

# LEXAN™ 143R resin

Polycarbonate

SABIC Innovative Plastics

## Message:

Nonhalogenated. 10.5 MFR. UV-stabilized. Internal mold release.

| General Information                                          |                   |                   |                 |
|--------------------------------------------------------------|-------------------|-------------------|-----------------|
| UL YellowCard                                                | E45587-236868     | E207780-100738000 |                 |
| Additive                                                     | demoulding        |                   |                 |
|                                                              | UV stabilizer     |                   |                 |
| Features                                                     | Halogen-free      |                   |                 |
| Processing Method                                            | Injection molding |                   |                 |
| Physical                                                     | Nominal Value     | Unit              | Test Method     |
| Specific Gravity                                             |                   |                   | ASTM D792       |
| --                                                           | 1.20              | g/cm³             | ASTM D792       |
| --                                                           | 1.19              | g/cm³             | ASTM D792       |
| Specific Volume                                              | 0.835             | cm³/g             | ASTM D792       |
| Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)                     | 11                | g/10 min          | ASTM D1238      |
| Molding Shrinkage - Flow (3.20 mm)                           | 0.50 - 0.70       | %                 | Internal method |
| Water Absorption                                             |                   |                   | ASTM D570       |
| 24 hr                                                        | 0.15              | %                 | ASTM D570       |
| Equilibrium, 23°C                                            | 0.35              | %                 | ASTM D570       |
| Equilibrium, 100°C                                           | 0.58              | %                 | ASTM D570       |
| Outdoor Suitability                                          | f1                |                   | UL 746C         |
| Hardness                                                     | Nominal Value     | Unit              | Test Method     |
| Rockwell Hardness                                            |                   |                   | ASTM D785       |
| Class m                                                      | 70                |                   | ASTM D785       |
| Class r                                                      | 118               |                   | ASTM D785       |
| Mechanical                                                   | Nominal Value     | Unit              | Test Method     |
| Tensile Strength <sup>1</sup>                                |                   |                   | ASTM D638       |
| Yield                                                        | 62.1              | MPa               | ASTM D638       |
| Fracture                                                     | 65.5              | MPa               | ASTM D638       |
| Tensile Elongation <sup>2</sup>                              |                   |                   | ASTM D638       |
| Yield                                                        | 7.0               | %                 | ASTM D638       |
| Fracture                                                     | 110               | %                 | ASTM D638       |
| Flexural Modulus <sup>3</sup> (50.0 mm Span)                 | 2340              | MPa               | ASTM D790       |
| Flexural Strength <sup>4</sup> (Yield, 50.0 mm Span)         | 93.1              | MPa               | ASTM D790       |
| Taber Abrasion Resistance (1000 Cycles, 1000 g, CS-17 Wheel) | 10.0              | mg                | ASTM D1044      |

| Impact                                | Nominal Value | Unit              | Test Method             |
|---------------------------------------|---------------|-------------------|-------------------------|
| Notched Izod Impact (23°C)            | 800           | J/m               | ASTM D256               |
| Unnotched Izod Impact (23°C)          | 3200          | J/m               | ASTM D4812              |
| Dart Drop Impact (23°C)               | 169           | J                 | ASTM D3029              |
| Tensile Impact Strength <sup>5</sup>  | 546           | kJ/m <sup>2</sup> | ASTM D1822              |
| Thermal                               | Nominal Value | Unit              | Test Method             |
| Deflection Temperature Under Load     |               |                   | ASTM D648               |
| 0.45 MPa, unannealed, 6.40mm          | 138           | °C                | ASTM D648               |
| 1.8 MPa, unannealed, 6.40mm           | 132           | °C                | ASTM D648               |
| Vicat Softening Temperature           | 154           | °C                | ASTM D1525 <sup>6</sup> |
| CLTE - Flow (-40 to 95°C)             | 6.8E-5        | cm/cm/°C          | ASTM E831               |
| Specific Heat                         | 1260          | J/kg/°C           | ASTM C351               |
| Thermal Conductivity                  | 0.19          | W/m/K             | ASTM C177               |
| RTI Elec                              | 130           | °C                | UL 746                  |
| RTI Imp                               | 130           | °C                | UL 746                  |
| RTI                                   | 130           | °C                | UL 746                  |
| Electrical                            | Nominal Value | Unit              | Test Method             |
| Volume Resistivity                    | > 1.0E+17     | ohms · cm         | ASTM D257               |
| Dielectric Strength (3.20 mm, in Air) | 15            | kV/mm             | ASTM D149               |
| Dielectric Constant                   |               |                   | ASTM D150               |
| 50 Hz                                 | 3.17          |                   | ASTM D150               |
| 60 Hz                                 | 3.17          |                   | ASTM D150               |
| 1 MHz                                 | 2.96          |                   | ASTM D150               |
| Dissipation Factor                    |               |                   | ASTM D150               |
| 50 Hz                                 | 9.0E-4        |                   | ASTM D150               |
| 60 Hz                                 | 9.0E-4        |                   | ASTM D150               |
| 1 MHz                                 | 0.010         |                   | ASTM D150               |
| Comparative Tracking Index (CTI)      | PLC 2         |                   | UL 746                  |
| High Amp Arc Ignition (HAI)           | PLC 1         |                   | UL 746                  |
| High Voltage Arc Tracking Rate (HVTR) | PLC 2         |                   | UL 746                  |
| Hot-wire Ignition (HWI)               | PLC 4         |                   | UL 746                  |
| Flammability                          | Nominal Value | Unit              | Test Method             |
| Flame Rating (0.762 mm)               | HB            |                   | UL 94                   |
| Oxygen Index                          | 25            | %                 | ASTM D2863              |
| Optical                               | Nominal Value | Unit              | Test Method             |
| Refractive Index                      | 1.586         |                   | ASTM D542               |
| Transmittance (2540 µm)               | 88.0          | %                 | ASTM D1003              |
| Haze (2540 µm)                        | 1.0           | %                 | ASTM D1003              |
| Injection                             | Nominal Value | Unit              | Test Method             |
| 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       | 271 - 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       | 71.1 - 93.3   | °C  |
| Back Pressure          | 0.345 - 0.689 | MPa |
| Screw Speed            | 40 - 70       | rpm |
| Vent Depth             | 0.025 - 0.076 | mm  |

#### NOTE

- |    |                           |
|----|---------------------------|
| 1. | Type 1, 50mm/min          |
| 2. | Type 1, 50mm/min          |
| 3. | 1.3 mm/min                |
| 4. | 1.3 mm/min                |
| 5. | Type S                    |
| 6. | 标准 B (120°C/h), 载荷2 (50N) |

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