



Data Sheet

Nominal Engineering Properties of Ryton® R-4-200

Ryton® R-4-200 is an advanced 40% fiberglass reinforced polyphenylene sulfide compound developed to provide high strength, fast cycles, and low maintenance molding using conventional molding equipment.

Property*	Test Method	R-4-200NA	R-4-200BL
Tensile Strength, MPa	ISO 527	200	185
Elongation, %	ISO 527	1.7	1.6
Flexural Strength, MPa	ISO 178	285	260
Flexural Modulus, GPa	ISO 178	14	14
Izod Impact, kJ/m ²	ISO 180A		
Notched		9.0	8.0
Unnotched		40	35
Compressive Strength, MPa	ISO 604	260	260
Heat Deflection Temperature, 1.8 MPa, °C**	ISO 75	>260	>260
UL Temperature Index, °C	UL 746B	200 / 220	200 / 220
Coefficient of Linear Thermal Exp., x 10 ⁻⁶ m/m/°C	ISO 11359-2		
Axial Direction, -50°C to 50°C		15	15
Axial Direction, 100°C to 200°C		10	10
Transverse Direction, -50°C to 50°C		40	40
Transverse Direction, 100°C to 200°C		90	90
Flammability Rating	UL 94	V-0 / 5VA	V-0 / 5VA
Thermal Conductivity, W/m-K		0.33	0.33
Dielectric Strength, kV/mm	ASTM D149	22	22
Dielectric Constant, 25°C	ASTM D150		
1 kHz		3.7	3.7
1 MHz		3.7	3.7
Dissipation Factor, 25°C	ASTM D150		
1 kHz		0.002	0.002
1 MHz		0.002	0.002
Volume Resistivity, ohm-cm	ASTM D257	1 x 10 ¹⁶	1 x 10 ¹⁶
Arc Resistance, sec	ASTM D495	125	125
Comparative Tracking Index, V	UL 746A	150	150
Insulation Resistance, ohm (90°C, 95% RH, 48 hr)		1 x 10 ¹¹	1 x 10 ¹¹
Mold Shrinkage,*** m/m, Flow / Transverse		0.003 / 0.005	0.003 / 0.005
Density, g/cc	ISO 1183A	1.65	1.65
Water Absorption, %	ASTM D570	0.02	0.02
Color		Natural	Black

*Test specimen molding conditions: Stock Temperature, 315-345°C; Mold Temperature, 135°C

**Annealed 2 hours at 200°C

***Measured on 102 mm X 102 mm X 3.2 mm Plaques, Edge Gated

THE NOMINAL PROPERTIES REPORTED HEREIN ARE TYPICAL OF THE PRODUCT BUT DO NOT REFLECT NORMAL TESTING VARIANCES AND THEREFORE SHOULD NOT BE USED FOR SPECIFICATION PURPOSES.

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For more information and technical assistance contact:

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Another quality product from



The Woodlands, Texas



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Property*	Test Method	R-4-200NA	R-4-200BL
Tensile Strength, Ksi	ASTM D638	28.0	26.0
Elongation, %	ASTM D638	1.7	1.5
Flexural Strength, Ksi	ASTM D790	39.0	36.0
Flexural Modulus, Msi	ASTM D790	2.1	2.1
Izod Impact, ft-lb/in, 1/8 in specimen	ASTM D256		
Notched		1.6	1.4
Unnotched		12.0	10.0
Compressive Strength, Ksi	ASTM D695	38.0	38.0
Heat Deflection Temperature, 264 psi, °F**	ASTM D648	>500	>500
UL Temperature Index, °C	UL 746B	200 / 220	200 / 220
Coefficient of Linear Thermal Exp., x 10 ⁻⁶ in/in/°C	ASTM E831		
Axial Direction, -50°C to 50°C		15	15
Axial Direction, 100°C to 200°C		10	10
Transverse Direction, -50°C to 50°C		40	40
Transverse Direction, 100°C to 200°C		90	90
Flammability Rating	UL 94	V-0 / 5VA	V-0 / 5VA
Thermal Conductivity, BTU-in/hr-ft ² .°F		2.3	2.3
Dielectric Strength, V/mil	ASTM D149	550	550
Dielectric Constant, 78°F	ASTM D150		
1 kHz		3.7	3.7
1 MHz		3.7	3.7
Dissipation Factor, 78°F	ASTM D150		
1 kHz		0.002	0.002
1 MHz		0.002	0.002
Volume Resistivity, ohm-cm	ASTM D257	1 x 10 ¹⁶	1 x 10 ¹⁶
Arc Resistance, sec	ASTM D495	125	125
Comparative Tracking Index, V	UL 746A	150	150
Insulation Resistance, ohm (90°C, 95% RH, 48 hr)		1 x 10 ¹¹	1 x 10 ¹¹
Mold Shrinkage,*** in/in, Flow / Transverse		0.003 / 0.005	0.003 / 0.005
Density, g/cc	ASTM D792	1.65	1.65
Water Absorption, %	ASTM D570	0.02	0.02
Color		Natural	Black

*Test specimen molding conditions: Stock Temperature, 600-650°F; Mold Temperature, 275°F

**Annealed 2 hours at 400°F

***Measured on 4 in X 4 in X 1/8 in Plaques, Edge Gated

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