

For more information and technical assistance contact:

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Ryton[®] R-7-120 Polyphenylene Sulfide Resins

Ryton[®] R-7-120 PPS is an advanced glass/mineral filled polyphenylene sulfide compound developed to provide good strength and low maintenance molding using conventional molding equipment.

Nominal Engineering Properties ⁽¹⁾	R-7-120NA	R-7-120BL	Test Method
Tensile Strength, Ksi	19.0	19.0	ASTM D638
Elongation, %	1.0	0.9	ASTM D638
Flexural Strength, Ksi	31.0	30.0	ASTM D790
Flexural Modulus, Msi	2.8	2.8	ASTM D790
Notched Izod Impact, ft-lb/in, 1/8 in specimen	1.0	0.9	ASTM D256
Unnotched Izod Impact, ft-lb/in, 1/8 in specimen	4.0	4.0	ASTM D256
Compressive Strength, Ksi	38.0	38.0	ASTM D695
Heat Deflection Temperature 264 psi, °F	>500	>500	ASTM D648
UL Temperature Index, °C	220 / 240	220 / 240	UL 746B
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	15	15	
Transverse Direction, -50°C to 50°C	30	30	
Transverse Direction, 100°C to 200°C	70	70	
Flammability Rating	V-0 / 5VA	V-0 / 5VA	UL 94
Thermal Conductivity, BTU-in/hr-ft ² -°F	4.1	4.1	
Dielectric Strength, V/mil	400	400	ASTM D149
Dielectric Constant, 78° F			ASTM D150
1kHz	4.9	4.9	
1MHz	4.8	4.8	
Dissipation Factor, 78°F			ASTM D150
1 kHz	0.004	0.004	
1 MHz	0.002	0.002	
Volume Resistivity, ohm-cm	1 x 10 ¹⁵	1 x 10 ¹⁵	ASTM D257
Arc Resistance, sec	185	185	ASTM D495
Comparative Tracking Index, V	250	250	UL 746A
Insulation Resistance, ohm (90°C, 95% RH, 48 hr)	1 x 10 ¹¹	1 x 10 ¹¹	
Mold Shrinkage ⁽²⁾ in/in, Flow/Transverse	0.002 / 0.006	0.002 / 0.006	
Density, g/cc	1.99	1.99	ASTM D792
Water Absorption, % (23°C, 24 hr)	0.02	0.02	ASTM D570
Color	Natural	Black	

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

(2) Measured on 4 in X 4 in X 1/8 in 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.

MSDS #440880

Revision Date July, 2009

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Nominal Engineering Properties ⁽⁵⁾	R-7-120NA	R-7-120BL	Method
Tensile Strength, MPa	140	135	ISO 527
Elongation, %	0.9	0.8	ISO 527
Flexural Strength, MPa	220	205	ISO 178
Flexural Modulus, GPa	19	19	ISO 178
Notched Izod Impact, kJ/m ²	5.5	5.5	ISO 180A
Unnotched Izod Impact, kJ/m ²	16	15	ISO 180U
Compressive Strength, MPa	265	265	ISO 604
Heat Deflection Temperature 1.8 MPa, °C	>260	>260	ISO 75
UL Temperature Index, °C	220 / 240	220 / 240	UL 746B
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	15	15	
Transverse Direction, -50°C to 50°C	30	30	
Transverse Direction, 100°C to 200°C	70	70	
Flammability Rating	V-0 / 5VA	V-0 / 5VA	UL 94
Thermal Conductivity, W/m·K	0.59	0.59	
Dielectric Strength, kV/mm	16	16	ASTM D149
Dielectric Constant, 25°C			ASTM D150
1kHz	4.9	4.9	
1MHz	4.8	4.8	
Dissipation Factor, 25°C			ASTM D150
1 kHz	0.004	0.004	
1 MHz	0.002	0.002	
Volume Resistivity, ohm-cm	1 x 10 ¹⁵	1 x 10 ¹⁵	ASTM D257
Arc Resistance, sec	185	185	ASTM D495
Comparative Tracking Index, V	250	250	UL 746A
Insulation Resistance, ohm (90°C, 95% RH, 48 hr)	1 x 10 ¹¹	1 x 10 ¹¹	
Mold Shrinkage ⁽⁶⁾ m/m, Flow/Transverse	0.002 / 0.006	0.002 / 0.006	
Density, g/cc	1.99	1.99	ISO 1183A
Water Absorption, %	0.02	0.02	ASTM D570
Color	Natural	Black	

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

(6) Measured on 102 mm X 102 mm X 3.2 mm Plaques, Edge Gated

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