

Xytron™ G4010W

Envalior - Polyphenylene Sulfide

General Information

Product Description

40% Glass Fiber Reinforced, Wear and Friction Modified, Flame Retardant

Design Challenge

Degradation & Stability | Chemical stability

General

Material Status	• Commercial: Active
Availability	• Africa & Middle East • Europe • Asia Pacific • Latin America • North America
Filler / Reinforcement	• Glass Fiber, 40% Filler by Weight
Features	• Flame Retardant • Wear Resistant
Processing Method	• Injection Molding
Resin ID	• PPS-GF40

 Properties ¹

Physical	Nominal Value	Unit	Test Method
Density	1.74	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	2.25E+6	psi	
248°F	1.09E+6	psi	
320°F	798000	psi	
Tensile Stress			ISO 527-2
Break	29000	psi	
Break, -40°F	35500	psi	
Break, 248°F	12500	psi	
Break, 320°F	9430	psi	
Tensile Strain			ISO 527-2
Break	2.0	%	
Break, -40°F	2.2	%	
Break, 248°F	3.5	%	
Break, 320°F	4.0	%	
Flexural Modulus			ISO 178
--	2.10E+6	psi	
248°F	1.04E+6	psi	
320°F	798000	psi	
392°F	696000	psi	
Flexural Stress			ISO 178
--	40600	psi	
248°F	20000	psi	
320°F	14500	psi	
392°F	11600	psi	



Weldline Strain (0.16 in)	0.50 %	ISO 527-2
Weldline Strength (0.16 in)	8702 psi	ISO 527-2
Impact	Nominal Value Unit	Test Method
Charpy Notched Impact Strength		ISO 179/1eA
-22°F	4.8 ft·lb/in ²	
73°F	4.8 ft·lb/in ²	
Charpy Unnotched Impact Strength		ISO 179/1eU
-22°F	29 ft·lb/in ²	
73°F	26 ft·lb/in ²	
Notched Izod Impact Strength (73°F)	4.8 ft·lb/in ²	ISO 180/1A
Thermal	Nominal Value Unit	Test Method
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	266 °F	
0.12 in	266 °F	
RTI Imp		UL 746B
0.016 in	266 °F	
0.12 in	266 °F	
RTI Str		UL 746B
0.016 in	266 °F	
0.12 in	266 °F	
Electrical	Nominal Value Unit	Test Method
Surface Resistivity	> 1.0E+15 ohms	IEC 62631-3-2
Volume Resistivity	> 1.0E+13 ohms·m	IEC 62631-3-1
Comparative Tracking Index	175 V	IEC 60112
Flammability	Nominal Value Unit	Test Method
Flame Rating (0.06 in)	V-0	UL 94
Flammability Classification		IEC 60695-11-10, -20
0.06 in	V-0	
0.12 in	V-0	

Notes

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

² 10°C/min

³ above Tg

