

Xytron™ G4020T

Envalior - Polyphenylene Sulfide

General Information

Product Description

40% Glass Fiber Reinforced, Flame Retardant

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, 40% Filler by Weight |
| Features | • Flame Retardant |
| Processing Method | • Injection Molding |
| Resin ID | • PPS-GF40 |

Properties ¹

| Physical | Nominal Value | Unit | Test Method |
|--|---------------|-------------------|-------------|
| Density | 1.65 | g/cm ³ | ISO 1183 |
| Molding Shrinkage | | | ISO 294-4 |
| Across Flow | 0.50 | % | |
| Flow | 0.20 | % | |
| Water Absorption (24 hr, 73°F) | 0.040 | % | ISO 62 |
| Water Absorption (Equilibrium, 73°F, 50% RH) | 0.040 | % | ISO 62 |
| Mechanical | Nominal Value | Unit | Test Method |
| Tensile Modulus | | | ISO 527-1 |
| -- | 2.18E+6 | psi | |
| -40°F | 2.47E+6 | psi | |
| 248°F | 972000 | psi | |
| 320°F | 769000 | psi | |
| 392°F | 595000 | psi | |
| Tensile Stress | | | ISO 527-2 |
| Break | 29000 | psi | |
| Break, -40°F | 34100 | psi | |
| Break, 248°F | 12300 | psi | |
| Break, 320°F | 9430 | psi | |
| Break, 392°F | 7250 | psi | |
| Tensile Strain | | | ISO 527-2 |
| Break | 2.0 | % | |
| Break, -40°F | 2.0 | % | |
| Break, 248°F | 4.1 | % | |
| Break, 320°F | 3.8 | % | |
| Break, 392°F | 3.9 | % | |
| Flexural Modulus | | | ISO 178 |
| -- | 2.03E+6 | psi | |
| 248°F | 1.19E+6 | psi | |
| 320°F | 725000 | psi | |
| 392°F | 624000 | psi | |
| Flexural Stress | | | ISO 178 |
| -- | 40600 | psi | |



| | | | |
|---|--|---------------------------|----------------------|
| 248°F | | 20300 psi | |
| 320°F | | 13800 psi | |
| 392°F | | 10200 psi | |
| Weldline Strain (0.16 in) | | 0.50 % | ISO 527-2 |
| Weldline Strength (0.16 in) | | 9427 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 | | 5.0 ft·lb/in ² | |
| Charpy Unnotched Impact Strength | | | ISO 179/1eU |
| -22°F | | 30 ft·lb/in ² | |
| 73°F | | 29 ft·lb/in ² | |
| Thermal | | Nominal Value | Unit |
| Deflection Temperature Under Load (264 psi, Unannealed) | | 509 °F | ISO 75-2/A |
| Glass Transition Temperature ² | | 194 °F | ISO 11357-2 |
| Melting Temperature ² | | 536 °F | ISO 11357-3 |
| CLTE - Flow | | | ISO 11359-2 |
| -- ³ | | 8.3E-6 in/in/°F | |
| -- | | 8.3E-6 in/in/°F | |
| CLTE - Transverse | | | ISO 11359-2 |
| -- | | 2.2E-5 in/in/°F | |
| -- ³ | | 6.1E-5 in/in/°F | |
| RTI Elec | | | UL 746B |
| 0.016 in | | 338 °F | |
| 0.031 in | | 428 °F | |
| RTI Imp | | | UL 746B |
| 0.016 in | | 392 °F | |
| 0.031 in | | 392 °F | |
| RTI Str | | | UL 746B |
| 0.016 in | | 392 °F | |
| 0.031 in | | 392 °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 | | 560 V/mil | IEC 60243-1 |
| Relative Permittivity | | | IEC 61189-2-721 |
| 1.00 GHz | | 4.00 | |
| 5.00 GHz | | 4.00 | |
| Dissipation Factor | | | IEC 61189-2-721 |
| 1.00 GHz | | 3.5E-3 | |
| 5.00 GHz | | 5.5E-3 | |
| Comparative Tracking Index | | 150 V | IEC 60112 |
| Flammability | | Nominal Value | Unit |
| Flame Rating (0.12 in) | | V-0 | UL 94 |
| Flammability Classification (0.12 in) | | V-0 | IEC 60695-11-10, -20 |

Notes

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

² 10°C/min

³ above T_g

