



LEXANT™ RESIN 123R

REGION ASIA

DESCRIPTION

LEXANT™ 123R resin is a 18 MFR polycarbonate, MVR of 21. UV Stabilized. Mold release. UL746C f1 rated. UL94 HB rated.

TYPICAL PROPERTY VALUES

Revision 20201125

| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|--|----------------|--------------------|--------------|
| MECHANICAL | | | |
| Tensile Stress, yld, Type I, 50 mm/min | 62 | MPa | ASTM D638 |
| Tensile Stress, brk, Type I, 50 mm/min | 65 | MPa | ASTM D638 |
| Tensile Strain, yld, Type I, 50 mm/min | 7 | % | ASTM D638 |
| Tensile Strain, brk, Type I, 50 mm/min | 110 | % | ASTM D638 |
| Flexural Stress, yld, 1.3 mm/min, 50 mm span | 93 | MPa | ASTM D790 |
| Flexural Modulus, 1.3 mm/min, 50 mm span | 2340 | MPa | ASTM D790 |
| Hardness, Rockwell M | 70 | - | ASTM D785 |
| Hardness, Rockwell R | 118 | - | ASTM D785 |
| Taber Abrasion, CS-17, 1 kg | 10 | mg/1000cy | ASTM D1044 |
| IMPACT | | | |
| Izod Impact, unnotched, 23°C | 3204 | J/m | ASTM D4812 |
| Izod Impact, notched, 23°C | 694 | J/m | ASTM D256 |
| Tensile Impact Strength, Type S | 546 | kJ/m ² | ASTM D1822 |
| Falling Dart Impact (D 3029), 23°C | 169 | J | ASTM D3029 |
| THERMAL | | | |
| Vicat Softening Temp, Rate B/50 | 154 | °C | ASTM D1525 |
| HDT, 0.45 MPa, 6.4 mm, unannealed | 137 | °C | ASTM D648 |
| HDT, 1.82 MPa, 6.4 mm, unannealed | 132 | °C | ASTM D648 |
| CTE, -40°C to 95°C, flow | 6.84E-05 | 1/°C | ASTM E831 |
| Specific Heat | 1.26 | J/g·°C | ASTM C351 |
| Thermal Conductivity | 0.19 | W/m·°C | ASTM C177 |
| Relative Temp Index, Elec | 130 | °C | UL 746B |
| Relative Temp Index, Mech w/impact | 130 | °C | UL 746B |
| Relative Temp Index, Mech w/o impact | 130 | °C | UL 746B |
| PHYSICAL | | | |
| Specific Gravity | 1.2 | - | ASTM D792 |
| Specific Volume | 0.83 | cm ³ /g | ASTM D792 |
| Density | 1.19 | g/cm ³ | ASTM D792 |
| Water Absorption, (23°C/24hrs) | 0.15 | % | ASTM D570 |
| Water Absorption, (23°C/Saturated) | 0.35 | % | ASTM D570 |
| Water Absorption, equilibrium, 100°C | 0.58 | % | ASTM D570 |
| Mold Shrinkage, flow, 3.2 mm | 0.5 – 0.7 | % | SABIC method |
| Melt Flow Rate, 300°C/1.2 kgf | 17.5 | g/10 min | ASTM D1238 |
| OPTICAL | | | |
| Light Transmission, 2.54 mm | 88 | % | ASTM D1003 |



| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|--|-----------------------------------|----------|--------------|
| Haze, 2.54 mm | 1 | % | ASTM D1003 |
| Refractive Index | 1.586 | - | ASTM D542 |
| ELECTRICAL | | | |
| Volume Resistivity | >1.E+17 | Ω.cm | ASTM D257 |
| Dielectric Strength, in air, 3.2 mm | 14.9 | kV/mm | ASTM D149 |
| Relative Permittivity, 50/60 Hz | 3.17 | - | ASTM D150 |
| Relative Permittivity, 1 MHz | 2.96 | - | ASTM D150 |
| Dissipation Factor, 50/60 Hz | 0.0009 | - | ASTM D150 |
| Dissipation Factor, 1 MHz | 0.01 | - | ASTM D150 |
| Hot Wire Ignition {PLC} | 4 | PLC Code | UL 746A |
| High Voltage Arc Track Rate {PLC} | 2 | PLC Code | UL 746A |
| High Ampere Arc Ign, surface {PLC} | 1 | PLC Code | UL 746A |
| Comparative Tracking Index (UL) {PLC} | 2 | PLC Code | UL 746A |
| FLAME CHARACTERISTICS | | | |
| UL Yellow Card Link | E207780-100738001 | - | - |
| UL Yellow Card Link 2 | E45587-236866 | - | - |
| UL Recognized, 94HB Flame Class Rating | 0.76 | mm | UL 94 |
| 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 | 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 – 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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