Ryton® R-4-200BL
polyphenylene sulfide

Ryton® R-4-200NA and R-4-200BL 40% glass fiber reinforced polyphenylene sulfide compounds provide enhanced mechanical strength and low maintenance molding using conventional molding equipment

General		
Material Status	• Commercial: Active	
Availability	• Asia Pacific • Europe	• Latin America • North America
Filler / Reinforcement	• Glass Fiber, 40% Filler by Weight	
Features	• Good Strength	
Uses	• Automotive Applications	
RoHS Compliance	• RoHS Compliant	
Automotive Specifications	• CHRYSLER MS-DB-570 CPN3502 Color: Black • FORD WSG-M4D807-A3 Color: Black	• FORD WSL-M4D807-A
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 Strength			
--	179	MPa	ASTM D638
--	185	MPa	ISO 527-2
Tensile Elongation (Break)	1.5	%	ASTM D638 ISO 527-2
Flexural Modulus			
--	14500	MPa	ASTM D790
--	14000	MPa	ISO 178
Flexural Strength			
--	255	MPa	ASTM D790
--	260	MPa	ISO 178
Compressive Strength	275	MPa	ASTM D695
Poisson's Ratio	0.40		ISO 527

Impact	Typical Value	Unit	Test method
Notched Izod Impact			
3.18 mm	80	J/m	ASTM D256
--	8.0	kJ/m²	ISO 180/A
Unnotched Izod Impact			
3.18 mm	530	J/m	ASTM D4812
--	35	kJ/m²	ISO 180

Hardness	Typical Value	Unit	Test method
Rockwell Hardness			ASTM D785
M-Scale	100		
R-Scale	120		

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	4.0E-5	cm/cm/°C	
Transverse : 100 to 200°C	8.5E-5	cm/cm/°C	
Thermal Conductivity	0.33	W/m/K	
UL Temperature Rating	200 to 220	°C	UL 746B

Electrical	Typical 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	3.90		
25°C, 1 MHz	3.80		
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)	PLC 4		UL 746A
Comparative Tracking Index	175	V	IEC 60112
Insulation Resistance[1] (90°C)	1.0E+11	ohms	

Flammability	Typical Value	Unit	Test method
Flame Rating (1.6 mm)	• V-0 • 5VA		UL 94
Oxygen Index	57	%	ASTM D2863

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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] 95%RH, 48 hr

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Safety Data Sheets (SDS) are available by emailing us or contacting your sales representative. Always consult the appropriate SDS before using any of our products.

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