

Xytron™ G3010E

Envalior - Polyphenylene Sulfide

General Information

Product Description

30% Glass Fiber Reinforced, Impact Modified, Food Contact Quality, Drinking Water Grade

Design Challenge

Degradation & Stability | Chemical stability

General

| | |
|------------------------|---|
| Material Status | • Commercial: Active |
| Availability | • Africa & Middle East • Europe • North America • Asia Pacific • Latin America |
| Filler / Reinforcement | • Glass Fiber, 30% Filler by Weight |
| Additive | • Impact Modifier |
| Features | • Food Contact Acceptable • Impact Modified |
| Uses | • Potable Water Applications |
| Processing Method | • Injection Molding |
| Resin ID | • PPS-I-GF30 |

Properties ¹

| Physical | Nominal Value | Unit | Test Method |
|--|---------------|-------------------|-------------|
| Density | 1.45 | g/cm ³ | ISO 1183 |
| Spiral Flow ² | 3.86 | in | |
| Molding Shrinkage | | | ISO 294-4 |
| Across Flow | 0.65 | % | |
| Flow | 0.20 | % | |
| Water Absorption (24 hr, 73°F) | 0.050 | % | ISO 62 |
| Water Absorption (Equilibrium, 73°F, 50% RH) | 0.040 | % | ISO 62 |
| Mechanical | Nominal Value | Unit | Test Method |
| Tensile Modulus | | | ISO 527-1 |
| -- | 1.38E+6 | psi | |
| -40°F | 1.45E+6 | psi | |
| 248°F | 667000 | psi | |
| 320°F | 377000 | psi | |
| 392°F | 290000 | psi | |
| Tensile Stress | | | ISO 527-2 |
| Break | 21000 | psi | |
| Break, -40°F | 25400 | psi | |
| Break, 248°F | 9430 | psi | |
| Break, 320°F | 7250 | psi | |
| Break, 392°F | 6530 | psi | |
| Tensile Strain | | | ISO 527-2 |
| Break | 2.6 | % | |
| Break, -40°F | 2.6 | % | |
| Break, 248°F | 7.0 | % | |
| Break, 320°F | 8.6 | % | |
| Break, 392°F | 9.1 | % | |
| Flexural Modulus | | | ISO 178 |
| -- | 1.16E+6 | psi | |
| 248°F | 1.00E+6 | psi | |
| 320°F | 392000 | psi | |



| | | |
|---|---------------------------|----------------------|
| 392°F | 305000 psi | |
| Flexural Stress | | ISO 178 |
| -- | 30500 psi | |
| 248°F | 13100 psi | |
| 320°F | 7980 psi | |
| 392°F | 5800 psi | |
| Weldline Strain (0.16 in) | 0.90 % | ISO 527-2 |
| Weldline Strength (0.16 in) | 8702 psi | ISO 527-2 |
| Impact | Nominal Value | Unit |
| Charpy Notched Impact Strength | | ISO 179/1eA |
| -22°F | 5.2 ft·lb/in ² | |
| 73°F | 8.8 ft·lb/in ² | |
| Charpy Unnotched Impact Strength | | ISO 179/1eU |
| -22°F | 36 ft·lb/in ² | |
| 73°F | 31 ft·lb/in ² | |
| Notched Izod Impact Strength | | ISO 180/1A |
| -40°F | 5.9 ft·lb/in ² | |
| 73°F | 8.6 ft·lb/in ² | |
| Unnotched Izod Impact Strength (73°F) | 31 ft·lb/in ² | ISO 180/1U |
| Thermal | Nominal Value | Unit |
| Deflection Temperature Under Load (264 psi, Unannealed) | 482 °F | ISO 75-2/A |
| Glass Transition Temperature ³ | 194 °F | ISO 11357-2 |
| Melting Temperature ³ | 536 °F | ISO 11357-3 |
| CLTE - Flow | | ISO 11359-2 |
| -- ⁴ | 7.8E-6 in/in/°F | |
| -- | 1.0E-5 in/in/°F | |
| CLTE - Transverse | | ISO 11359-2 |
| -- | 3.3E-5 in/in/°F | |
| -- ⁴ | 6.1E-5 in/in/°F | |
| Electrical | Nominal Value | Unit |
| Surface Resistivity | > 1.0E+15 ohms | IEC 62631-3-2 |
| Volume Resistivity | > 1.0E+13 ohms·m | IEC 62631-3-1 |
| Electric Strength | 910 V/mil | IEC 60243-1 |
| Relative Permittivity | | IEC 61189-2-721 |
| 1.00 GHz | 3.60 | |
| 5.00 GHz | 3.60 | |
| Dissipation Factor | | IEC 61189-2-721 |
| 1.00 GHz | 3.0E-3 | |
| 5.00 GHz | 5.0E-3 | |
| Comparative Tracking Index | 175 V | IEC 60112 |
| Flammability | Nominal Value | Unit |
| Flame Rating | | UL 94 |
| 0.06 in | HB | |
| 0.12 in | V-0 | |
| Flammability Classification | | IEC 60695-11-10, -20 |
| 0.12 in | V-0 | |
| 0.06 in | HB | |
| Glow Wire Flammability Index (0.04 in) | 1470 °F | IEC 60695-2-12 |
| Glow Wire Ignition Temperature (0.04 in) | 1520 °F | IEC 60695-2-13 |

Notes

¹ Typical properties: these are not to be construed as specifications.

² Injection Pressure: 1.45E+4 psi, 0.0394 in

³ 10°C/min

⁴ above Tg

