

## Xytron™ G4080HRE

Envalior - Polyphenylene Sulfide

### General Information

#### Product Description

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
Additive	• Impact Modifier
Features	• Impact Modified
Processing Method	• Injection Molding
Resin ID	• PPS-I-GF40

### Properties <sup>1</sup>

Physical	Nominal Value	Unit	Test Method
Density	1.60	g/cm <sup>3</sup>	ISO 1183
Molding Shrinkage			ISO 294-4
Across Flow	0.50	%	
Flow	0.20	%	
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			ISO 527-1
--	1.93E+6	psi	
-40°F	2.03E+6	psi	
194°F	1.60E+6	psi	
212°F	1.23E+6	psi	
248°F	885000	psi	
320°F	682000	psi	
392°F	580000	psi	
Tensile Stress			ISO 527-2
Break	26100	psi	
Break, -40°F	32200	psi	
Break, 194°F	16000	psi	
Break, 212°F	13800	psi	
Break, 248°F	11600	psi	
Break, 320°F	8700	psi	
Break, 392°F	6670	psi	
Tensile Strain			ISO 527-2
Break	2.4	%	
Break, -40°F	2.4	%	
Break, 194°F	3.3	%	
Break, 248°F	4.1	%	
Break, 320°F	4.3	%	
Break, 392°F	3.9	%	
Flexural Modulus			ISO 178
--	1.77E+6	psi	
176°F	1.67E+6	psi	
248°F	856000	psi	



320°F	667000 psi	
392°F	580000 psi	
<b>Flexural Stress</b>		ISO 178
--	38700 psi	
176°F	30000 psi	
248°F	17700 psi	
320°F	13200 psi	
392°F	10300 psi	
Weldline Strain (0.16 in)	0.85 %	ISO 527-2
Weldline Strength (0.16 in)	10588 psi	ISO 527-2
<b>Impact</b>	<b>Nominal Value Unit</b>	<b>Test Method</b>
Charpy Notched Impact Strength		ISO 179/1eA
-22°F	5.7 ft·lb/in <sup>2</sup>	
73°F	6.2 ft·lb/in <sup>2</sup>	
Charpy Unnotched Impact Strength		ISO 179/1eU
-22°F	31 ft·lb/in <sup>2</sup>	
73°F	29 ft·lb/in <sup>2</sup>	
Notched Izod Impact Strength		ISO 180/1A
-40°F	6.2 ft·lb/in <sup>2</sup>	
73°F	7.6 ft·lb/in <sup>2</sup>	
Unnotched Izod Impact Strength (73°F)	29 ft·lb/in <sup>2</sup>	ISO 180/1U
<b>Hardness</b>	<b>Nominal Value Unit</b>	<b>Test Method</b>
Rockwell Hardness (R-Scale)	117	ISO 2039-2
<b>Thermal</b>	<b>Nominal Value Unit</b>	<b>Test Method</b>
Deflection Temperature Under Load (66 psi, Unannealed)	534 °F	ISO 75-2/B
Deflection Temperature Under Load (264 psi, Unannealed)	511 °F	ISO 75-2/A
Deflection Temperature Under Load (1160 psi, Unannealed)	318 °F	ISO 75-2/C
Glass Transition Temperature <sup>2</sup>	194 °F	ISO 11357-2
Vicat Softening Temperature	505 °F	ISO 306/B50
Melting Temperature <sup>2</sup>	536 °F	ISO 11357-3
CLTE - Flow		ISO 11359-2
-- <sup>3</sup>	6.1E-6 in/in/°F	
--	8.3E-6 in/in/°F	
CLTE - Transverse		ISO 11359-2
--	2.7E-5 in/in/°F	
-- <sup>3</sup>	6.1E-5 in/in/°F	
<b>Electrical</b>	<b>Nominal Value Unit</b>	<b>Test Method</b>
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
<b>Flammability</b>	<b>Nominal Value Unit</b>	<b>Test Method</b>
Flame Rating (0.12 in)	V-0	UL 94
Flammability Classification (0.12 in)	V-0	IEC 60695-11-10, -20
Glow Wire Flammability Index		IEC 60695-2-12
0.031 in	1560 °F	
0.08 in	1760 °F	
Glow Wire Ignition Temperature		IEC 60695-2-13
0.031 in	1520 °F	
0.08 in	1610 °F	

#### Notes

Properties: these are not to be construed as specifications.