

Xytron™ G4010E

Envalior - Polyphenylene Sulfide

General Information

Product Description

40% Glass Fiber Reinforced, Impact Modified

Design Challenge

Degradation & Stability | Chemical stability

General

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

Properties ¹

Physical	Nominal Value	Unit	Test Method
Density	1.53	g/cm ³	ISO 1183
Spiral Flow ²	4.13	in	
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
--	1.74E+6	psi	
-40°F	1.96E+6	psi	
248°F	885000	psi	
320°F	566000	psi	
392°F	435000	psi	
Tensile Stress			ISO 527-2
Break	23200	psi	
Break, -40°F	29700	psi	
Break, 248°F	9430	psi	
Break, 320°F	7250	psi	
Break, 392°F	5800	psi	
Tensile Strain			ISO 527-2
Break	2.4	%	
Break, -40°F	2.4	%	
Break, 248°F	3.9	%	
Break, 320°F	4.4	%	
Break, 392°F	4.5	%	
Flexural Modulus			ISO 178
--	1.45E+6	psi	
248°F	1.23E+6	psi	
320°F	667000	psi	
392°F	450000	psi	



Flexural Stress			ISO 178
--		33400 psi	
248°F		17400 psi	
320°F		10200 psi	
392°F		7250 psi	
Weldline Strain (0.16 in)		0.70 %	ISO 527-2
Weldline Strength (0.16 in)		7977 psi	ISO 527-2
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-22°F		5.7 ft·lb/in ²	
73°F		7.6 ft·lb/in ²	
Charpy Unnotched Impact Strength			ISO 179/1eU
-22°F		31 ft·lb/in ²	
73°F		26 ft·lb/in ²	
Notched Izod Impact Strength			ISO 180/1A
-40°F		6.2 ft·lb/in ²	
73°F		8.3 ft·lb/in ²	
Unnotched Izod Impact Strength (73°F)		29 ft·lb/in ²	ISO 180/1U
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (66 psi, Unannealed)		534 °F	ISO 75-2/B
Deflection Temperature Under Load (264 psi, Unannealed)		496 °F	ISO 75-2/A
Deflection Temperature Under Load (1160 psi, Unannealed)		307 °F	ISO 75-2/C
Glass Transition Temperature ³		194 °F	ISO 11357-2
Melting Temperature ³		536 °F	ISO 11357-3
CLTE - Flow			ISO 11359-2
-- ⁴		6.1E-6 in/in/°F	
--		8.3E-6 in/in/°F	
CLTE - Transverse			ISO 11359-2
--		3.1E-5 in/in/°F	
-- ⁴		6.1E-5 in/in/°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
Electric Strength		840 V/mil	IEC 60243-1
Relative Permittivity			IEC 61189-2-721
1.00 GHz		3.80	
5.00 GHz		3.80	
Dissipation Factor			IEC 61189-2-721
1.00 GHz		3.5E-3	
5.00 GHz		5.5E-3	
Comparative Tracking Index		175 V	IEC 60112
Flammability	Nominal Value	Unit	Test Method
Glow Wire Flammability Index (0.031 in)		1560 °F	IEC 60695-2-12
Glow Wire Ignition Temperature (0.031 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 T_g

