

SABIC Innovative Plastics Lexan® GLX143 PC (Europe-Africa-Middle East)

Category : Polymer , Thermoplastic , Polycarbonate (PC)

Material Notes:

Lexan® GLX resin is a medium viscosity grade which is an excellent candidate for applications with high optical quality requirements, such as automotive glazing applications. Available in transparent clear (automotive glazing colors under development). This data was supplied by SABIC-IP for the Europe-Africa-Middle East region.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Lexan-GLX143-PC-Europe-Africa-Middle-East.php

| Physical Properties | Metric | English | Comments |
|------------------------------------|---|---|--|
| Density | 1.20 g/cc | 0.0434 lb/in ³ | ISO 1183 |
| Moisture Absorption at Equilibrium | 0.15 % | 0.15 % | 23°C / 50% RH; ISO 62 |
| Water Absorption at Saturation | 0.35 % @Temperature 23.0 °C | 0.35 % @Temperature 73.4 °F | ISO 62 |
| Linear Mold Shrinkage, Flow | 0.0050 - 0.0070 cm/cm | 0.0050 - 0.0070 in/in | on tensile bar; SABIC Method |
| Melt Flow | 12 g/10 min @Load 1.20 kg, Temperature 300 °C | 12 g/10 min @Load 2.65 lb, Temperature 572 °F | [cm ³ /10 min] Melt Volume Rate; ISO 1133 |

| Mechanical Properties | Metric | English | Comments |
|------------------------------|---|---|---------------------|
| Tensile Strength at Break | 70.0 MPa | 10200 psi | 50 mm/min; ISO 527 |
| Tensile Strength, Yield | 65.0 MPa | 9430 psi | 50 mm/min; ISO 527 |
| Elongation at Break | 120 % | 120 % | 50 mm/min; ISO 527 |
| Elongation at Yield | 6.0 % | 6.0 % | 50 mm/min; ISO 527 |
| Tensile Modulus | 2.35 GPa | 341 ksi | 1 mm/min; ISO 527 |
| Flexural Yield Strength | 90.0 MPa | 13100 psi | 2 mm/min; ISO 178 |
| Flexural Modulus | 2.30 GPa | 334 ksi | 2 mm/min; ISO 178 |
| Izod Impact, Notched (ISO) | 12.0 kJ/m ² @Temperature -30.0 °C | 5.71 ft-lb/in ² @Temperature -22.0 °F | 80*10*3; ISO 180/1A |
| | 70.0 kJ/m ² @Temperature 23.0 °C | 33.3 ft-lb/in ² @Temperature 73.4 °F | 80*10*3; ISO 180/1A |
| Izod Impact, Unnotched (ISO) | NB | NB | 80*10*3; ISO 180/1U |

| Mechanical Properties | @Temperature 23.0 °C Metric | @Temperature 73.4 °F English | Comments |
|-------------------------|--------------------------------|---------------------------------|--|
| | NB | NB | 80*10*3; ISO 180/1U |
| | @Temperature -30.0 °C | @Temperature -22.0 °F | |
| Charpy Impact Unnotched | NB | NB | Edgew 80*10*3 sp=62mm; ISO 179/1eU |
| | @Temperature 23.0 °C | @Temperature 73.4 °F | |
| | NB | NB | Edgew 80*10*3 sp=62mm; ISO 179/1eU |
| | @Temperature -30.0 °C | @Temperature -22.0 °F | |
| Charpy Impact, Notched | 1.40 J/cm ² | 6.66 ft-lb/in ² | V-notch Edgew 80*10*3 sp=62mm; ISO 179/1eA |
| | @Temperature -30.0 °C | @Temperature -22.0 °F | |
| | 7.30 J/cm ² | 34.7 ft-lb/in ² | V-notch Edgew 80*10*3 sp=62mm; ISO 179/1eA |
| | @Temperature 23.0 °C | @Temperature 73.4 °F | |

| Thermal Properties | Metric | English | Comments |
|---|-----------------------------|------------------------------------|--|
| CTE, linear, Parallel to Flow | 70.0 µm/m-°C | 38.9 µin/in-°F | ISO 11359-2 |
| | @Temperature 23.0 - 80.0 °C | @Temperature 73.4 - 176 °F | |
| CTE, linear, Transverse to Flow | 70.0 µm/m-°C | 38.9 µin/in-°F | ISO 11359-2 |
| | @Temperature 23.0 - 80.0 °C | @Temperature 73.4 - 176 °F | |
| Thermal Conductivity | 0.200 W/m-K | 1.39 BTU-in/hr-ft ² -°F | ISO 8302 |
| Deflection Temperature at 0.46 MPa (66 psi) | 136 °C | 277 °F | Edgew 120*10*4 sp=100mm; ISO 75/Be |
| Deflection Temperature at 1.8 MPa (264 psi) | 124 °C | 255 °F | Flatw 80*10*4 sp=64mm; ISO 75/Af |
| | 125 °C | 257 °F | Edgew 120*10*4 sp=100mm; ISO 75/Ae |
| Vicat Softening Point | 142 °C | 288 °F | Rate B/50; ISO 306 |
| | 143 °C | 289 °F | Rate B/120; ISO 306 |
| UL RTI, Electrical | 130 °C | 266 °F | UL 746B |
| UL RTI, Mechanical with Impact | 125 °C | 257 °F | UL 746B |
| UL RTI, Mechanical without Impact | 125 °C | 257 °F | UL 746B |
| Oxygen Index | 25 % | 25 % | LOI; ISO 4589 |
| Glow Wire Test | 850 °C | 1560 °F | Glow Wire Flammability Index; IEC 60695-2-12 |

| Thermal Properties | @Thickness 1.00 mm Metric | @Thickness 0.0394 in English | Comments |
|---------------------------|---------------------------------|----------------------------------|--|
| Optical Properties | Metric | English | Comments |
| Refractive Index | 1.586 | 1.586 | ISO 489 |
| Haze | <= 0.80 % @Thickness 2.54 mm | <= 0.80 % @Thickness 0.100 in | ASTM D 1003 |
| Transmission, Visible | 86 % @Thickness 6.00 mm | 86 % @Thickness 0.236 in | Luminous Transmittance, clear transparent; ASTM D 1003 |
| | 87 % @Thickness 5.00 mm | 87 % @Thickness 0.197 in | Luminous Transmittance, clear transparent; ASTM D 1003 |
| | 88 % @Thickness 4.00 mm | 88 % @Thickness 0.157 in | Luminous Transmittance, clear transparent; ASTM D 1003 |
| | 89 % @Thickness 3.00 mm | 89 % @Thickness 0.118 in | Luminous Transmittance, clear transparent; ASTM D 1003 |

| Electrical Properties | Metric | English | Comments |
|-----------------------|-------------------------------------|-------------------------------------|-------------------------|
| Dielectric Constant | 2.7 @Frequency 1.00e+6 Hz | 2.7 @Frequency 1.00e+6 Hz | IEC 60250 |
| | 2.7 @Frequency 50.0 - 60.0 Hz | 2.7 @Frequency 50.0 - 60.0 Hz | IEC 60250 |
| Dielectric Strength | 15.0 kV/mm @Thickness 1.00 mm | 381 kV/in @Thickness 0.0394 in | short time; IEC 60243-1 |
| | 17.0 kV/mm @Thickness 3.20 mm | 432 kV/in @Thickness 0.126 in | in oil; IEC 60243-1 |
| Dissipation Factor | 0.0010 @Frequency 50.0 - 60.0 Hz | 0.0010 @Frequency 50.0 - 60.0 Hz | IEC 60250 |
| | 0.010 @Frequency 1.00e+6 Hz | 0.010 @Frequency 1.00e+6 Hz | IEC 60250 |

| Descriptive Properties | Value | Comments |
|-----------------------------------|--------|----------------|
| Ball Pressure Test, 125°C +/- 2°C | PASSES | IEC 60695-10-2 |

| Descriptive Properties | Value | Comments |
|------------------------|-------|----------|
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