Ryton® BR42B

Polyphenylene Sulfide

Solvay Specialty Polymers

Message:

Ryton® BR42B 40% glass fiber reinforced polyphenylene sulfide compound is specially formulated to provide low coefficient of friction and reduced wear rate for use in applications requiring low surface friction and/or wear.

General Information			
UL YellowCard	E95746-102108299		
Filler / Reinforcement	Glass Fiber,40% Filler by Weight		
Features	Good Wear Resistance Low Friction		
Uses	Electrical/Electronic Applications		
RoHS Compliance	RoHS Compliant		
Appearance	Natural Color		
Forms	Pellets		
Processing Method	Injection Molding		
Physical	**Nominal Value**	**Unit**	**Test Method**
Specific Gravity	1.76	g/cm³	ASTM D792
Molding Shrinkage			
Flow : 3.20 mm	0.20	%	
Across Flow : 3.20 mm	0.50	%	
Water Absorption (23°C, 24 hr)	0.020	%	ASTM D570
Hardness	**Nominal Value**	**Unit**	**Test Method**
Rockwell Hardness			ASTM D785
M-Scale	97		
R-Scale	117		
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Strength			
--	186	MPa	ASTM D638
--	190	MPa	ISO 527-2
Tensile Elongation (Break)	1.6	%	ASTM D638, ISO 527-2
Flexural Modulus			
--	14500	MPa	ASTM D790
--	14000	MPa	ISO 178
Flexural Strength			
--	269	MPa	ASTM D790
--	280	MPa	ISO 178
Compressive Strength	255	MPa	ASTM D695

Poisson's Ratio	0.40		
Coefficient of Friction [1] (vs. Steel - Dynamic)	0.32		ASTM D3702
Wear Rate [2]	1.60E-6	m/hr	ASTM D3702
Impact	**Nominal Value**	**Unit**	**Test Method**
Notched Izod Impact			
3.18 mm	91	J/m	ASTM D256
--	9.5	kJ/m^2	ISO 180/A
Unnotched Izod Impact			
3.18 mm	750	J/m	ASTM D4812
--	40	kJ/m^2	ISO 180
Thermal	**Nominal Value**	**Unit**	**Test Method**
Deflection Temperature Under Load (1.8 MPa, Unannealed)	265	°C	ASTM D648
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	4.0E-5	cm/cm/°C	
Transverse : 100 to 200°C	8.0E-5	cm/cm/°C	
Thermal Conductivity	0.33	W/m/K	
UL Temperature Rating	180	°C	UL 746B
Electrical	**Nominal Value**	**Unit**	**Test Method**
Surface Resistivity	1.0E+16	ohms	ASTM D257
Volume Resistivity	1.0E+16	ohms·cm	ASTM D257
Dielectric Strength	22	kV/mm	ASTM D149
Dielectric Constant			ASTM D150
25°C, 1 kHz	3.70		
25°C, 1 MHz	3.70		
Dissipation Factor			ASTM D150
25°C, 1 kHz	2.0E-3		
25°C, 1 MHz	3.0E-3		
Comparative Tracking Index (CTI)	150	V	UL 746
Insulation Resistance [3] (90°C)	1.0E+11	ohms	
Flammability	**Nominal Value**	**Unit**	**Test Method**
Flame Rating (1.60 mm)	V-0		UL 94
Oxygen Index	48	%	ASTM D2863
NOTE			
1.	Against 52100 steel; 100 hrs; 250 psi; 36 rpm; dry; ambient temperature; PV=2500		
2.	Against 52100 steel; 100 hrs; 250 psi; 36 rpm; dry; ambient temperature; PV=2500		
3.	95%RH, 48 hr		

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