

VALOX™ RESIN HX312C

REGION EUROPE

DESCRIPTION

Unreinforced PBT with release. For medical devices and pharmaceutical applications. Healthcare management of change, biocompatible (ISO 10993 or USP Class VI), food contact compliant. EtO and steam sterilizable.

TYPICAL PROPERTY VALUES

Revision 20180906

| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|--|----------------|-------------------|--------------|
| MECHANICAL | | | |
| Tensile Stress, yld, Type I, 50 mm/min | 51 | MPa | ASTM D 638 |
| Tensile Stress, brk, Type I, 50 mm/min | 30 | MPa | ASTM D 638 |
| Tensile Strain, yld, Type I, 50 mm/min | 6 | % | ASTM D 638 |
| Tensile Strain, brk, Type I, 50 mm/min | 25 | % | ASTM D 638 |
| Tensile Modulus, 50 mm/min | 2500 | MPa | ASTM D 638 |
| Flexural Stress, yld, 1.3 mm/min, 50 mm span | 82 | MPa | ASTM D 790 |
| Flexural Modulus, 1.3 mm/min, 50 mm span | 2340 | MPa | ASTM D 790 |
| Tensile Stress, yield, 50 mm/min | 58 | MPa | ISO 527 |
| Tensile Stress, break, 50 mm/min | 30 | MPa | ISO 527 |
| Tensile Strain, yield, 50 mm/min | 6 | % | ISO 527 |
| Tensile Strain, break, 50 mm/min | 25 | % | ISO 527 |
| Tensile Modulus, 1 mm/min | 2500 | MPa | ISO 527 |
| Flexural Stress, yield, 2 mm/min | 85 | MPa | ISO 178 |
| Flexural Modulus, 2 mm/min | 2400 | MPa | ISO 178 |
| IMPACT | | | |
| Izod Impact, notched, 23°C | 53 | J/m | ASTM D 256 |
| Izod Impact, notched, -30°C | 53 | J/m | ASTM D 256 |
| Instrumented Impact Total Energy, 23°C | 40 | J | ASTM D 3763 |
| Izod Impact, unnotched 80*10*4 +23°C | NB | kJ/m ² | ISO 180/1U |
| Izod Impact, unnotched 80*10*4 -30°C | NB | kJ/m ² | ISO 180/1U |
| Izod Impact, notched 80*10*4 +23°C | 3 | kJ/m ² | ISO 180/1A |
| Izod Impact, notched 80*10*4 -30°C | 3 | kJ/m ² | ISO 180/1A |
| Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm | 3 | kJ/m ² | ISO 179/1eA |
| Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm | 2 | kJ/m ² | ISO 179/1eA |
| Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm | NB | kJ/m ² | ISO 179/1eU |
| Charpy -30°C, Unnotch Edgew 80*10*4 sp=62mm | NB | kJ/m ² | ISO 179/1eU |
| THERMAL | | | |
| Vicat Softening Temp, Rate B/50 | 175 | °C | ASTM D 1525 |
| HDT, 1.82 MPa, 3.2mm, unannealed | 54 | °C | ASTM D 648 |
| CTE, -40°C to 40°C, flow | 1.E-04 | 1/°C | ASTM E 831 |
| CTE, -40°C to 40°C, xflow | 1.E-04 | 1/°C | ASTM E 831 |
| CTE, 23°C to 80°C, flow | 1.E-04 | 1/°C | ISO 11359-2 |
| CTE, 23°C to 80°C, xflow | 1.E-04 | 1/°C | ISO 11359-2 |
| Vicat Softening Temp, Rate B/50 | 175 | °C | ISO 306 |

| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|---|----------------|-------------------------|--------------|
| Vicat Softening Temp, Rate B/120 | 165 | °C | ISO 306 |
| HDT/Ae, 1.8 MPa Edgew 120*10*4 sp=100mm | 58 | °C | ISO 75/Ae |
| PHYSICAL | | | |
| Specific Gravity | 1.31 | - | ASTM D 792 |
| Mold Shrinkage, flow, 3.2 mm | 0.9 – 1.6 | % | SABIC method |
| Melt Flow Rate, 250°C/1.2 kgf | 35 | g/10 min | ASTM D 1238 |
| Density | 1.31 | g/cm ³ | ISO 1183 |
| Water Absorption, (23°C/sat) | 0.35 | % | ISO 62 |
| Moisture Absorption (23°C / 50% RH) | 0.08 | % | ISO 62 |
| Melt Volume Rate, MVR at 250°C/1.2 kg | 31 | cm ³ /10 min | ISO 1133 |
| INJECTION MOLDING | | | |
| Drying Temperature | 110 – 120 | °C | |
| Drying Time | 2 – 4 | hrs | |
| Maximum Moisture Content | 0.02 | % | |
| Melt Temperature | 250 – 270 | °C | |
| Nozzle Temperature | 240 – 260 | °C | |
| Front - Zone 3 Temperature | 245 – 265 | °C | |
| Middle - Zone 2 Temperature | 240 – 255 | °C | |
| Rear - Zone 1 Temperature | 230 – 245 | °C | |
| Hopper Temperature | 40 – 60 | °C | |
| Mold Temperature | 40 – 100 | °C | |

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