# LEXAN™ RESIN LS2

REGION EUROPE

## DESCRIPTION

LEXAN™ LS2 resin is a 11 MFR polycarbonate, MVR of 12. UV stabilized. UL94 HB rated. UL746C f1 rated. Medium viscosity. For Automotive lens applications. AMECA listed.

## TYPICAL PROPERTY VALUES

Revision 20201125

| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|---|---|---|---|
| **MECHANICAL** | | | |
| Taber Abrasion, CS-17, 1 kg | 10 | mg/1000cy | SABIC method |
| Tensile Stress, yield, 50 mm/min | 63 | 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 | 120 | % | ISO 527 |
| Tensile Modulus, 1 mm/min | 2350 | MPa | ISO 527 |
| Flexural Stress, yield, 2 mm/min | 90 | MPa | ISO 178 |
| Flexural Modulus, 2 mm/min | 2300 | MPa | ISO 178 |
| Ball Indentation Hardness, H358/30 | 95 | MPa | ISO 2039-1 |
| **IMPACT** | | | |
| Izod Impact, unnotched 80*10*3 +23°C | NB | kJ/m² | ISO 180/1U |
| Izod Impact, unnotched 80*10*3 -30°C | NB | kJ/m² | ISO 180/1U |
| Izod Impact, notched 80*10*3 +23°C | 70 | kJ/m² | ISO 180/1A |
| Izod Impact, notched 80*10*3 -30°C | 12 | kJ/m² | ISO 180/1A |
| Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm | 73 | kJ/m² | ISO 179/1eA |
| Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm | 14 | kJ/m² | ISO 179/1eA |
| Charpy 23°C, Unnotch Edgew 80*10*3 sp=62mm | NB | kJ/m² | ISO 179/1eU |
| Charpy -30°C, Unnotch Edgew 80*10*3 sp=62mm | NB | kJ/m² | ISO 179/1eU |
| **THERMAL** | | | |
| Thermal Conductivity | 0.2 | W/m-°C | ISO 8302 |
| CTE, 23°C to 80°C, flow | 7.E-05 | 1/°C | ISO 11359-2 |
| Ball Pressure Test, 125°C +/- 2°C | PASSES | - | IEC 60695-10-2 |
| Vicat Softening Temp, Rate B/50 | 141 | °C | ISO 306 |
| Vicat Softening Temp, Rate B/120 | 142 | °C | ISO 306 |
| HDT/Be, 0.45MPa Edgew 120*10*4 sp=100mm | 136 | °C | ISO 75/Be |
| HDT/Ae, 1.8 MPa Edgew 120*10*4 sp=100mm | 125 | °C | ISO 75/Ae |
| 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** | | | |
| Mold Shrinkage on Tensile Bar, flow | 0.5 – 0.7 | % | SABIC method |
| Density | 1.2 | g/cm³ | ISO 1183 |
| Water Absorption, (23°C/saturated) | 0.35 | % | ISO 62-1 |
| Moisture Absorption (23°C / 50% RH) | 0.15 | % | ISO 62 |

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|---|---|---|---|
| Melt Volume Rate, MVR at 300°C/1.2 kg | 12 | cm³/10 min | ISO 1133 |
| OPTICAL | | | |
| Light Transmission, 2.54 mm | 88 – 90 | % | ASTM D1003 |
| Haze, 2.54 mm | <0.8 | % | ASTM D1003 |
| Refractive Index | 1.586 | - | ISO 489 |
| ELECTRICAL | | | |
| Volume Resistivity | >1.E+15 | Ω.cm | IEC 60093 |
| Surface Resistivity, ROA | >1.E+15 | Ω | IEC 60093 |
| Dielectric Strength, shorttime, 1.0mm | 15 | kV/mm | IEC 60243-1 |
| Dielectric Strength, in oil, 3.2 mm | 17 | kV/mm | IEC 60243-1 |
| Relative Permittivity, 1 MHz | 2.7 | - | IEC 60250 |
| Dissipation Factor, 50/60 Hz | 0.001 | - | IEC 60250 |
| Dissipation Factor, 1 MHz | 0.01 | - | IEC 60250 |
| Relative Permittivity, 50/60 Hz | 2.7 | - | IEC 60250 |
| FLAME CHARACTERISTICS | | | |
| UL Yellow Card Link | E45329-236637 | - | - |
| UL Recognized, 94HB Flame Class Rating | 0.75 | mm | UL 94 |
| UL Recognized, 94HB Flame Class Rating 2nd value | 3 | mm | UL 94 |
| Glow Wire Flammability Index 850°C, passes at | 1 | mm | IEC 60695-2-12 |
| Oxygen Index (LOI) | 25 | % | ISO 4589 |
| INJECTION MOLDING | | | |
| Drying Temperature | 120 | °C | |
| Drying Time | 2 – 4 | Hrs | |
| Maximum Moisture Content | 0.02 | % | |
| Melt Temperature | 280 – 310 | °C | |
| Nozzle Temperature | 270 – 290 | °C | |
| Front - Zone 3 Temperature | 280 – 310 | °C | |
| Middle - Zone 2 Temperature | 270 – 290 | °C | |
| Rear - Zone 1 Temperature | 260 – 280 | °C | |
| Hopper Temperature | 60 – 80 | °C | |
| Mold Temperature | 80 – 110 | °C | |

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