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Ryton® BR111

polyphenylene sulfide

Ryton® BR111 is a natural-colored glass fiber and mineral filled polyphenylene sulfide compound that provides enhanced mechanical strength with good electrical properties and outstanding chemical resistance, even at elevated temperatures.

General

Material Status	• Commercial: Active	
Availability	• Asia Pacific • Europe	• Latin America • North America
Filler / Reinforcement	• Glass\Mineral	
Features	• Good Chemical Resistance	• Good Electrical Properties • Good Strength
Uses	• Automotive Applications	
RoHS Compliance	• RoHS Compliant	
Appearance	• Natural Color	
Forms	• Pellets	
Processing Method	• Injection Molding	

Physical	Typical Value	Unit	Test method
Specific Gravity	1.94		ASTM D792
Molding Shrinkage			
Flow : 3.20 mm	0.20	%	
Across Flow : 3.20 mm	0.40	%	
Water Absorption (23°C, 24 hr)	0.020	%	ASTM D570

Mechanical	Typical Value	Unit	Test method
Tensile Strength			
--	159	MPa	ASTM D638
--	165	MPa	ISO 527-2
Tensile Elongation (Break)	1.1	%	ASTM D638 ISO 527-2
Flexural Modulus			
--	19300	MPa	ASTM D790
--	19000	MPa	ISO 178
Flexural Strength			
--	241	MPa	ASTM D790
--	255	MPa	ISO 178
Compressive Strength	295	MPa	ASTM D695
Poisson's Ratio	0.34		ISO 527

Impact	Typical Value	Unit	Test method
Notched Izod Impact			
3.18 mm	75	J/m	ASTM D256
--	8.0	kJ/m²	ISO 180/A

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Impact	Typical Value	Unit	Test method
Unnotched Izod Impact			
3.18 mm	320	J/m	ASTM D4812
--	24	kJ/m²	ISO 180

Hardness	Typical Value	Unit	Test method
Rockwell Hardness			ASTM D785
M-Scale	101		
R-Scale	119		

Thermal	Typical Value	Unit	Test method
Deflection Temperature Under Load			ASTM D648
1.8 MPa, Unannealed	265	°C	
CLTE			ASTM E831
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	3.0E-5	cm/cm/°C	
Transverse : 100 to 200°C	7.0E-5	cm/cm/°C	
Thermal Conductivity	0.51	W/m/K	
UL Temperature Rating	220 to 240	°C	UL 746B

Electrical	Typical Value	Unit	Test method
Surface Resistivity	1.0E+16	ohms	ASTM D257
Volume Resistivity	1.0E+15	ohms·cm	ASTM D257
Dielectric Strength	18	kV/mm	ASTM D149
Dielectric Constant			ASTM D150
25°C, 1 kHz	4.70		
25°C, 1 MHz	4.60		
Dissipation Factor			ASTM D150
25°C, 1 kHz	2.0E-3		
25°C, 1 MHz	3.0E-3		
Arc Resistance	180	sec	ASTM D495
Comparative Tracking Index (CTI)	225	V	UL 746
Insulation Resistance [1] (90°C)	1.0E+10	ohms	

Flammability	Typical Value	Unit	Test method
Flame Rating (1.60 mm)	• V-0 • 5VA		UL 94
Oxygen Index	65	%	ASTM D2863

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Notes

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

[1] 95%RH, 48 hr

www.solvay.com

SpecialtyPolymers.EMEA@solvay.com | Europe, Middle East and Africa
SpecialtyPolymers.Americas@solvay.com | Americas
SpecialtyPolymers.Asia@solvay.com | Asia and Australia

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