

# LEXAN™ EXL1494T resin

Polycarbonate  
SABIC Innovative Plastics

**Message:**

LEXAN EXL1494T polycarbonate (PC) siloxane copolymer resin is an injection molding grade with FDA and EU food contact compliance. This resin offers extreme low temperature (-40 C) ductility in combination with medium flow characteristics, improved release and excellent processability with opportunities for shorter IM cycle times compared to standard PC. LEXAN EXL1494T resin is available in transparent and opaque colors and is an excellent candidate for a broad range of food contact applications.

| General Information                        |                                      |           |                     |
|--------------------------------------------|--------------------------------------|-----------|---------------------|
| Features                                   | Copolymer                            |           |                     |
|                                            | Ductile                              |           |                     |
|                                            | Fast Molding Cycle                   |           |                     |
|                                            | Food Contact Acceptable              |           |                     |
|                                            | Good Mold Release                    |           |                     |
|                                            | Good Processability                  |           |                     |
|                                            | Medium Flow                          |           |                     |
| Uses                                       | Non-specific Food Applications       |           |                     |
| Agency Ratings                             | EU Food Contact, Unspecified Rating  |           |                     |
|                                            | FDA Food Contact, Unspecified Rating |           |                     |
| Appearance                                 | Clear/Transparent                    |           |                     |
|                                            | Opaque                               |           |                     |
| Processing Method                          | Injection Molding                    |           |                     |
| Physical                                   | Nominal Value                        | Unit      | Test Method         |
| Specific Gravity                           | 1.19                                 | g/cm³     | ASTM D792, ISO 1183 |
| Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)   | 10                                   | g/10 min  | ASTM D1238          |
| Melt Volume-Flow Rate (MVR) (300°C/1.2 kg) | 9.50                                 | cm³/10min | ISO 1133            |
| Molding Shrinkage                          |                                      |           | Internal Method     |
| Flow : 3.20 mm                             | 0.40 to 0.80                         | %         |                     |
| Across Flow : 3.20 mm                      | 0.40 to 0.80                         | %         |                     |
| Water Absorption                           |                                      |           | ISO 62              |
| Saturation, 23°C                           | 0.12                                 | %         |                     |
| Equilibrium, 23°C, 50% RH                  | 0.093                                | %         |                     |
| Hardness                                   | Nominal Value                        | Unit      | Test Method         |
| Rockwell Hardness (L-Scale)                | 87                                   |           | ASTM D785           |
| Mechanical                                 | Nominal Value                        | Unit      | Test Method         |
| Tensile Modulus                            |                                      |           |                     |

|                                                 |               |                   |              |
|-------------------------------------------------|---------------|-------------------|--------------|
| -- <sup>1</sup>                                 | 2190          | MPa               | ASTM D638    |
| --                                              | 2310          | MPa               | ISO 527-2/1  |
| Tensile Strength                                |               |                   |              |
| Yield <sup>2</sup>                              | 57.6          | MPa               | ASTM D638    |
| Yield                                           | 56.8          | MPa               | ISO 527-2/50 |
| Break <sup>3</sup>                              | 59.1          | MPa               | ASTM D638    |
| Break                                           | 55.3          | MPa               | ISO 527-2/50 |
| Tensile Elongation                              |               |                   |              |
| Yield <sup>4</sup>                              | 5.6           | %                 | ASTM D638    |
| Yield                                           | 5.4           | %                 | ISO 527-2/50 |
| Break <sup>5</sup>                              | 120           | %                 | ASTM D638    |
| Break                                           | 110           | %                 | ISO 527-2/50 |
| Flexural Modulus                                |               |                   |              |
| 50.0 mm Span <sup>6</sup>                       | 2180          | MPa               | ASTM D790    |
| -- <sup>7</sup>                                 | 2120          | MPa               | ISO 178      |
| Flexural Stress                                 |               |                   |              |
| --                                              | 88.6          | MPa               | ISO 178      |
| Yield, 50.0 mm Span <sup>8</sup>                | 92.0          | MPa               | ASTM D790    |
| Impact                                          | Nominal Value | Unit              | Test Method  |
| Charpy Notched Impact Strength <sup>9</sup>     |               |                   | ISO 179/1eA  |
| -30°C                                           | 60            | kJ/m <sup>2</sup> |              |
| 23°C                                            | 70            | 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                                           | 710           | J/m               | ASTM D256    |
| 23°C                                            | 820           | J/m               | ASTM D256    |
| -30°C <sup>11</sup>                             | 55            | 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                        |               |                   | ASTM D3763   |
| -30°C, Total Energy                             | 77.4          | J                 |              |
| 23°C, Total Energy                              | 75.5          | J                 |              |
| Thermal                                         | Nominal Value | Unit              | Test Method  |
| Deflection Temperature Under Load               |               |                   |              |
| 1.8 MPa, Unannealed, 3.20 mm                    | 121           | °C                | ASTM D648    |
| 1.8 MPa, Unannealed, 64.0 mm Span <sup>14</sup> | 116           | °C                | ISO 75-2/Af  |
| Vicat Softening Temperature                     |               |                   |              |

|                                        |                   |          |                                           |
|----------------------------------------|-------------------|----------|-------------------------------------------|
| --                                     | 139               | °C       | ASTM D1525, ISO 306/B120 11 <sup>15</sup> |
| --                                     | 138               | °C       | ISO 306/B50                               |
| Ball Pressure Test (125°C)             | Pass              |          | IEC 60695-10-2                            |
| CLTE                                   |                   |          |                                           |
| Flow : -40 to 95°C                     | 6.7E-5            | cm/cm/°C | ASTM E831                                 |
| Flow : 23 to 80°C                      | 6.7E-5            | cm/cm/°C | ISO 11359-2                               |
| Transverse : -40 to 95°C               | 8.0E-5            | cm/cm/°C | ASTM E831                                 |
| Transverse : 23 to 80°C                | 8.0E-5            | cm/cm/°C | ISO 11359-2                               |
| RTI Elec                               | 130               | °C       | UL 746                                    |
| RTI Str                                | 130               | °C       | UL 746                                    |
| Electrical                             | Nominal Value     | Unit     | Test Method                               |
| Surface Resistivity                    | > 1.0E+15         | ohms     | ASTM D257                                 |
| Volume Resistivity                     | > 1.0E+15         | ohms·cm  | ASTM D257                                 |
| Flammability                           | Nominal Value     | Unit     | Test Method                               |
| Flame Rating (3.00 mm)                 | V-2               |          | UL 94                                     |
| Glow Wire Flammability Index (3.00 mm) | 960               | °C       | IEC 60695-2-12                            |
| Glow Wire Ignition Temperature         |                   |          | IEC 60695-2-13                            |
| 0.800 mm                               | 850               | °C       |                                           |
| 3.00 mm                                | 850               | °C       |                                           |
| Optical                                | Nominal Value     | Unit     | Test Method                               |
| Transmittance (2540 µm)                | 82.0              | %        | ASTM D1003                                |
| Haze (2540 µm)                         | 3.0               | %        | ASTM D1003                                |
| Injection                              | Nominal Value     | Unit     |                                           |
| Drying Temperature                     | 121               | °C       |                                           |
| Drying Time                            | 3.0 to 4.0        | hr       |                                           |
| Drying Time, Maximum                   | 48                | hr       |                                           |
| Suggested Max Moisture                 | 0.020             | %        |                                           |
| Suggested Shot Size                    | 40 to 60          | %        |                                           |
| Rear Temperature                       | 217 to 293        | °C       |                                           |
| Middle Temperature                     | 282 to 304        | °C       |                                           |
| Front Temperature                      | 293 to 316        | °C       |                                           |
| Nozzle Temperature                     | 288 to 310        | °C       |                                           |
| Processing (Melt) Temp                 | 293 to 316        | °C       |                                           |
| Mold Temperature                       | 71.0 to 93.0      | °C       |                                           |
| Back Pressure                          | 0.345 to 0.689    | MPa      |                                           |
| Screw Speed                            | 40 to 70          | rpm      |                                           |
| Vent Depth                             | 0.025 to 0.076    | mm       |                                           |
| NOTE                                   |                   |          |                                           |
| 1.                                     | 50 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. | 80*10*4 mm                        |
| 15. | Rate A (50°C/h), Loading 2 (50 N) |

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### Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China

