

# LEXANT™ FR RESIN LUX7189

REGION EUROPE

## DESCRIPTION

LEXAN LUX7189 is an injection moldable polycarbonate (PC) with an MVR (300°C / 1.2kg) 23. It contains non-brominated, non-chlorinated flame retardant systems with UL-94 V0@1.5mm rating. It is designed for high light reflectance and shielding applications with good UV weathering capability.

## TYPICAL PROPERTY VALUES

Revision 20250610

| PROPERTIES                                   | TYPICAL VALUES | UNITS | TEST METHODS   |
|----------------------------------------------|----------------|-------|----------------|
| <b>MECHANICAL</b>                            |                |       |                |
| Tensile Stress, yld, Type I, 50 mm/min       | 60             | MPa   | ASTM D638      |
| Tensile Stress, brk, Type I, 50 mm/min       | 52             | MPa   | ASTM D638      |
| Tensile Strain, yld, Type I, 50 mm/min       | 6              | %     | ASTM D638      |
| Tensile Strain, brk, Type I, 50 mm/min       | 110            | %     | ASTM D638      |
| Tensile Modulus, 50 mm/min                   | 2700           | MPa   | ASTM D638      |
| Flexural Stress, yld, 1.3 mm/min, 50 mm span | 98             | MPa   | ASTM D790      |
| Flexural Modulus, 1.3 mm/min, 50 mm span     | 2700           | MPa   | ASTM D790      |
| Tensile Stress, yield, 50 mm/min             | 60             | MPa   | ISO 527        |
| Tensile Stress, break, 50 mm/min             | 50             | MPa   | ISO 527        |
| Tensile Strain, yield, 50 mm/min             | 5              | %     | ISO 527        |
| Tensile Strain, break, 50 mm/min             | 50             | %     | ISO 527        |
| Tensile Modulus, 1 mm/min                    | 2600           | MPa   | ISO 527        |
| Flexural Stress, yield, 2 mm/min             | 90             | MPa   | ISO 178        |
| Flexural Modulus, 2 mm/min                   | 2300           | MPa   | ISO 178        |
| <b>IMPACT</b>                                |                |       |                |
| Izod Impact, unnotched, 23°C                 | 2140           | J/m   | ASTM D4812     |
| Izod Impact, notched, 23°C                   | 150            | J/m   | ASTM D256      |
| Izod Impact, notched, -30°C                  | 100            | J/m   | ASTM D256      |
| Instrumented Dart Impact Energy @ peak, 23°C | 59             | J     | ASTM D3763     |
| Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm   | 35             | kJ/m² | ISO 179/1eA    |
| Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm  | 11             | kJ/m² | ISO 179/1eA    |
| Charpy 23°C, Unnotch Edgew 80*10*3 sp=62mm   | 160            | kJ/m² | ISO 179/1eU    |
| Charpy -30°C, Unnotch Edgew 80*10*3 sp=62mm  | 160            | kJ/m² | ISO 179/1eU    |
| <b>THERMAL</b>                               |                |       |                |
| Vicat Softening Temp, Rate B/50              | 140            | °C    | ASTM D1525     |
| HDT, 0.45 MPa, 3.2 mm, unannealed            | 135            | °C    | ASTM D648      |
| HDT, 1.82 MPa, 3.2mm, unannealed             | 125            | °C    | ASTM D648      |
| CTE, -40°C to 40°C, flow                     | 6.E-05         | 1/°C  | ASTM E831      |
| CTE, -40°C to 40°C, xflow                    | 6.5E-05        | 1/°C  | ASTM E831      |
| Ball Pressure Test, 125°C +/- 2°C            | PASSES         | -     | IEC 60695-10-2 |
| Vicat Softening Temp, Rate B/50              | 138            | °C    | ISO 306        |
| Vicat Softening Temp, Rate B/120             | 139            | °C    | ISO 306        |
| HDT/Ae, 1.8 MPa Annealed 120°C, 2hrs         | 133            | °C    | ISO 75/Ae      |
| <b>PHYSICAL</b>                              |                |       |                |

| PROPERTIES                                    | TYPICAL VALUES | UNITS                    | TEST METHODS   |
|-----------------------------------------------|----------------|--------------------------|----------------|
| Specific Gravity                              | 1.3            | -                        | ASTM D792      |
| Density                                       | 1.3            | g/cm <sup>3</sup>        | ASTM D792      |
| Mold Shrinkage, flow, 3.2 mm                  | 0.5 – 0.7      | %                        | SABIC method   |
| Melt Flow Rate, 300°C/ 1.2 kgf                | 22             | g/ 10 min                | ASTM D1238     |
| Melt Volume Rate, MVR at 300°C/ 1.2 kg        | 23             | cm <sup>3</sup> / 10 min | ISO 1133       |
| FLAME CHARACTERISTICS                         |                |                          |                |
| UL Recognized, 94V-0 Flame Class Rating       | 1.5            | mm                       | UL 94          |
| UL Recognized, 94-5VA Flame Class Rating      | 3              | mm                       | UL 94          |
| UL Recognized, 94-5VB Flame Class Rating      | 2.5            | mm                       | UL 94          |
| Glow Wire Flammability Index 960°C, passes at | 1              | mm                       | IEC 60695-2-12 |
| Glow Wire Ignitability Temperature, 1.0 mm    | 850            | °C                       | IEC 60695-2-13 |
| INJECTION MOLDING                             |                |                          |                |
| Drying Temperature                            | 120            | °C                       |                |
| Drying Time                                   | 3 – 4          | Hrs                      |                |
| Drying Time (Cumulative)                      | 48             | Hrs                      |                |
| Maximum Moisture Content                      | 0.02           | %                        |                |
| Melt Temperature                              | 270 – 295      | °C                       |                |
| Nozzle Temperature                            | 265 – 290      | °C                       |                |
| Front - Zone 3 Temperature                    | 270 – 295      | °C                       |                |
| Middle - Zone 2 Temperature                   | 260 – 280      | °C                       |                |
| Rear - Zone 1 Temperature                     | 250 – 270      | °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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