

# LEXAN™ LUX2489D resin

Polycarbonate  
SABIC Innovative Plastics Europe

Message:

LEXAN LUX2489D is a polycarbonate resin with high reflective properties, UV additive, medium viscosity, injection molding grade exhibiting low dust attraction.

| General Information                        |                   |                        |                     |
|--------------------------------------------|-------------------|------------------------|---------------------|
| Additive                                   | UV Stabilizer     |                        |                     |
| Features                                   | High Reflectivity |                        |                     |
|                                            | Medium Viscosity  |                        |                     |
| RoHS Compliance                            | RoHS Compliant    |                        |                     |
| Processing Method                          | Injection Molding |                        |                     |
| Physical                                   | Nominal Value     | Unit                   | Test Method         |
| Specific Gravity                           | 1.32              | g/cm <sup>3</sup>      | ASTM D792, ISO 1183 |
| Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)   | 13                | g/10 min               | ASTM D1238          |
| Melt Volume-Flow Rate (MVR) (300°C/1.2 kg) | 13.0              | cm <sup>3</sup> /10min | ISO 1133            |
| Molding Shrinkage                          |                   |                        | Internal Method     |
| Flow : 3.20 mm                             | 0.50 to 0.70      | %                      |                     |
| Across Flow : 3.20 mm                      | 0.50 to 0.70      | %                      |                     |
| Water Absorption                           |                   |                        | ISO 62              |
| Saturation, 23°C                           | 0.35              | %                      |                     |
| Equilibrium, 23°C, 50% RH                  | 0.15              | %                      |                     |
| Hardness                                   | Nominal Value     | Unit                   | Test Method         |
| Ball Indentation Hardness (H 358/30)       | 95.0              | MPa                    | ISO 2039-1          |
| Mechanical                                 | Nominal Value     | Unit                   | Test Method         |
| Tensile Modulus                            |                   |                        |                     |
| -- <sup>1</sup>                            | 2300              | MPa                    | ASTM D638           |
| --                                         | 2350              | MPa                    | ISO 527-2/1         |
| Tensile Strength                           |                   |                        |                     |
| Yield <sup>2</sup>                         | 62.0              | MPa                    | ASTM D638           |
| Yield                                      | 63.0              | MPa                    | ISO 527-2/50        |
| Break <sup>3</sup>                         | 69.0              | MPa                    | ASTM D638           |
| Break                                      | 70.0              | MPa                    | ISO 527-2/50        |
| Tensile Elongation                         |                   |                        |                     |
| Yield <sup>4</sup>                         | 7.0               | %                      | ASTM D638           |
| Yield                                      | 6.0               | %                      | ISO 527-2/50        |
| Break <sup>5</sup>                         | 130               | %                      | ASTM D638           |
| Break                                      | 120               | %                      | ISO 527-2/50        |

|                                                              |               |                   |                          |
|--------------------------------------------------------------|---------------|-------------------|--------------------------|
| Flexural Modulus                                             |               |                   |                          |
| 50.0 mm Span <sup>6</sup>                                    | 2340          | MPa               | ASTM D790                |
| -- <sup>7</sup>                                              | 2300          | MPa               | ISO 178                  |
| Flexural Stress                                              |               |                   |                          |
| --                                                           | 90.0          | MPa               | ISO 178                  |
| Yield, 50.0 mm Span <sup>8</sup>                             | 97.0          | MPa               | ASTM D790                |
| Taber Abrasion Resistance (1000 Cycles, 1000 g, CS-17 Wheel) | 10.0          | mg                | Internal Method          |
| Impact                                                       | Nominal Value | Unit              | Test Method              |
| Charpy Notched Impact Strength <sup>9</sup>                  |               |                   | ISO 179/1eA              |
| -30°C                                                        | 14            | kJ/m <sup>2</sup> |                          |
| 23°C                                                         | 73            | kJ/m <sup>2</sup> |                          |
| Charpy Unnotched Impact Strength <sup>10</sup>               |               |                   | ISO 179/1eU              |
| -30°C                                                        | No Break      |                   |                          |
| 23°C                                                         | No Break      |                   |                          |
| Notched Izod Impact                                          |               |                   |                          |
| -30°C                                                        | 130           | J/m               | ASTM D256                |
| 23°C                                                         | 800           | J/m               | ASTM D256                |
| -30°C <sup>11</sup>                                          | 12            | kJ/m <sup>2</sup> | ISO 180/1A               |
| 23°C <sup>12</sup>                                           | 65            | kJ/m <sup>2</sup> | ISO 180/1A               |
| Unnotched Izod Impact Strength <sup>13</sup>                 |               |                   | ISO 180/1U               |
| -30°C                                                        | No Break      |                   |                          |
| 23°C                                                         | No Break      |                   |                          |
| Instrumented Dart Impact (23°C, Total Energy)                | 64.0          | J                 | ASTM D3763               |
| Thermal                                                      | Nominal Value | Unit              | Test Method              |
| Heat Deflection Temperature                                  |               |                   |                          |
| 0.45 MPa, Unannealed, 100 mm Span <sup>14</sup>              | 135           | °C                | ISO 75-2/Be              |
| 1.8 MPa, Unannealed, 3.20 mm                                 | 114           | °C                | ASTM D648                |
| 1.8 MPa, Unannealed, 6.40 mm                                 | 130           | °C                | ASTM D648                |
| 1.8 MPa, Unannealed, 100 mm Span <sup>15</sup>               | 123           | °C                | ISO 75-2/Ae              |
| Vicat Softening Temperature                                  |               |                   |                          |
| --                                                           | 153           | °C                | ASTM D1525 <sup>16</sup> |
| --                                                           | 140           | °C                | ISO 306/B50              |
| --                                                           | 141           | °C                | ISO 306/B120             |
| Ball Pressure Test (125°C)                                   | Pass          |                   | IEC 60695-10-2           |
| CLTE                                                         |               |                   |                          |
| Flow : -40 to 40°C                                           | 7.0E-5        | cm/cm/°C          | ASTM E831                |
| Flow : 23 to 80°C                                            | 7.0E-5        | cm/cm/°C          | ISO 11359-2              |
| Transverse : -40 to 40°C                                     | 7.0E-5        | cm/cm/°C          | ASTM E831                |
| Transverse : 23 to 80°C                                      | 7.0E-5        | cm/cm/°C          | ISO 11359-2              |
| Thermal Conductivity                                         | 0.20          | W/m/K             | ISO 8302                 |
| Electrical                                                   | Nominal Value | Unit              | Test Method              |

|                                        |                                    |      |                |
|----------------------------------------|------------------------------------|------|----------------|
| Surface Resistivity                    | 5.0E+13                            | ohms | ASTM D257      |
| Flammability                           | Nominal Value                      | Unit | Test Method    |
| Glow Wire Flammability Index (1.60 mm) | 850                                | °C   | IEC 60695-2-12 |
| Optical                                | Nominal Value                      |      | Test Method    |
| Refractive Index                       | 1.586                              |      | ISO 489        |
| Injection                              | Nominal Value                      | Unit |                |
| Drying Temperature                     | 120                                | °C   |                |
| Drying Time                            | 2.0 to 4.0                         | hr   |                |
| Suggested Max Moisture                 | 0.020                              | %    |                |
| Hopper Temperature                     | 60.0 to 80.0                       | °C   |                |
| Rear Temperature                       | 260 to 280                         | °C   |                |
| Middle Temperature                     | 270 to 290                         | °C   |                |
| Front Temperature                      | 280 to 310                         | °C   |                |
| Nozzle Temperature                     | 270 to 290                         | °C   |                |
| Processing (Melt) Temp                 | 280 to 310                         | °C   |                |
| Mold Temperature                       | 80.0 to 110                        | °C   |                |
| NOTE                                   |                                    |      |                |
| 1.                                     | 5.0 mm/min                         |      |                |
| 2.                                     | Type I, 50 mm/min                  |      |                |
| 3.                                     | Type I, 50 mm/min                  |      |                |
| 4.                                     | Type I, 50 mm/min                  |      |                |
| 5.                                     | Type I, 50 mm/min                  |      |                |
| 6.                                     | 1.3 mm/min                         |      |                |
| 7.                                     | 2.0 mm/min                         |      |                |
| 8.                                     | 1.3 mm/min                         |      |                |
| 9.                                     | 80*10*3 sp=62mm                    |      |                |
| 10.                                    | 80*10*3 sp=62mm                    |      |                |
| 11.                                    | 80*10*3                            |      |                |
| 12.                                    | 80*10*3                            |      |                |
| 13.                                    | 80*10*3                            |      |                |
| 14.                                    | 120*10*4 mm                        |      |                |
| 15.                                    | 120*10*4 mm                        |      |                |
| 16.                                    | Rate B (120°C/h), Loading 2 (50 N) |      |                |

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