

LEXAN™ Resin 123R - Europe

Monday, April 2, 2018

General Information

Product Description

LEXAN 123R is a low viscosity multi purpose U.V. stabilized grade and contains a release agent to ensure easy processing. LEXAN 123R is available in transparent, translucent and opaque colours.

General

| | | |
|-------------------|-----------------------|-----------------|
| Material Status | • Commercial: Active | |
| Availability | • Europe | |
| Additive | • Mold Release | • UV Stabilizer |
| Features | • Good Processability | • Low Viscosity |
| RoHS Compliance | • RoHS Compliant | |
| Appearance | • Clear/Transparent | • Opaque |
| | • Colors Available | • Translucent |
| Processing Method | • Injection Molding | |

ASTM & ISO Properties ¹

| Physical | Nominal Value | Unit | Test Method |
|--|---------------|------------------------|-----------------|
| Density | 1.20 | g/cm ³ | ISO 1183 |
| Melt Volume-Flow Rate (MVR) (300°C/1.2 kg) | 21.0 | cm ³ /10min | ISO 1133 |
| Molding Shrinkage - Flow ² | 0.50 to 0.70 | % | Internal Method |
| Water Absorption (Saturation, 23°C) | 0.35 | % | ISO 62 |
| Water Absorption (Equilibrium, 23°C, 50% RH) | 0.15 | % | ISO 62 |
| Outdoor Suitability | f1 | | UL 746C |
| Mechanical | Nominal Value | Unit | Test Method |
| Tensile Modulus | 2350 | MPa | ISO 527-2/1 |
| Tensile Stress (Yield) | 63.0 | MPa | ISO 527-2/50 |
| Tensile Stress (Break) | 65.0 | MPa | ISO 527-2/50 |
| Tensile Strain (Yield) | 6.0 | % | ISO 527-2/50 |
| Tensile Strain (Break) | 100 | % | ISO 527-2/50 |
| Flexural Modulus ³ | 2300 | MPa | ISO 178 |
| Flexural Stress ^{3, 4} | 90.0 | MPa | ISO 178 |
| Taber Abrasion Resistance | | | Internal Method |
| 1000 Cycles, 1000 g, CS-17 Wheel | 10.0 | mg | |

Disclaimer : THE MATERIALS, PRODUCTS AND SERVICES OF SAUDI BASIC INDUSTRIES CORPORATION (SABIC) OR ITS SUBSIDIARIES OR AFFILIATES ("SELLER") ARE SOLD SUBJECT TO SELLER'S STANDARD CONDITIONS OF SALE, WHICH ARE AVAILABLE UPON REQUEST. INFORMATION AND RECOMMENDATIONS CONTAINED IN THIS DOCUMENT ARE GIVEN IN GOOD FAITH. HOWEVER, SELLER MAKES NO EXPRESS OR IMPLIED REPRESENTATION, WARRANTY OR GUARANTEE (i) THAT ANY RESULTS DESCRIBED IN THIS DOCUMENT WILL BE OBTAINED UNDER END-USE CONDITIONS, OR (ii) AS TO THE EFFECTIVENESS OR SAFETY OF ANY DESIGN OR APPLICATION INCORPORATING SELLER'S MATERIALS, PRODUCTS, SERVICES OR RECOMMENDATIONS. UNLESS OTHERWISE PROVIDED IN SELLER'S STANDARD CONDITIONS OF SALE, SELLER SHALL NOT BE RESPONSIBLE FOR ANY LOSS RESULTING FROM ANY USE OF ITS MATERIALS, PRODUCTS, SERVICES OR RECOMMENDATIONS DESCRIBED IN THIS DOCUMENT. Each user is responsible for making its own determination as to the suitability of Seller's materials, products, services or recommendations for the user's particular use through appropriate end-use and other testing and analysis. Nothing in any document or oral statement shall be deemed to alter or waive any provision of Seller's Standard Conditions of Sale or this Disclaimer, unless it is specifically agreed to in a writing signed by Seller. Statements by Seller concerning a possible use of any material, product, service or design do not, are not intended to, and should not be construed to grant any license under any patent or other intellectual property right of Seller or as a recommendation for the use of any material, product, service or design in a manner that infringes any patent or other intellectual property right.

SABIC and brands marked with ™ are trademarks of SABIC or its subsidiaries or affiliates.

© 2018 Saudi Basic Industries Corporation (SABIC). All Rights Reserved.

LEXAN™ Resin 123R - Europe

SABIC - Polycarbonate

| Impact | Nominal Value | Unit | Test Method |
|---|---------------|-------------------|----------------|
| Charpy Notched Impact Strength | | | |
| -30°C ⁵ | 12 | kJ/m ² | ISO 179/1eA |
| 23°C ⁵ | 65 | kJ/m ² | ISO 179/1eA |
| 23°C | 35 | kJ/m ² | ISO 179/2C |
| Charpy Unnotched Impact Strength ⁵ | | | ISO 179/1eU |
| -30°C | No Break | | |
| 23°C | No Break | | |
| Notched Izod Impact Strength ⁶ | | | ISO 180/1A |
| -30°C | 11 | kJ/m ² | |
| 23°C | 65 | kJ/m ² | |
| Unnotched Izod Impact Strength ⁶ | | | ISO 180/1U |
| -30°C | No Break | | |
| 23°C | No Break | | |
| Hardness | Nominal Value | Unit | Test Method |
| Ball Indentation Hardness (H 358/30) | 95.0 | MPa | ISO 2039-1 |
| Thermal | Nominal Value | Unit | Test Method |
| Heat Deflection Temperature ⁷ | | | ISO 75-2/Be |
| 0.45 MPa, Unannealed, 100 mm Span | 133 | °C | |
| Heat Deflection Temperature ⁷ | | | ISO 75-2/Ae |
| 1.8 MPa, Unannealed, 100 mm Span | 122 | °C | |
| Vicat Softening Temperature | | | |
| -- | 140 | °C | ISO 306/B50 |
| -- | 141 | °C | ISO 306/B120 |
| Ball Pressure Test | | | IEC 60695-10-2 |
| 125°C | Pass | | |
| 140°C ⁸ | Pass | | |
| CLTE - Flow (23 to 80°C) | 7.0E-5 | cm/cm/°C | ISO 11359-2 |
| Thermal Conductivity | 0.20 | W/m/K | ISO 8302 |
| RTI Elec | 130 | °C | UL 746 |
| RTI Imp | 130 | °C | UL 746 |
| RTI Str | 130 | °C | UL 746 |
| Electrical | Nominal Value | Unit | Test Method |
| Surface Resistivity | > 1.0E+15 | ohms | IEC 60093 |
| Volume Resistivity | > 1.0E+15 | ohms·cm | IEC 60093 |
| Electric Strength (3.20 mm, in Oil) | 17 | kV/mm | IEC 60243-1 |
| Relative Permittivity | | | IEC 60250 |
| 50 Hz | 2.70 | | |
| 60 Hz | 2.70 | | |
| 1 MHz | 2.70 | | |
| Dissipation Factor | | | IEC 60250 |
| 50 Hz | 1.0E-3 | | |
| 60 Hz | 1.0E-3 | | |
| 1 MHz | 0.010 | | |

Disclaimer : THE MATERIALS, PRODUCTS AND SERVICES OF SAUDI BASIC INDUSTRIES CORPORATION (SABIC) OR ITS SUBSIDIARIES OR AFFILIATES ("SELLER") ARE SOLD SUBJECT TO SELLER'S STANDARD CONDITIONS OF SALE, WHICH ARE AVAILABLE UPON REQUEST. INFORMATION AND RECOMMENDATIONS CONTAINED IN THIS DOCUMENT ARE GIVEN IN GOOD FAITH. HOWEVER, SELLER MAKES NO EXPRESS OR IMPLIED REPRESENTATION, WARRANTY OR GUARANTEE (i) THAT ANY RESULTS DESCRIBED IN THIS DOCUMENT WILL BE OBTAINED UNDER END-USE CONDITIONS, OR (ii) AS TO THE EFFECTIVENESS OR SAFETY OF ANY DESIGN OR APPLICATION INCORPORATING SELLER'S MATERIALS, PRODUCTS, SERVICES OR RECOMMENDATIONS. UNLESS OTHERWISE PROVIDED IN SELLER'S STANDARD CONDITIONS OF SALE, SELLER SHALL NOT BE RESPONSIBLE FOR ANY LOSS RESULTING FROM ANY USE OF ITS MATERIALS, PRODUCTS, SERVICES OR RECOMMENDATIONS DESCRIBED IN THIS DOCUMENT. Each user is responsible for making its own determination as to the suitability of Seller's materials, products, services or recommendations for the user's particular use through appropriate end-use and other testing and analysis. Nothing in any document or oral statement shall be deemed to alter or waive any provision of Seller's Standard Conditions of Sale or this Disclaimer, unless it is specifically agreed to in a writing signed by Seller. Statements by Seller concerning a possible use of any material, product, service or design do not, are not intended to, and should not be construed to grant any license under any patent or other intellectual property right of Seller or as a recommendation for the use of any material, product, service or design in a manner that infringes any patent or other intellectual property right.

SABIC and brands marked with ™ are trademarks of SABIC or its subsidiaries or affiliates.

© 2018 Saudi Basic Industries Corporation (SABIC). All Rights Reserved.

LEXAN™ Resin 123R - Europe

SABIC - Polycarbonate

| Flammability | Nominal Value | Unit | Test Method |
|---------------------------------------|---------------|------|----------------|
| Flame Rating | | | UL 94 |
| 0.75 mm | | HB | |
| 3.0 mm | | HB | |
| Glow Wire Flammability Index (1.0 mm) | 850 | °C | IEC 60695-2-12 |
| Oxygen Index | 25 | % | ISO 4589-2 |
| Optical | Nominal Value | Unit | Test Method |
| Refractive Index | 1.586 | | ISO 489 |
| Transmittance (2540 µm) | 88.0 to 90.0 | % | ASTM D1003 |
| Haze (2540 µm) | < 0.80 | % | ASTM D1003 |

Processing Information

| Injection | Nominal Value | Unit |
|------------------------|---------------|------|
| Drying Temperature | 120 | °C |
| Drying Time | 2.0 to 4.0 | hr |
| Suggested Max Moisture | 0.020 | % |
| Hopper Temperature | 60 to 80 | °C |
| Rear Temperature | 260 to 280 | °C |
| Middle Temperature | 270 to 290 | °C |
| Front Temperature | 280 to 300 | °C |
| Nozzle Temperature | 270 to 290 | °C |
| Processing (Melt) Temp | 280 to 300 | °C |
| Mold Temperature | 80 to 100 | °C |

Notes

¹ Typical properties: these are not to be construed as specifications.

² Tensile Bar

³ 2.0 mm/min

⁴ Yield

⁵ 80*10*3 sp=62mm

⁶ 80*10*3

⁷ 120*10*4 mm

⁸ Approximate maximum

Disclaimer : THE MATERIALS, PRODUCTS AND SERVICES OF SAUDI BASIC INDUSTRIES CORPORATION (SABIC) OR ITS SUBSIDIARIES OR AFFILIATES ("SELLER") ARE SOLD SUBJECT TO SELLER'S STANDARD CONDITIONS OF SALE, WHICH ARE AVAILABLE UPON REQUEST. INFORMATION AND RECOMMENDATIONS CONTAINED IN THIS DOCUMENT ARE GIVEN IN GOOD FAITH. HOWEVER, SELLER MAKES NO EXPRESS OR IMPLIED REPRESENTATION, WARRANTY OR GUARANTEE (i) THAT ANY RESULTS DESCRIBED IN THIS DOCUMENT WILL BE OBTAINED UNDER END-USE CONDITIONS, OR (ii) AS TO THE EFFECTIVENESS OR SAFETY OF ANY DESIGN OR APPLICATION INCORPORATING SELLER'S MATERIALS, PRODUCTS, SERVICES OR RECOMMENDATIONS. UNLESS OTHERWISE PROVIDED IN SELLER'S STANDARD CONDITIONS OF SALE, SELLER SHALL NOT BE RESPONSIBLE FOR ANY LOSS RESULTING FROM ANY USE OF ITS MATERIALS, PRODUCTS, SERVICES OR RECOMMENDATIONS DESCRIBED IN THIS DOCUMENT. Each user is responsible for making its own determination as to the suitability of Seller's materials, products, services or recommendations for the user's particular use through appropriate end-use and other testing and analysis. Nothing in any document or oral statement shall be deemed to alter or waive any provision of Seller's Standard Conditions of Sale or this Disclaimer, unless it is specifically agreed to in a writing signed by Seller. Statements by Seller concerning a possible use of any material, product, service or design do not, are not intended to, and should not be construed to grant any license under any patent or other intellectual property right of Seller or as a recommendation for the use of any material, product, service or design in a manner that infringes any patent or other intellectual property right.

SABIC and brands marked with ™ are trademarks of SABIC or its subsidiaries or affiliates.

© 2018 Saudi Basic Industries Corporation (SABIC). All Rights Reserved.