

LEXAN™ COPOLYMER HPX8REU

REGION EUROPE

DESCRIPTION

Very high flow specialty polycarbonate with outstanding processability and ductility. For medical devices and pharmaceutical applications. Healthcare management of change, biocompatible (ISO10993 or USP Class VI). ETO sterilizable. Contains mold release.

TYPICAL PROPERTY VALUES

Revision 20170913

| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|--|----------------|-------------------|--------------|
| MECHANICAL | | | |
| Tensile Stress, yld, Type I, 50 mm/min | 59 | MPa | ASTM D 638 |
| Tensile Stress, brk, Type I, 50 mm/min | 58 | MPa | ASTM D 638 |
| Tensile Strain, yld, Type I, 50 mm/min | 5.7 | % | ASTM D 638 |
| Tensile Strain, brk, Type I, 50 mm/min | 118.9 | % | ASTM D 638 |
| Tensile Modulus, 50 mm/min | 2360 | MPa | ASTM D 638 |
| Flexural Stress, yld, 1.3 mm/min, 50 mm span | 99 | MPa | ASTM D 790 |
| Flexural Modulus, 1.3 mm/min, 50 mm span | 2350 | MPa | ASTM D 790 |
| Hardness, Rockwell L | 90 | - | ASTM D 785 |
| Tensile Stress, yield, 50 mm/min | 59 | MPa | ISO 527 |
| Tensile Stress, break, 50 mm/min | 56 | MPa | ISO 527 |
| Tensile Strain, yield, 50 mm/min | 5.4 | % | ISO 527 |
| Tensile Strain, break, 50 mm/min | 118.6 | % | ISO 527 |
| Tensile Modulus, 1 mm/min | 2400 | MPa | ISO 527 |
| Flexural Stress, yield, 2 mm/min | 92 | MPa | ISO 178 |
| Flexural Modulus, 2 mm/min | 2250 | MPa | ISO 178 |
| IMPACT | | | |
| Izod Impact, notched, 23°C | 702 | J/m | ASTM D 256 |
| Izod Impact, notched, -30°C | 220 | J/m | ASTM D 256 |
| Instrumented Impact Total Energy, 23°C | 79 | J | ASTM D 3763 |
| 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 | 60 | kJ/m ² | ISO 180/1A |
| Izod Impact, notched 80*10*3 -30°C | 30 | kJ/m ² | ISO 180/1A |
| Izod Impact, notched 80*10*4 +23°C | 45 | kJ/m ² | ISO 180/1A |

| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|---|----------------|-------------------------|----------------|
| Izod Impact, notched 80*10*4 -30°C | 11 | kJ/m ² | ISO 180/1A |
| Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm | 60 | kJ/m ² | ISO 179/1eA |
| Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm | 30 | 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 |
| Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm | 54 | kJ/m ² | ISO 179/1eA |
| Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm | 12 | kJ/m ² | ISO 179/1eA |
| THERMAL | | | |
| Vicat Softening Temp, Rate A/50 | 138 | °C | ASTM D 1525 |
| HDT, 1.82 MPa, 3.2mm, unannealed | 120 | °C | ASTM D 648 |
| CTE, -40°C to 95°C, flow | 6.5E-05 | 1/°C | ASTM E 831 |
| CTE, -40°C to 95°C, xflow | 7.4E-05 | 1/°C | ASTM E 831 |
| CTE, 23°C to 80°C, flow | 6.5E-05 | 1/°C | ISO 11359-2 |
| CTE, 23°C to 80°C, xflow | 7.4E-05 | 1/°C | ISO 11359-2 |
| Ball Pressure Test, 125°C +/- 2°C | PASS | - | IEC 60695-10-2 |
| Vicat Softening Temp, Rate B/50 | 137 | °C | ISO 306 |
| Vicat Softening Temp, Rate B/120 | 140 | °C | ISO 306 |
| HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm | 117 | °C | ISO 75/Af |
| Relative Temp Index, Elec | 130 | °C | UL 746B |
| Relative Temp Index, Mech w/o impact | 130 | °C | UL 746B |
| PHYSICAL | | | |
| Specific Gravity | 1.19 | - | ASTM D 792 |
| Mold Shrinkage, flow, 3.2 mm (5) | 0.4 – 0.8 | % | SABIC method |
| Mold Shrinkage, xflow, 3.2 mm (5) | 0.4 – 0.8 | % | SABIC method |
| Melt Flow Rate, 300°C/1.2 kgf | 35 | g/10 min | ASTM D 1238 |
| Density | 1.19 | g/cm ³ | ISO 1183 |
| Water Absorption, (23°C/sat) | 0.24 | % | ISO 62 |
| Moisture Absorption (23°C / 50% RH) | 0.09 | % | ISO 62 |
| Melt Volume Rate, MVR at 300°C/1.2 kg | 33 | cm ³ /10 min | ISO 1133 |
| OPTICAL | | | |
| Light Transmission, 2.54 mm | 82 | % | ASTM D 1003 |
| Haze, 2.54 mm | 3 | % | ASTM D 1003 |
| ELECTRICAL | | | |
| Volume Resistivity | >1.E+15 | Ohm-cm | ASTM D 257 |
| Surface Resistivity | >1.E+15 | Ohm | ASTM D 257 |
| FLAME CHARACTERISTICS | | | |
| UL Recognized, 94HB Flame Class Rating (3) | 1.5 | mm | UL 94 |
| Glow Wire Flammability Index 960°C, passes at | 3 | mm | IEC 60695-2-12 |

| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|--|----------------|-------|----------------|
| Glow Wire Ignitability Temperature, 0.8 mm | 825 | °C | IEC 60695-2-13 |
| Glow Wire Ignitability Temperature, 3.0 mm | 850 | °C | IEC 60695-2-13 |
| INJECTION MOLDING | | | |
| Drying Temperature | 120 | °C | |
| Drying Time | 3 – 4 | hrs | |
| Drying Time (Cumulative) | 48 | hrs | |
| Maximum Moisture Content | 0.02 | % | |
| Melt Temperature | 295 – 315 | °C | |
| Nozzle Temperature | 290 – 310 | °C | |
| Front - Zone 3 Temperature | 295 – 315 | °C | |
| Middle - Zone 2 Temperature | 280 – 305 | °C | |
| Rear - Zone 1 Temperature | 270 – 295 | °C | |
| Mold Temperature | 70 – 95 | °C | |
| Back Pressure | 0.3 – 0.7 | MPa | |
| Screw Speed | 40 – 70 | rpm | |
| Shot to Cylinder Size | 40 – 60 | % | |
| Vent Depth | 0.025 – 0.076 | mm | |

DISCLAIMER

Any sale by SABIC, its subsidiaries and affiliates (each a “seller”), is made exclusively under seller’s standard conditions of sale (available upon request) unless agreed otherwise in writing and signed on behalf of the seller. While the information contained herein is given in good faith, SELLER MAKES NO WARRANTY, EXPRESS OR IMPLIED, INCLUDING MERCHANTABILITY AND NONINFRINGEMENT OF INTELLECTUAL PROPERTY, NOR ASSUMES ANY LIABILITY, DIRECT OR INDIRECT, WITH RESPECT TO THE PERFORMANCE, SUITABILITY OR FITNESS FOR INTENDED USE OR PURPOSE OF THESE PRODUCTS IN ANY APPLICATION. Each customer must determine the suitability of seller materials for the customer’s particular use through appropriate testing and analysis. No statement by seller concerning a possible use of any product, service or design is intended, or should be construed, to grant any license under any patent or other intellectual property right.