



LEXAN® 940A

Americas: COMMERCIAL

Polycarbonate Resin

Medium viscosity, flame retardant PC. Exceptional surface. Clear, tints and opaque colors.

| TYPICAL PROPERTIES ¹ | TYPICAL VALUE | UNIT | STANDARD |
|--|---------------|--------------------|-------------|
| MECHANICAL | | | |
| Tensile Str, yld, Type I, 50 mm/min | 62 | MPa | ASTM D 638 |
| Tensile Str, brk, Type I, 50 mm/min | 56 | MPa | ASTM D 638 |
| Tensile Elong, yld, Type I, 50 mm/min | 7 | % | ASTM D 638 |
| Tensile Elong, brk, Type I, 50 mm/min | 90 | % | ASTM D 638 |
| Flex Stress, yld, 1.3 mm/min, 50 mm span | 91 | MPa | ASTM D 790 |
| Flex Mod, 1.3 mm/min, 50 mm span | 2240 | MPa | ASTM D 790 |
| Hardness, Rockwell M | 70 | - | ASTM D 785 |
| Hardness, Rockwell R | 118 | - | ASTM D 785 |
| Taber Abrasion, CS-17, 1 kg | 10 | mg/1000cy | ASTM D 1044 |
| IMPACT | | | |
| Izod Impact, unnotched, 23°C | 3204 | J/m | ASTM D 4812 |
| Izod Impact, notched, 23°C | 641 | J/m | ASTM D 256 |
| Tensile Impact, Type "S" | 525 | kJ/m ² | ASTM D 1822 |
| Falling Dart Impact (D 3029), 23°C | 169 | J | ASTM D 3029 |
| THERMAL | | | |
| Vicat Softening Temp, Rate B | 152 | °C | ASTM D 1525 |
| HDT, 0.45 MPa, 6.4 mm, unannealed | 138 | °C | ASTM D 648 |
| HDT, 1.82 MPa, 6.4 mm, unannealed | 132 | °C | ASTM D 648 |
| CTE, -40°C to 95°C, flow | 6.84E-05 | 1/°C | ASTM E 831 |
| Thermal Conductivity | 0.19 | W/m-°C | ASTM C 177 |
| 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 | 1.21 | - | ASTM D 792 |
| Specific Volume | 0.83 | cm ³ /g | ASTM D 792 |
| Density | 1.218 | g/cm ³ | ASTM D 792 |
| Water Absorption, 24 hours | 0.15 | % | ASTM D 570 |
| Water Absorption, equilibrium, 23C | 0.35 | % | ASTM D 570 |
| Water Absorption, equilibrium, 100°C | 0.58 | % | ASTM D 570 |
| Mold Shrinkage, flow, 3.2 mm | 0.5 - 0.7 | % | ASTM D 955 |

1) Typical values only. Variations within normal tolerances are possible for various colours. All values are measured at least after 48 hours storage at 23°C/50% relative humidity. All properties, except the melt volume rate are measured on injection moulded samples. All samples are prepared according to ISO 294.

2) Only typical data for material selection purpose. Not to be used for part or tool design.
 3) This rating is not intended to reflect hazards presented by this or any other material under actual fire conditions.
 4) Own measurement according to UL.

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| TYPICAL PROPERTIES ¹ | TYPICAL VALUE | UNIT | STANDARD |
|---|---------------|----------|-------------|
| Melt Flow Rate, 300°C/1.2 kgf | 10 | g/10 min | ASTM D 1238 |
| OPTICAL | | | |
| Light Transmission | 85 | % | ASTM D 1003 |
| Haze | 1 | % | ASTM D 1003 |
| Refractive Index | 1.586 | - | ASTM D 542 |
| ELECTRICAL | | | |
| Volume Resistivity | >1.E+17 | Ohm-cm | ASTM D 257 |
| Dielectric Strength, in air, 3.2 mm | 16.7 | kV/mm | ASTM D 149 |
| Relative Permittivity, 50/60 Hz | 3.01 | - | ASTM D 150 |
| Relative Permittivity, 1 MHz | 2.96 | - | ASTM D 150 |
| Dissipation Factor, 50/60 Hz | 0.0009 | - | ASTM D 150 |
| Dissipation Factor, 1 MHz | 0.01 | - | ASTM D 150 |
| 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} | 3 | PLC Code | UL 746A |
| Comparative Tracking Index (UL) {PLC} | 2 | PLC Code | UL 746A |
| FLAME CHARACTERISTICS | | | |
| UL Recognized, 94V-2 Flame Class Rating (3) | 1.5 | mm | UL 94 |
| UL Recognized, 94V-0 Flame Class Rating (3) | 3 | mm | UL 94 |
| Oxygen Index (LOI) | 35 | % | ASTM D 2863 |
| Radiant Panel Listing | YES | - | UL Tested |

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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 | 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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