2 |
| Vicat Softening Temp, Rate B/50 | 137 | °C | ISO 306 |
| Vicat Softening Temp, Rate B/120 | 139 | °C | ISO 306 |
| HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm | 117 | °C | ISO 75/Af |
| PHYSICAL | | | |
| Specific Gravity | 1.34 | - | ASTMD 792 |
| Mold Shrinkage, flow, 3.2 mm (5) | 0.6 – 0.8 | % | SABIC method |
| Melt Flow Rate, 300°C/1.2 kgf | 5 | g/10 min | ASTMD 1238 |
| Density | 1.34 | g/cm ³ | ISO 1183 |
| Water Absorption, (23°C/sat) | 0.28 | % | ISO 62 |
| Moisture Absorption (23°C / 50% RH) | 0.11 | % | ISO 62 |
| Melt Volume Rate, MVR at 300°C/1.2 kg | 4 | cm ³ /10 min | ISO 1133 |
| Melt Volume Rate, MVR at 300°C/5.0 kg | 16 | cm ³ /10 min | ISO 1133 |
| FLAME CHARACTERISTICS | | | |
| OSU total heat release (2 minute test) | <55 | kW-min/m ² | FAR 25.853 |
| OSU peak heat release rate (5 minute test) | <55 | kW/m ² | FAR 25.853 |
| Vertical Burn a (60s) passes at | 2.4 | sec | FAR 25.853 |
| Vertical Burn b (12s) passes at | 0.5 | sec | FAR 25.853 |
| NBS Smoke Density, Flaming, Dmax | <25 | - | ASTME 662 |
| INJECTION MOLDING | | | |
| Drying Temperature | 105 | °C | |
| Drying Time | 3 – 4 | hrs | |
| Drying Time (Cumulative) | 12 | hrs | |
| Maximum Moisture Content | 0.02 | % | |
| Melt Temperature | 280 – 305 | °C | |
| Nozzle Temperature | 275 – 300 | °C | |
| Front - Zone 3 Temperature | 280 – 305 | °C | |
| Middle - Zone 2 Temperature | 270 – 295 | °C | |
| Rear - Zone 1 Temperature | 260 – 280 | °C | |
| Mold Temperature | 70 – 105 | °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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