

# Ryton® R-4-270BL

## polyphenylene sulfide

Ryton® R-4-270BL 40% glass fiber reinforced polyphenylene sulfide compound provides enhanced

mechanical strength after constant or repeated exposure to high temperature water.

### General

Material Status	• Commercial: Active	
Availability	• Asia Pacific • Europe	• Latin America • North America
Filler / Reinforcement	• Glass Fiber, 40% Filler by Weight	
Features	• Chemical Resistant • Good Processability	• High Strength
RoHS Compliance	• RoHS Compliant	
Appearance	• Black	
Forms	• Pellets	

### Physical

	Typical Value	Unit	Test method
Density / Specific Gravity <sup>1</sup>	1.67		ISO 1183
Molding Shrinkage <sup>2</sup>			
Flow : 3.20 mm	0.20	%	
Across Flow : 3.20 mm	0.50	%	
Water Absorption (24 hr, 23°C)	0.020	%	ASTM D570

### Mechanical

	Typical Value	Unit	Test method
Tensile Strength	180	MPa	ISO 527
Tensile Elongation (Break)	1.6	%	ISO 527
Flexural Modulus	13000	MPa	ISO 178
Flexural Stress	260	MPa	ISO 178
Compressive Strength	285	MPa	ASTM D695

### Impact

	Typical Value	Unit	Test method
Notched Izod Impact Strength	8.0	kJ/m <sup>2</sup>	ISO 180/A
Unnotched Izod Impact Strength	40	kJ/m <sup>2</sup>	ISO 180

### Thermal

	Typical Value	Unit	Test method
Deflection Temperature Under Load 1.8 MPa, Unannealed	265	°C	ASTM D648
CLTE			ISO 11359-2
Flow : -50 to 50°C	1.5E-5	cm/cm/°C	
Flow : 100 to 200°C	1.0E-5	cm/cm/°C	
Transverse : -50 to 50°C	4.5E-5	cm/cm/°C	
Transverse : 100 to 200°C	8.5E-5	cm/cm/°C	
Thermal Conductivity	0.32	W/m/K	ASTM E1530

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Electrical	Typical Value	Unit	Test method
Volume Resistivity	1.0E+16	ohms·cm	ASTM D257
Dielectric Strength	20	kV/mm	ASTM D149
Dielectric Constant			ASTM D150
25°C, 1 kHz	4.00		
25°C, 1 MHz	4.00		
Dissipation Factor			ASTM D150
25°C, 1 kHz	2.0E-3		
25°C, 1 MHz	2.0E-3		
Arc Resistance	125	sec	ASTM D495
Comparative Tracking Index (CTI)	130	V	UL 746

  

Flammability	Typical Value	Unit	Test method
Flame Rating <sup>3</sup> (1.6 mm)	V-0		UL 94

  

Additional Information	Typical Value	Unit
Hydrolytic Stability <sup>4</sup>		
Tensile Strength Retained	> 75	%
Weight Gain	< 0.50	%

## Notes

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

<sup>1</sup> Method A

<sup>2</sup> Measured on 102 mm x 102 mm x 3.2 mm plaques, edge gated.

<sup>3</sup> This product is not currently UL listed; test results indicate this level of performance.

<sup>4</sup> Test specimens aged 1000 hours in water at 140°C (284°F).

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