

# Ryton® XE4050BL

## Syensqo - Polyphenylene Sulfide Alloy

### General Information

#### Product Description

Ryton® XE4050BL glass fiber and mineral filled polyphenylene sulfide alloy compound provides high ductility and impact strength along with good thermal stability.

#### General

Filler / Reinforcement	• Glass Fiber/Mineral
Features	• Ductile • Good Thermal Stability • High Impact Resistance
Uses	• Automotive Applications
RoHS Compliance	• RoHS Compliant
Appearance	• Black
Forms	• Pellets

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

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	1.68		ASTM D792
Molding Shrinkage - Flow (0.126 in)	2.0E-3	in/in	
Molding Shrinkage - Across Flow (0.126 in)	4.0E-3	in/in	
Water Absorption (24 hr, 73°F)	0.050	%	ASTM D570
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	1.49E+6	psi	ISO 527-1
Tensile Stress	20300	psi	ISO 527-2
Tensile Strain (Break)	1.8	%	ISO 527-2
Flexural Modulus	1.60E+6	psi	ISO 178
Flexural Stress	29000	psi	ISO 178
Compressive Strength	29000	psi	ASTM D695
Poisson's Ratio	0.37		ISO 527
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact Strength	4.3	ft-lb/in <sup>2</sup>	ISO 180/1A
Unnotched Izod Impact Strength	19	ft-lb/in <sup>2</sup>	ISO 180/1U
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness			ASTM D785
M-Scale	74		
R-Scale	110		
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load 264 psi, Unannealed	482	°F	ASTM D648
CLTE - Flow			ASTM E831
-58 to 122°F	1.1E-5	in/in/°F	
212 to 392°F	5.6E-6	in/in/°F	
CLTE - Transverse			ASTM E831
-58 to 122°F	2.8E-5	in/in/°F	
212 to 392°F	4.7E-5	in/in/°F	
Thermal Conductivity	2.6	Btu·in/hr/ft <sup>2</sup> /°F	

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<b>Electrical</b>	<b>Nominal Value</b>	<b>Unit</b>	<b>Test Method</b>
Surface Resistivity	1.0E+16	ohms	ASTM D257
Volume Resistivity	1.0E+14	ohms·cm	ASTM D257
Dielectric Strength	500	V/mil	ASTM D149
Dielectric Constant			ASTM D150
77°F, 1 kHz	4.30		
77°F, 1 MHz	4.20		
Dissipation Factor			ASTM D150
77°F, 1 kHz	3.0E-3		
77°F, 1 MHz	8.0E-3		
Arc Resistance	130	sec	ASTM D495
Comparative Tracking Index (CTI)	PLC 3		UL 746A
Comparative Tracking Index	175	V	IEC 60112
Insulation Resistance <sup>2</sup> (194°F)	1.0E+11	ohms	
<b>Flammability</b>	<b>Nominal Value</b>	<b>Unit</b>	<b>Test Method</b>
Flame Rating (0.06 in)	V-0		UL 94
Oxygen Index	25	%	ASTM D2863

**Processing Information**

<b>Injection</b>	<b>Nominal Value</b>	<b>Unit</b>
Drying Temperature	185	°F
Drying Time	4.0 to 6.0	hr
Rear Temperature	563 to 581	°F
Middle Temperature	572 to 590	°F
Front Temperature	581 to 599	°F
Nozzle Temperature	581 to 599	°F
Processing (Melt) Temp	590 to 608	°F
Mold Temperature	275 to 302	°F

**Notes**

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

<sup>2</sup> 95%RH, 48 hr