Ryton® R-4-244BL
polyphenylene sulfide

Ryton® R-4-244BL 40% glass fiber reinforced polyphenylene sulfide compound complies with United States Food and Drug Administration (FDA) and European Union food contact regulations. This grade has been approved for use with potable water in the United States, France, Germany, and the United Kingdom.

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 [1] • DM 174/2004 • DVGW [1] • EU Food Contact [1] • FDA Food Contact [1]	• KTW [1] • NSF STD-51 • NSF STD-61 • WRAS [1]
RoHS Compliance	• RoHS Compliant	
Appearance	• Black	
Forms	• Pellets	
Processing Method	• Injection Molding	

Physical	Typical Value	Unit	Test method
Density / Specific Gravity	1.67		ASTM D792
Molding Shrinkage			ASTM D955
Flow : 3.20 mm	0.21	%	
Across Flow : 3.20 mm	0.73	%	
Water Absorption (24 hr, 23°C)	7.0E-3	%	ASTM D570

Mechanical	Typical Value	Unit	Test method
Tensile Modulus	15600	MPa	ISO 527-1
Tensile Strength	197	MPa	ISO 527-2
Tensile Strain (Break)	1.8	%	ISO 527-2
Flexural Modulus	14900	MPa	ISO 178
Flexural Stress	273	MPa	ISO 178
Compressive Strength	164	MPa	ASTM D695
Poisson's Ratio	0.40		ISO 527

Impact	Typical Value	Unit	Test method
Notched Izod Impact Strength	10	kJ/m²	ISO 180
Unnotched Izod Impact Strength	40	kJ/m²	ISO 180

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Hardness	Typical Value	Unit	Test method
Rockwell Hardness			ASTM D785
M-Scale	103		
R-Scale	123		

Thermal	Typical Value	Unit	Test method
Deflection Temperature Under Load			ISO 75-2/A
1.8 MPa, Unannealed	270	°C	
Melting Temperature	285	°C	
CLTE			ASTM E831
Flow : 25 to 75°C	1.6E-5	cm/cm/°C	
Flow : 125 to 150°C	1.0E-5	cm/cm/°C	
Transverse : 25 to 75°C	5.2E-5	cm/cm/°C	
Transverse : 125 to 200°C	1.3E-4	cm/cm/°C	
Thermal Conductivity	0.28	W/m/K	ASTM E1530

Electrical	Typical Value	Unit	Test method
Surface Resistivity	5.2E+15	ohms	ASTM D257
Volume Resistivity	1.4E+16	ohms·cm	ASTM D257
Dielectric Strength	20	kV/mm	ASTM D149
Dielectric Constant			ASTM D150
25°C, 1 Hz	3.84		
25°C, 1 MHz	3.95		
Dissipation Factor			ASTM D150
25°C, 1 Hz	0.0		
25°C, 1 MHz	1.0E-3		
Arc Resistance	133	sec	ASTM D495
Comparative Tracking Index (CTI)	150	V	IEC 60112
Comparative Tracking Index (CTI)	PLC 3		UL 746A

Flammability	Typical Value	Unit	Test method
Flame Rating (0.75 mm)	V-0		UL 94

Injection	Typical Value	Unit
Drying Temperature	135 to 150	°C
Drying Time	2.0 to 4.0	hr
Rear Temperature	295 to 315	°C
Middle Temperature	305 to 325	°C
Front Temperature	315 to 345	°C
Nozzle Temperature	305 to 325	°C
Processing (Melt) Temp	320 to 330	°C
Mold Temperature	135 to 150	°C

Notes

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

[1] For specific clearances, please contact your Solvay representative.