Ryton® R-4-232BL

polyphenylene sulfide

Ryton® R-4-232BL 40% glass fiber reinforced polyphenylene sulfide compound complies with United States Food and Drug Administration (FDA), NSF51, and European Union (EU 10/2011) regulations for use as a component of articles intended for repeat use in contact with all types of foods. It has also been approved for drinking water systems by NSF61, KTW and ACS.

General		
Material Status	• Commercial: Active	
Availability	• Asia Pacific • Europe	• Latin America • North America
Filler / Reinforcement	• Glass Fiber, 40% Filler by Weight	
Features	• Food Contact Acceptable	
Uses	• Appliance Components	
Agency Ratings	• ACS Unspecified Rating • EU 10/2011 • FDA Food Contact, Unspecified Rating	• KTW Unspecified Rating • NSF STD-51 • NSF STD-61
RoHS Compliance	• RoHS Compliant	
Appearance	• Black	
Forms	• Pellets	
Processing Method	• Injection Molding	

Physical	Typical Value	Unit	Test method
Density / Specific Gravity	1.68		ASTM D792
Molding Shrinkage			
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 Modulus	16100	MPa	ISO 527-2
Tensile Stress	145	MPa	ISO 527-2
Tensile Strain (Break)	1.1	%	ISO 527-2
Flexural Modulus	15900	MPa	ISO 178
Flexural Strength	230	MPa	ASTM D790
Compressive Strength	275	MPa	ASTM D695
Poisson's Ratio	0.43		ISO 527

Impact	Typical Value	Unit	Test method
Notched Izod Impact			
3.18 mm	90	J/m	ASTM D256
--	8.7	kJ/m²	ISO 180/A
Unnotched Izod Impact			
3.18 mm	370	J/m	ASTM D4812
--	26	kJ/m²	ISO 180

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Hardness	Typical Value	Unit	Test method
Rockwell Hardness			ASTM D785
M-Scale	104		
R-Scale	122		

Thermal	Typical Value	Unit	Test method
Deflection Temperature Under Load			ASTM D648
1.8 MPa, Unannealed	265	°C	
CLTE			ASTM E831
Flow : 50 to 100°C	1.5E-5	cm/cm/°C	
Flow : 100 to 200°C	1.5E-5	cm/cm/°C	
Transverse : 50°C	4.0E-5	cm/cm/°C	
Transverse : 100 to 200°C	8.0E-5	cm/cm/°C	
Thermal Conductivity	0.31	W/m/K	
UL Temperature Rating	200 to 220	°C	UL 746B

Flammability	Typical Value	Unit	Test method
Flame Rating			UL 94
0.39 mm	V-0		
1.5 mm	5VA		

Notes

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

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