

SABIC Innovative Plastics Lexan® 953A PC (Europe-Africa-Middle East)

Category : Polymer , Thermoplastic , Polycarbonate (PC)

Material Notes:

LEXAN 953A is a high viscosity flame retardant, UV-stabilized grade, especially suitable for electrical applications.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Lexan-953A-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 | 0.150 % | 0.150 % | 23°C / 50% RH; ISO 62 |
| Water Absorption at Saturation | 0.35 % | 0.35 % | ISO 62 |
| Linear Mold Shrinkage, Flow | 0.0050 - 0.0070 cm/cm | 0.0050 - 0.0070 in/in | on Tensile Bar; SABIC Method |
| Melt Index of Compound | 6.0 g/10 min @Load 1.20 kg, Temperature 300 °C | 6.0 g/10 min @Load 2.65 lb, Temperature 572 °F | MVR [cm ³ /10 min]; ISO 1133 |

| Mechanical Properties | Metric | English | Comments |
|------------------------------|---|---|---------------------|
| Hardness, Rockwell R | 118 | 118 | ISO 2039-2 |
| Hardness, H358/30 | 95.0 MPa | 13800 psi | ISO 2039-1 |
| Tensile Strength at Break | 65.0 MPa | 9430 psi | 50 mm/min; ISO 527 |
| Tensile Strength, Yield | 63.0 MPa | 9140 psi | 50 mm/min; ISO 527 |
| Elongation at Break | 110 % | 110 % | 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) | 70.0 kJ/m ² | 33.3 ft-lb/in ² | 80*10*3; ISO 180/1A |
| | 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 |
| Izod Impact, Unnotched (ISO) | NB | NB | 80*10*3; ISO 180/1U |
| | NB | NB | 80*10*3; ISO 180/1U |

| Mechanical Properties | @Temperature -30.0 °C Metric | @Temperature -22.0 °F English | Comments |
|--------------------------------|---|---|------------------------------------|
| Charpy Impact Unnotched | NB | NB | Edgew 80*10*3 sp=62mm; ISO 179/1eU |
| | NB @Temperature -30.0 °C | NB @Temperature -22.0 °F | Edgew 80*10*3 sp=62mm; ISO 179/1eU |
| Charpy Impact, Notched | 3.50 J/cm ² | 16.7 ft-lb/in ² | ISO 179/2C |
| | 7.50 J/cm ² | 35.7 ft-lb/in ² | Edgew 80*10*3 sp=62mm; ISO 179/1eA |
| | 1.40 J/cm ² @Temperature -30.0 °C | 6.66 ft-lb/in ² @Temperature -22.0 °F | Edgew 80*10*3 sp=62mm; ISO 179/1eA |
| Taber Abrasion, mg/1000 Cycles | 10 | 10 | CS-17, 1 kg; SABIC Method |

| Thermal Properties | Metric | English | Comments |
|---|---|--|------------------------------------|
| CTE, linear, Parallel to Flow | 70.0 μm/m-°C @Temperature 23.0 - 80.0 °C | 38.9 μin/in-°F @Temperature 73.4 - 176 °F | ISO 11359-2 |
| 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) | 141 °C | 286 °F | Edgew 120*10*4 sp=100mm; ISO 75/Be |
| Deflection Temperature at 1.8 MPa (264 psi) | 130 °C | 266 °F | Edgew 120*10*4 sp=100mm; ISO 75/Ae |
| Vicat Softening Point | 144 °C | 291 °F | Rate B/50; ISO 306 |
| | 148 °C | 298 °F | Rate B/120; ISO 306 |
| UL RTI, Electrical | 130 °C | 266 °F | UL 746B |
| UL RTI, Mechanical with Impact | 120 °C | 248 °F | UL 746B |
| UL RTI, Mechanical without Impact | 125 °C | 257 °F | UL 746B |
| Flammability, UL94 | V-2 @Thickness 1.50 mm | V-2 @Thickness 0.0591 in | UL 94 |
| | V-0 @Thickness 3.00 mm | V-0 @Thickness 0.118 in | UL 94 |
| Oxygen Index | 35 % | 35 % | ISO 4589 |
| Glow Wire Test | 850 °C @Thickness 1.00 mm | 1560 °F @Thickness 0.0394 in | IEC 60695-2-12 |

| Thermal Properties | 960 °C Metric | 1760 °F English | Comments |
|--------------------|--------------------|---------------------|---------------|
| | @Thickness 3.20 mm | @Thickness 0.126 in | COMMENTS 2-12 |

| Optical Properties | Metric | English | Comments |
|-----------------------|--------|---------|---------------------|
| Transmission, Visible | 88 % | 88 % | 2.54 mm; ASTM D1003 |

| Electrical Properties | Metric | English | Comments |
|-----------------------|---------------------------|---------------------------|---------------------|
| Volume Resistivity | >= 1.00e+15 ohm-cm | >= 1.00e+15 ohm-cm | IEC 60093 |
| Surface Resistance | >= 1.00e+15 ohm | >= 1.00e+15 ohm | ROA; IEC 60093 |
| Dielectric Constant | 2.7 | 2.7 | IEC 60250 |
| | @Frequency 1.00e+6 Hz | @Frequency 1.00e+6 Hz | |
| Dielectric Strength | 17.0 kV/mm | 432 kV/in | in oil; IEC 60243-1 |
| | @Thickness 3.20 mm | @Thickness 0.126 in | |
| Dissipation Factor | 0.0010 | 0.0010 | IEC 60250 |
| | @Frequency 50.0 - 60.0 Hz | @Frequency 50.0 - 60.0 Hz | |
| Dissipation Factor | 0.010 | 0.010 | IEC 60250 |
| | @Frequency 1.00e+6 Hz | @Frequency 1.00e+6 Hz | |

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

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