

NORYL GTX™ RESIN GTX973

REGION AMERICAS

DESCRIPTION

NORYL GTX973 is a material especially designed for electrostatic painting and powder coating applications. The material combines high heat resistance with impact and conductivity in a unique way.

TYPICAL PROPERTY VALUES

Revision 20180905

| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|--|----------------|-------------------|----------------|
| MECHANICAL | | | |
| Tensile Stress, yld, Type I, 50 mm/min | 60 | MPa | ASTM D 638 |
| Tensile Stress, brk, Type I, 50 mm/min | 55 | MPa | ASTM D 638 |
| Tensile Strain, yld, Type I, 50 mm/min | 5 | % | ASTM D 638 |
| Tensile Strain, brk, Type I, 50 mm/min | 55 | % | ASTM D 638 |
| Tensile Modulus, 50 mm/min | 2200 | MPa | ASTM D 638 |
| Flexural Stress, yld, 1.3 mm/min, 50 mm span | 90 | MPa | ASTM D 790 |
| Flexural Modulus, 1.3 mm/min, 50 mm span | 2300 | MPa | ASTM D 790 |
| Tensile Stress, yield, 50 mm/min | 60 | MPa | ISO 527 |
| Tensile Stress, break, 50 mm/min | 55 | MPa | ISO 527 |
| Tensile Strain, yield, 50 mm/min | 4 | % | ISO 527 |
| Tensile Strain, break, 50 mm/min | 30 | % | ISO 527 |
| Tensile Modulus, 1 mm/min | 2300 | MPa | ISO 527 |
| Flexural Stress, yield, 2 mm/min | 90 | MPa | ISO 178 |
| Flexural Modulus, 2 mm/min | 2300 | MPa | ISO 178 |
| IMPACT | | | |
| Izod Impact, notched, 23°C | 130 | J/m | ASTM D 256 |
| Izod Impact, notched, -30°C | 80 | J/m | ASTM D 256 |
| Instrumented Impact Total Energy, 23°C | 50 | J | ASTM D 3763 |
| Izod Impact, notched 80*10*4 +23°C | 15 | kJ/m ² | ISO 180/1A |
| Izod Impact, notched 80*10*4 -30°C | 7 | kJ/m ² | ISO 180/1A |
| Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm | 15 | kJ/m ² | ISO 179/1eA |
| Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm | 6 | kJ/m ² | ISO 179/1eA |
| THERMAL | | | |
| Vicat Softening Temp, Rate B/50 | 200 | °C | ASTM D 1525 |
| HDT, 0.45 MPa, 3.2 mm, unannealed | 195 | °C | ASTM D 648 |
| CTE, -40°C to 40°C, flow | 8.5E-05 | 1/°C | ASTM E 831 |
| CTE, -40°C to 40°C, xflow | 9.E-05 | 1/°C | ASTM E 831 |
| CTE, 23°C to 60°C, flow | 9.E-05 | 1/°C | ISO 11359-2 |
| CTE, 23°C to 60°C, xflow | 9.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 | 195 | °C | ISO 306 |
| Vicat Softening Temp, Rate B/120 | 200 | °C | ISO 306 |
| HDT/Be, 0.45MPa Edgew 120*10*4 sp=100mm | 190 | °C | ISO 75/Be |
| PHYSICAL | | | |

| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|---------------------------------------|----------------|-------------------------|--------------|
| Specific Gravity | 1.09 | - | ASTM D 792 |
| Mold Shrinkage, flow, 3.2 mm | 1.4 – 1.7 | % | SABIC method |
| Mold Shrinkage, xflow, 3.2 mm | 1.2 – 1.5 | % | SABIC method |
| Melt Flow Rate, 280°C/5.0 kgf | 20 | g/10 min | ASTM D 1238 |
| Density | 1.1 | g/cm ³ | ISO 1183 |
| Water Absorption, (23°C/sat) | 4.2 | % | ISO 62 |
| Moisture Absorption (23°C / 50% RH) | 1.2 | % | ISO 62 |
| Melt Volume Rate, MVR at 280°C/5.0 kg | 12 | cm ³ /10 min | ISO 1133 |
| ELECTRICAL | | | |
| Volume Resistivity | 1000 – 10000 | Ohm-cm | SABIC method |
| INJECTION MOLDING | | | |
| Drying Temperature | 100 – 120 | °C | |
| Drying Time | 2 – 3 | hrs | |
| Maximum Moisture Content | 0.07 | % | |
| Melt Temperature | 290 – 320 | °C | |
| Nozzle Temperature | 280 – 310 | °C | |
| Front - Zone 3 Temperature | 290 – 320 | °C | |
| Middle - Zone 2 Temperature | 280 – 300 | °C | |
| Rear - Zone 1 Temperature | 260 – 280 | °C | |
| Hopper Temperature | 60 – 80 | °C | |
| Mold Temperature | 80 – 120 | °C | |

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