

LEXAN™ COPOLYMER XHT2171

REGION AMERICAS

DESCRIPTION

XHT2171 is a 55 MVR high flow, high heat polycarbonate copolymer enabling high aesthetics, thin wall and complex designs. It is available in a range of opaque colors.

TYPICAL PROPERTY VALUES

Revision 20170913

| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|--|----------------|-------------------|--------------|
| MECHANICAL | | | |
| Tensile Stress, yld, Type I, 50 mm/min | 73 | MPa | ASTM D 638 |
| Tensile Stress, brk, Type I, 50 mm/min | 60 | MPa | ASTM D 638 |
| Tensile Strain, yld, Type I, 50 mm/min | 7 | % | ASTM D 638 |
| Tensile Strain, brk, Type I, 50 mm/min | >30 | % | ASTM D 638 |
| Tensile Modulus, 5 mm/min | 2450 | MPa | ASTM D 638 |
| Flexural Stress, yld, 1.3 mm/min, 50 mm span | 115 | MPa | ASTM D 790 |
| Flexural Modulus, 1.3 mm/min, 50 mm span | 2600 | MPa | ASTM D 790 |
| Tensile Stress, yield, 50 mm/min | 74 | MPa | ISO 527 |
| Tensile Stress, break, 50 mm/min | 60 | MPa | ISO 527 |
| Tensile Strain, yield, 50 mm/min | 7 | % | ISO 527 |
| Tensile Strain, break, 50 mm/min | >50 | % | ISO 527 |
| Tensile Modulus, 1 mm/min | 2450 | MPa | ISO 527 |
| Flexural Stress, yield, 2 mm/min | 107 | MPa | ISO 178 |
| Flexural Modulus, 2 mm/min | 2400 | MPa | ISO 178 |
| Hardness, H358/30 | 147 | MPa | ISO 2039-1 |
| Hardness, Rockwell R | 125 | - | ISO 2039-2 |
| IMPACT | | | |
| Izod Impact, unnotched, 23°C | NB | J/m | ASTM D 4812 |
| Izod Impact, unnotched, -30°C | NB | J/m | ASTM D 4812 |
| Izod Impact, notched, 23°C | 80 | J/m | ASTM D 256 |
| Izod Impact, notched, -30°C | 75 | J/m | ASTM D 256 |
| Izod Impact, unnotched 80*10*3 +23°C | NB | kJ/m ² | ISO 180/1U |
| Izod Impact, unnotched 80*10*3 -30°C | NB | kJ/m ² | ISO 180/1U |
| Izod Impact, notched 80*10*3 +23°C | 9 | kJ/m ² | ISO 180/1A |

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|---|----------------|-------------------------|----------------|
| Izod Impact, notched 80*10*3 -30°C | 9 | kJ/m ² | ISO 180/1A |
| Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm | 10 | kJ/m ² | ISO 179/1eA |
| Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm | 10 | kJ/m ² | ISO 179/1eA |
| Charpy 23°C, Unnotch Edgew 80*10*3 sp=62mm | NB | kJ/m ² | ISO 179/1eU |
| Charpy -30°C, Unnotch Edgew 80*10*3 sp=62mm | NB | kJ/m ² | ISO 179/1eU |
| THERMAL | | | |
| Vicat Softening Temp, Rate B/50 | 164 | °C | ASTM D 1525 |
| Vicat Softening Temp, Rate B/120 | 165 | °C | ASTM D 1525 |
| HDT, 0.45 MPa, 3.2 mm, unannealed | 160 | °C | ASTM D 648 |
| HDT, 1.82 MPa, 3.2mm, unannealed | 147 | °C | ASTM D 648 |
| CTE, -40°C to 40°C, flow | 6.E-05 | 1/°C | ASTM E 831 |
| CTE, -40°C to 40°C, xflow | 6.E-05 | 1/°C | ASTM E 831 |
| Thermal Conductivity @ 25 °C | 0.2 | W/m-°C | ASTM C177 |
| CTE, -40°C to 40°C, flow | 6.E-05 | 1/°C | ISO 11359-2 |
| CTE, -40°C to 40°C, xflow | 6.E-05 | 1/°C | ISO 11359-2 |
| Ball Pressure Test, 125°C +/- 2°C | PASSES | - | IEC 60695-10-2 |
| Vicat Softening Temp, Rate B/50 | 165 | °C | ISO 306 |
| Vicat Softening Temp, Rate B/120 | 167 | °C | ISO 306 |
| HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm | 159 | °C | ISO 75/Bf |
| HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm | 146 | °C | ISO 75/Af |
| Metallized Haze pass at 1.5mm | 155 | °C | SABIC method |
| PHYSICAL | | | |
| Specific Gravity | 1.2 | - | ASTM D 792 |
| Mold Shrinkage, flow, 3.2 mm (5) | 0.6 – 0.9 | % | SABIC method |
| Melt Flow Rate, 300°C/2.16 kgf | 22 | g/10 min | ASTM D 1238 |
| Melt Flow Rate, 330°C/2.16 kgf | 60 | g/10 min | ASTM D 1238 |
| Density | 1.2 | g/cm ³ | ISO 1183 |
| Water Absorption, (23°C/sat) | 0.3 | % | ISO 62 |
| Moisture Absorption (23°C / 50% RH) | 0.3 | % | ISO 62 |
| Melt Volume Rate, MVR at 300°C/2.16 kg | 19 | cm ³ /10 min | ISO 1133 |
| Melt Volume Rate, MVR at 330°C/2.16kg | 55 | cm ³ /10 min | ISO 1133 |
| INJECTION MOLDING | | | |
| Drying Temperature | 130 | °C | |
| Drying Time | 4 – 6 | hrs | |
| Maximum Moisture Content | 0.02 | % | |
| Melt Temperature | 290 – 350 | °C | |
| Nozzle Temperature | 285 – 345 | °C | |
| Front - Zone 3 Temperature | 290 – 350 | °C | |

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| Middle - Zone 2 Temperature | 280 – 340 | °C | |
| Rear - Zone 1 Temperature | 270 – 330 | °C | |
| Mold Temperature | 85 – 130 | °C | |
| Back Pressure | 0.3 – 0.7 | MPa | |
| Screw Speed | 40 – 90 | rpm | |
| Shot to Cylinder Size | 40 – 60 | % | |
| Vent Depth | 0.025 – 0.08 | mm | |

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