

SABIC Innovative Plastics Lexan® XHT4141 PC Copolymer (Europe-Africa-Middle East)

Category : Polymer , Thermoplastic , Polycarbonate (PC)

Material Notes:

XHT4141 is a high flow, high heat polycarbonate copolymer. It is available in a range of opaque and limited transparent colors.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Lexan-XHT4141-PC-Copolymer-Europe-Africa-Middle-East.php

| Physical Properties | Metric | English | Comments |
|--------------------------------|---|---|---|
| Specific Gravity | 1.20 g/cc | 1.20 g/cc | ASTM D792 |
| Density | 1.21 g/cc | 0.0437 lb/in ³ | ISO 1183 |
| Moisture Absorption | 0.250 % | 0.250 % | 23°C / 50% RH; ISO 62 |
| Water Absorption at Saturation | 0.50 % | 0.50 % | ISO 62 |
| Linear Mold Shrinkage, Flow | 0.0060 - 0.0095 cm/cm @Thickness 3.20 mm | 0.0060 - 0.0095 in/in @Thickness 0.126 in | SABIC Method |
| Melt Flow | 25 g/10 min @Load 2.16 kg, Temperature 330 °C | 25 g/10 min @Load 4.76 lb, Temperature 626 °F | ASTM D1238 |
| Melt Index of Compound | 24 g/10 min @Load 2.16 kg, Temperature 330 °C | 24 g/10 min @Load 4.76 lb, Temperature 626 °F | MVR [cm ³ /10 min]; ISO 1133 |

| Mechanical Properties | Metric | English | Comments |
|---------------------------|----------|-----------|------------------------------|
| Tensile Strength at Break | 67.0 MPa | 9720 psi | 50 mm/min; ISO 527 |
| | 69.0 MPa | 10000 psi | Type I, 50 mm/min; ASTM D638 |
| Tensile Strength, Yield | 77.0 MPa | 11200 psi | Type I, 50 mm/min; ASTM D638 |
| | 78.0 MPa | 11300 psi | 50 mm/min; ISO 527 |
| Elongation at Break | 50 % | 50 % | Type I, 50 mm/min; ASTM D638 |
| | 50 % | 50 % | 50 mm/min; ISO 527 |
| Elongation at Yield | 7.0 % | 7.0 % | Type I, 50 mm/min; ASTM D638 |
| | 7.0 % | 7.0 % | 50 mm/min; ISO 527 |
| Tensile Modulus | 2.73 GPa | 396 ksi | 5 mm/min; ASTM D638 |

| Mechanical Properties | 2.75 GPa Metric | 399 ksi English | 1 mm/min; ISO 527 Comments |
|------------------------------|--|---|------------------------------------|
| Flexural Yield Strength | 80.0 MPa | 11600 psi | 2 mm/min; ISO 178 |
| | 120 MPa | 17400 psi | 1.3 mm/min, 50 mm span; ASTM D790 |
| Flexural Modulus | 2.60 GPa | 377 ksi | 1.3 mm/min, 50 mm span; ASTM D790 |
| | 2.60 GPa | 377 ksi | 2 mm/min; ISO 178 |
| Izod Impact, Notched | 0.930 J/cm | 1.74 ft-lb/in | ASTM D256 |
| | 0.760 J/cm @Temperature -30.0 °C | 1.42 ft-lb/in @Temperature -22.0 °F | ASTM D256 |
| Izod Impact, Notched (ISO) | 10.0 kJ/m ² | 4.76 ft-lb/in ² | 80*10*3; ISO 180/1A |
| | 8.00 kJ/m ² @Temperature -30.0 °C | 3.81 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 @Temperature -30.0 °C | NB @Temperature -22.0 °F | 80*10*3; ISO 180/1U |
| 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 | 1.10 J/cm ² | 5.23 ft-lb/in ² | Edgew 80*10*3 sp=62mm; ISO 179/1eA |
| | 0.900 J/cm ² @Temperature -30.0 °C | 4.28 ft-lb/in ² @Temperature -22.0 °F | Edgew 80*10*3 sp=62mm; ISO 179/1eA |
| Dart Drop, Total Energy | 72.0 J | 53.1 ft-lb | ASTM D3763 |
| | @Temperature 23.0 °C | @Temperature 73.4 °F | |

| Thermal Properties | Metric | English | Comments |
|-------------------------------|------------------------------|-----------------------------|-------------|
| CTE, linear, Parallel to Flow | 60.0 µm/m-°C | 33.3 µin/in-°F | ASTM E 831 |
| | @Temperature -40.0 - 40.0 °C | @Temperature -40.0 - 104 °F | |
| | 60.0 µm/m-°C | 33.3 µin/in-°F | ISO 11359-2 |
| | @Temperature -40.0 - 40.0 °C | @Temperature -40.0 - 104 °F | |

| Thermal Properties <i>CTE, linear, transverse to Flow</i> | 60.0 µm/m-°C Metric | 33.3 µin/in-°F English | Comments ASTM E 831 |
|--|------------------------------|------------------------------------|----------------------------------|
| | @Temperature -40.0 - 40.0 °C | @Temperature -40.0 - 104 °F | |
| | 60.0 µm/m-°C | 33.3 µin/in-°F | ISO 11359-2 |
| | @Temperature -40.0 - 40.0 °C | @Temperature -40.0 - 104 °F | |
| Thermal Conductivity | 0.200 W/m-K | 1.39 BTU-in/hr-ft ² -°F | ASTM C177 |
| Deflection Temperature at 0.46 MPa (66 psi) | 173 °C | 343 °F | Flatw 80*10*4 sp=64mm; ISO 75/Bf |
| | 174 °C | 345 °F | unannealed; ASTM D648 |
| | @Thickness 3.20 mm | @Thickness 0.126 in | |
| Deflection Temperature at 1.8 MPa (264 psi) | 162 °C | 324 °F | Flatw 80*10*4 sp=64mm; ISO 75/Af |
| | 165 °C | 329 °F | unannealed; ASTM D648 |
| | @Thickness 3.20 mm | @Thickness 0.126 in | |
| Vicat Softening Point | 181 °C | 358 °F | Rate B/120; ISO 306 |
| | 183 °C | 361 °F | Rate B/50; ASTM D1525 |
| | 183 °C | 361 °F | Rate B/50; ISO 306 |
| UL RTI, Electrical | 150 °C | 302 °F | UL 746B |
| UL RTI, Mechanical with Impact | 130 °C | 266 °F | UL 746B |
| UL RTI, Mechanical without Impact | 150 °C | 302 °F | UL 746B |
| Flammability, UL94 | HB | HB | UL 94 |
| | @Thickness 1.50 mm | @Thickness 0.0591 in | |
| | HB | HB | UL 94 |
| | @Thickness 3.00 mm | @Thickness 0.118 in | |
| Glow Wire Test | 875 °C | 1610 °F | IEC 60695-2-13 |
| | 960 °C | 1760 °F | IEC 60695-2-12 |
| | @Thickness 3.00 mm | @Thickness 0.118 in | |

| Electrical Properties | Metric | English | Comments |
|-----------------------|--------------------|--------------------|-----------|
| Volume Resistivity | >= 1.00e+17 ohm-cm | >= 1.00e+17 ohm-cm | ASTM D257 |
| Surface Resistance | >= 1.00e+17 ohm | >= 1.00e+17 ohm | ASTM D257 |
| | 3.02 | 3.02 | |

| Electrical Properties | Metric | English | Comments |
|----------------------------|--------------------------|--------------------------|-----------|
| | @Frequency 1.00e+6 Hz | @Frequency 1.00e+6 Hz | |
| | 3.12 | 3.12 | ASTM D150 |
| | @Frequency 100 Hz | @Frequency 100 Hz | |
| Hot Wire Ignition, HWI | 15 - 30 sec | 15 - 30 sec | UL 746A |
| High Amp Arc Ignition, HAI | >= 120 arcs | >= 120 arcs | UL 746A |

| Descriptive Properties | Value | Comments |
|-----------------------------------|--------|----------------|
| Ball Pressure Test, 125°C +/- 2°C | Pass | IEC 60695-10-2 |
| Ball Pressure Test, 165°C +/- 2°C | PASSES | IEC 60695-10-2 |
| Metallized Haze Onset | 175°C | SABIC Method |

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