

**Xytron™ G4080HR**

Envalior - Polyphenylene Sulfide

## General Information

**Product Description**

40% Glass Fiber Reinforced, Flame Retardant, Hydrolysis Stabilized

Design Challenge

Degradation &amp; 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	• Hydrolysis Resistant	• Hydrolytically Stable
Processing Method	• Injection Molding		
Resin ID	• PPS-GF40		

 Properties <sup>1</sup>

Physical	Nominal Value	Unit	Test Method
Density	1.65	g/cm <sup>3</sup>	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	2.18E+6	psi	
194°F	1.74E+6	psi	
248°F	914000	psi	
320°F	638000	psi	
392°F	508000	psi	
Tensile Stress			ISO 527-2
Break	27600	psi	
Break, -40°F	34800	psi	
Break, 194°F	18100	psi	
Break, 248°F	12300	psi	
Break, 320°F	8990	psi	
Break, 392°F	7250	psi	
Tensile Strain			ISO 527-2
Break	2.0	%	
Break, -40°F	2.0	%	
Break, 194°F	2.8	%	
Break, 248°F	4.5	%	
Break, 320°F	5.1	%	
Break, 392°F	5.8	%	
Flexural Modulus			ISO 178
--	2.03E+6	psi	
248°F	841000	psi	
320°F	638000	psi	



392°F	566000 psi		
Flexural Stress			ISO 178
--	42100 psi		
248°F	18900 psi		
320°F	13800 psi		
392°F	10900 psi		
Weldline Strain (0.16 in)	0.80 %		ISO 527-2
Weldline Strength (0.16 in)	11603 psi		ISO 527-2
<b>Impact</b>	<b>Nominal Value</b>	<b>Unit</b>	<b>Test Method</b>
Charpy Notched Impact Strength			ISO 179/1eA
-22°F	4.8	ft·lb/in <sup>2</sup>	
73°F	5.0	ft·lb/in <sup>2</sup>	
Charpy Unnotched Impact Strength			ISO 179/1eU
-22°F	33	ft·lb/in <sup>2</sup>	
73°F	29	ft·lb/in <sup>2</sup>	
Notched Izod Impact Strength			ISO 180/1A
-40°F	5.0	ft·lb/in <sup>2</sup>	
73°F	5.5	ft·lb/in <sup>2</sup>	
Unnotched Izod Impact Strength (73°F)	26	ft·lb/in <sup>2</sup>	ISO 180/1U
<b>Hardness</b>	<b>Nominal Value</b>	<b>Unit</b>	<b>Test Method</b>
Rockwell Hardness			ISO 2039-2
M-Scale	100		
R-Scale	120		
<b>Thermal</b>	<b>Nominal Value</b>	<b>Unit</b>	<b>Test Method</b>
Deflection Temperature Under Load (66 psi, Unannealed)	536	°F	ISO 75-2/B
Deflection Temperature Under Load (264 psi, Unannealed)	509	°F	ISO 75-2/A
Deflection Temperature Under Load (1160 psi, Unannealed)	365	°F	ISO 75-2/C
Glass Transition Temperature <sup>2</sup>	194	°F	ISO 11357-2
Melting Temperature <sup>2</sup>	536	°F	ISO 11357-3
CLTE - Flow			ISO 11359-2
-- <sup>3</sup>	8.3E-6	in/in/°F	
--	8.3E-6	in/in/°F	
CLTE - Transverse			ISO 11359-2
--	2.2E-5	in/in/°F	
-- <sup>3</sup>	6.1E-5	in/in/°F	
<b>Electrical</b>	<b>Nominal Value</b>	<b>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	790	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	175	V	IEC 60112

#### Notes

<sup>1</sup> Typical properties: these are not to be construed as specifications.

<sup>2</sup> 10°C/min

<sup>3</sup> above T<sub>g</sub>

