

## Solvay Specialty Polymers Ryton® R-4XT Polyphenylene Sulfide Compound (Unverified Data\*\*)

Category : Polymer , Thermoplastic , Polyphenylene Sulfide (PPS) , Polyphenylene Sulfide (PPS) with 40% Glass Fiber Filler

### Material Notes:

Natural Color Polyphenylene Sulfide Compound Ryton® R-4XT is a 40% fiberglass reinforced polyphenylene sulfide compound that takes advantage of state-of-the-art polymerization technology to improve ductility and impact strength. Comments: Test specimen molding conditions: Stock Temperature, 315-345°C; Mold Temperature, 135°C; ASTM Values Converted to SI Units Data provided by Chevron Phillips Chemical Company LP. Solvay Specialty Polymers has acquired the Ryton product line.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Solvay-Specialty-Polymers-Ryton-R-4XT-Polyphenylene-Sulfide-Compound-nbspUnverified-Data.php](http://www.lookpolymers.com/polymer_Solvay-Specialty-Polymers-Ryton-R-4XT-Polyphenylene-Sulfide-Compound-nbspUnverified-Data.php)

Physical Properties	Metric	English	Comments
Density	1.65 g/cc	0.0596 lb/in <sup>3</sup>	ASTM D792
Water Absorption	0.050 %	0.050 %	ASTM D570
Linear Mold Shrinkage	0.0030 cm/cm	0.0030 in/in	102 mm X 102 mm X 3.2 mm Plaques, Edge Gated
Linear Mold Shrinkage, Transverse	0.0050 cm/cm	0.0050 in/in	Measured on 102 mm X 102 mm X 3.2 mm Plaques, Edge Gated

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	120	120	
	120	120	ASTM D785
Tensile Strength, Ultimate	195 MPa	28300 psi	ASTM D638
Elongation at Break	1.6 %	1.6 %	ASTM D638
Flexural Yield Strength	270 MPa	39200 psi	ASTM D790
Flexural Modulus	15.0 GPa	2180 ksi	ASTM D790
Compressive Yield Strength	275 MPa	39900 psi	ASTM D695
Poissons Ratio	0.40	0.40	
	0.40	0.40	
Izod Impact, Notched	0.850 J/cm	1.59 ft-lb/in	ASTM D256
Izod Impact, Unnotched	6.40 J/cm	12.0 ft-lb/in	ASTM D256

Thermal Properties	Metric	English	Comments
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Thermal Properties	Metric	English	Comments
CTE, linear	12.0 $\mu\text{m}/\text{m}\cdot\text{C}$	6.67 $\mu\text{in}/\text{in}\cdot\text{F}$	Axial, ASTM E831
	@Temperature 100 - 200 °C	@Temperature 212 - 392 °F	
	15.0 $\mu\text{m}/\text{m}\cdot\text{C}$	8.33 $\mu\text{in}/\text{in}\cdot\text{F}$	Axial; ASTM E831
	@Temperature -50.0 - 50.0 °C	@Temperature -58.0 - 122 °F	
CTE, linear, Transverse to Flow	40.0 $\mu\text{m}/\text{m}\cdot\text{C}$	22.2 $\mu\text{in}/\text{in}\cdot\text{F}$	ASTM E831
	@Temperature 20.0 °C	@Temperature 68.0 °F	
	83.0 $\mu\text{m}/\text{m}\cdot\text{C}$	46.1 $\mu\text{in}/\text{in}\cdot\text{F}$	ASTM E831
	@Temperature 100 - 200 °C	@Temperature 212 - 392 °F	
Thermal Conductivity	0.300 W/m-K	2.08 BTU-in/hr-ft <sup>2</sup> -°F	
Maximum Service Temperature, Air	200 °C	392 °F	UL Temperature Index 200 / 220 per UL746B
Deflection Temperature at 1.8 MPa (264 psi)	>= 260 °C	>= 500 °F	Annealed 2 hr @ 200°C; ASTM D656
Flammability, UL94	5VA	5VA	UL94 V-0/5VA
Oxygen Index	53 %	53 %	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	1.00e+15 ohm-cm	1.00e+15 ohm-cm	ASTM D257
Surface Resistance	1.00e+11 ohm	1.00e+11 ohm	95% RH, 48 hrs
	@Temperature 90.0 °C	@Temperature 194 °F	
Insulation Resistance	1.00e+11 ohm	1.00e+11 ohm	Accelerated; 194°F; 95% RH; 2 days; ASTM D257
Dielectric Constant	3.9	3.9	ASTM D150
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	
	4.0	4.0	ASTM D150
	@Frequency 1000 Hz	@Frequency 1000 Hz	
Dielectric Strength	20.0 kV/mm	508 kV/in	ASTM D149
Dissipation Factor	0.0020	0.0020	ASTM D150
	@Frequency 1000 Hz	@Frequency 1000 Hz	
	0.0040	0.0040	ASTM D150
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	

Arc Resistance Electrical Properties	125 sec Metric	125 sec English	ASTM D495 Comments
Comparative Tracking Index	130 V	130 V	UL 746A

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