

LEXAN™ FR RESIN 945U

REGION ASIA

DESCRIPTION

LEXAN 945U Polycarbonate (PC) resin is a non-filled, injection moldable grade. This non-chlorinated, non-brominated flame retardant PC has a UL-94 V0 rating and is UV stabilized, providing additional weathering capability. LEXAN 945U resin is available in various opaque color options and is a general-purpose resin ideal for a wide variety of applications.

TYPICAL PROPERTY VALUES

Revision 20180906

| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|---|----------------|----------|----------------|
| MECHANICAL | | | |
| Tensile Stress, yld, Type I, 50 mm/min | 62 | MPa | ASTM D 638 |
| Tensile Stress, brk, Type I, 50 mm/min | 65 | MPa | ASTM D 638 |
| Tensile Strain, yld, Type I, 50 mm/min | 6 | % | ASTM D 638 |
| Tensile Strain, brk, Type I, 50 mm/min | 125 | % | ASTM D 638 |
| Tensile Modulus, 50 mm/min | 2270 | MPa | ASTM D 638 |
| Flexural Stress, yld, 1.3 mm/min, 50 mm span | 101 | MPa | ASTM D 790 |
| Flexural Modulus, 1.3 mm/min, 50 mm span | 2340 | MPa | ASTM D 790 |
| IMPACT | | | |
| Izod Impact, notched, 23°C | 801 | J/m | ASTM D 256 |
| Instrumented Impact Total Energy, 23°C | 73 | J | ASTM D 3763 |
| THERMAL | | | |
| Vicat Softening Temp, Rate B/50 | 143 | °C | ASTM D 1525 |
| HDT, 0.45 MPa, 3.2 mm, unannealed | 137 | °C | ASTM D 648 |
| HDT, 1.82 MPa, 3.2mm, unannealed | 126 | °C | ASTM D 648 |
| CTE, -40°C to 40°C, flow | 6.66E-05 | 1/°C | ASTM E 831 |
| CTE, -40°C to 40°C, xflow | 6.66E-05 | 1/°C | ASTM E 831 |
| Relative Temp Index, Elec | 130 | °C | UL 746B |
| Relative Temp Index, Mech w/impact | 120 | °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 | 0.6 – 0.8 | % | SABIC method |
| Melt Flow Rate, 300°C/1.2 kgf | 10 | g/10 min | ASTM D 1238 |
| ELECTRICAL | | | |
| Arc Resistance, Tungsten {PLC} | 7 | PLC Code | ASTM D 495 |
| Hot Wire Ignition {PLC} | 2 | PLC Code | UL 746A |
| High Voltage Arc Track Rate {PLC} | 3 | PLC Code | UL 746A |
| High Ampere Arc Ign, surface {PLC} | 2 | PLC Code | UL 746A |
| Comparative Tracking Index (UL) {PLC} | 3 | PLC Code | UL 746A |
| FLAME CHARACTERISTICS | | | |
| UL Recognized, 94V-0 Flame Class Rating | 1.5 | mm | UL 94 |
| Glow Wire Flammability Index 960°C, passes at | 1 | mm | IEC 60695-2-12 |
| Glow Wire Ignitability Temperature, 1.5 mm | 800 | °C | IEC 60695-2-13 |

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|------------------------------------|----------------|-------|--------------|
| UV-light, water exposure/immersion | F1 | - | UL 746C |
| 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 | 270 – 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 | |

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