

# LEXAN™ FXD1414T resin

Polycarbonate

SABIC Innovative Plastics Asia Pacific

## Message:

PC-siloxane copolymer in special light diffusion colors. Medium flow. Improved toughness compared to medium flow standard PC in same color. Color package may affect performance.

| General Information                        |                   |                        |                     |
|--------------------------------------------|-------------------|------------------------|---------------------|
| Features                                   | Copolymer         |                        |                     |
|                                            | Medium liquidity  |                        |                     |
|                                            | Good toughness    |                        |                     |
| RoHS Compliance                            | RoHS compliance   |                        |                     |
| Appearance                                 | Available colors  |                        |                     |
| Processing Method                          | Injection molding |                        |                     |
| Physical                                   | Nominal Value     | Unit                   | Test Method         |
| Specific Gravity                           | 1.18              | g/cm <sup>3</sup>      | 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) | 9.40              | cm <sup>3</sup> /10min | ISO 1133            |
| Molding Shrinkage                          |                   |                        | Internal method     |
| Flow <sup>1</sup>                          | 0.40 - 0.80       | %                      | Internal method     |
| Flow: 3.20mm                               | 0.40 - 0.80       | %                      | Internal method     |
| Transverse flow: 3.20mm                    | 0.40 - 0.80       | %                      | Internal method     |
| Water Absorption                           |                   |                        | ISO 62              |
| Saturated, 23°C                            | 0.12              | %                      | ISO 62              |
| Equilibrium, 23°C, 50% RH                  | 0.090             | %                      | ISO 62              |
| Mechanical                                 | Nominal Value     | Unit                   | Test Method         |
| Tensile Modulus                            |                   |                        |                     |
| -- <sup>2</sup>                            | 2240              | MPa                    | ASTM D638           |
| --                                         | 2300              | MPa                    | ISO 527-2/1         |
| Tensile Strength                           |                   |                        |                     |
| Yield <sup>3</sup>                         | 59.0              | MPa                    | ASTM D638           |
| Yield                                      | 57.0              | MPa                    | ISO 527-2/50        |
| Fracture <sup>4</sup>                      | 51.0              | MPa                    | ASTM D638           |
| Fracture                                   | 54.0              | MPa                    | ISO 527-2/50        |
| Tensile Elongation                         |                   |                        |                     |
| Yield <sup>5</sup>                         | 5.8               | %                      | ASTM D638           |
| Yield                                      | 5.4               | %                      | ISO 527-2/50        |
| Fracture <sup>6</sup>                      | 84                | %                      | ASTM D638           |
| Fracture                                   | 110               | %                      | ISO 527-2/50        |

|                                                |               |                   |                                          |
|------------------------------------------------|---------------|-------------------|------------------------------------------|
| Flexural Modulus                               |               |                   |                                          |
| 50.0mm span <sup>7</sup>                       | 2220          | MPa               | ASTM D790                                |
| -- <sup>8</sup>                                | 2150          | MPa               | ISO 178                                  |
| Flexural Stress                                |               |                   |                                          |
| --                                             | 89.0          | MPa               | ISO 178                                  |
| Yield, 50.0mm span <sup>9</sup>                | 85.0          | MPa               | ASTM D790                                |
| Impact                                         | Nominal Value | Unit              | Test Method                              |
| Charpy Notched Impact Strength <sup>10</sup>   |               |                   | ISO 179/1eA                              |
| -30°C                                          | 60            | kJ/m <sup>2</sup> | ISO 179/1eA                              |
| 23°C                                           | 70            | kJ/m <sup>2</sup> | ISO 179/1eA                              |
| Charpy Unnotched Impact Strength <sup>11</sup> |               |                   | ISO 179/1eU                              |
| -30°C                                          | No Break      |                   | ISO 179/1eU                              |
| 23°C                                           | No Break      |                   | ISO 179/1eU                              |
| Notched Izod Impact                            |               |                   |                                          |
| -30°C                                          | 720           | J/m               | ASTM D256                                |
| 23°C                                           | 820           | J/m               | ASTM D256                                |
| -30°C <sup>12</sup>                            | 55            | kJ/m <sup>2</sup> | ISO 180/1A                               |
| 23°C <sup>13</sup>                             | 65            | kJ/m <sup>2</sup> | ISO 180/1A                               |
| Unnotched Izod Impact Strength <sup>14</sup>   |               |                   | ISO 180/1U                               |
| -30°C                                          | No Break      |                   | ISO 180/1U                               |
| 23°C                                           | No Break      |                   | ISO 180/1U                               |
| Instrumented Dart Impact (23°C, Total Energy)  | 76.0          | J                 | ASTM D3763                               |
| Thermal                                        | Nominal Value | Unit              | Test Method                              |
| Deflection Temperature Under Load              |               |                   |                                          |
| 1.8 MPa, unannealed, 3.20mm                    | 122           | °C                | ASTM D648                                |
| 1.8 MPa, unannealed, 64.0mm span <sup>15</sup> | 116           | °C                | ISO 75-2/Af                              |
| Vicat Softening Temperature                    |               |                   |                                          |
| --                                             | 138           | °C                | ASTM D1525, ISO 306/B50 12 <sup>16</sup> |
| --                                             | 142           | °C                | ISO 306/B120                             |
| Ball Pressure Test (125°C)                     | Pass          |                   | IEC 60695-10-2                           |
| Linear thermal expansion coefficient           |               |                   |                                          |
| 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                              |
| Lateral: -40 to 95°C                           | 8.0E-5        | cm/cm/°C          | ASTM E831                                |
| Lateral: 23 to 80°C                            | 8.0E-5        | cm/cm/°C          | ISO 11359-2                              |
| Injection                                      | Nominal Value | Unit              |                                          |
| Drying Temperature                             | 121           | °C                |                                          |
| Drying Time                                    | 3.0 - 4.0     | hr                |                                          |
| Drying Time, Maximum                           | 48            | hr                |                                          |
| Suggested Max Moisture                         | 0.020         | %                 |                                          |
| Suggested Shot Size                            | 40 - 60       | %                 |                                          |

|                        |               |     |
|------------------------|---------------|-----|
| Rear Temperature       | 217 - 293     | °C  |
| Middle Temperature     | 282 - 304     | °C  |
| Front Temperature      | 293 - 316     | °C  |
| Nozzle Temperature     | 288 - 310     | °C  |
| Processing (Melt) Temp | 293 - 316     | °C  |
| Mold Temperature       | 71.0 - 93.0   | °C  |
| Back Pressure          | 0.345 - 0.689 | MPa |
| Screw Speed            | 40 - 70       | rpm |
| Vent Depth             | 0.025 - 0.076 | mm  |

#### NOTE

|     |                           |
|-----|---------------------------|
| 1.  | Tensile Bar               |
| 2.  | 50 mm/min                 |
| 3.  | Type 1, 50mm/min          |
| 4.  | Type 1, 50mm/min          |
| 5.  | Type 1, 50mm/min          |
| 6.  | Type 1, 50mm/min          |
| 7.  | 1.3 mm/min                |
| 8.  | 2.0 mm/min                |
| 9.  | 1.3 mm/min                |
| 10. | 80*10*3 sp=62mm           |
| 11. | 80*10*3 sp=62mm           |
| 12. | 80*10*3                   |
| 13. | 80*10*3                   |
| 14. | 80*10*3                   |
| 15. | 80*10*4 mm                |
| 16. | 标准 B (120°C/h), 载荷2 (50N) |

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