

Chevron Phillips Ryton® R-7-220NA Polyphenylene Sulfide Resin (discontinued **)

Category : Polymer , Thermoplastic , Polyphenylene Sulfide (PPS)

Material Notes:

Ryton® R-7-220 is a glass and mineral filled polyphenylene sulfide compound developed to provide good mechanical strength and enhanced hydrolytic stability in applications requiring constant or repeated exposure to high temperature water. Measured on 102mm x 102mm x 3.2 mm plaques, edge gated. Information provided by Chevron Phillips Solvay Specialty Polymers has acquired the Ryton product line. This product was discontinued prior to the acquisition and is listed under the Chevron Phillips name for historical purposes.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Chevron-Phillips-Ryton-R-7-220NA-Polyphenylene-Sulfide-Resin-nbspdiscontinued-.php

Physical Properties	Metric	English	Comments
Density	1.95 g/cc	0.0704 lb/in ³	ISO 1183A
Water Absorption	0.020 %	0.020 %	ASTM D-570
Linear Mold Shrinkage, Flow	0.0020 cm/cm	0.0020 in/in	
Linear Mold Shrinkage, Transverse	0.0050 cm/cm	0.0050 in/in	

Mechanical Properties	Metric	English	Comments
Tensile Strength, Yield	165 MPa	23900 psi	ISO 527
Elongation at Yield	1.2 %	1.2 %	ISO 527
Flexural Strength	255 MPa	37000 psi	ISO 178
Flexural Modulus	19.0 GPa	2760 ksi	ISO 178
Compressive Strength	275 MPa	39900 psi	ISO 604
Izod Impact, Notched (ISO)	7.00 kJ/m ²	3.33 ft-lb/in ²	ISO 180A
Izod Impact, Unnotched (ISO)	25.0 kJ/m ²	11.9 ft-lb/in ²	ISO 180A

Thermal Properties	Metric	English	Comments
CTE, linear	15.0 µm/m-°C	8.33 µin/in-°F	Axial; ISO 11359-2
	@Temperature -50.0 - 50.0 °C	@Temperature -58.0 - 122 °F	
	15.0 µm/m-°C	8.33 µin/in-°F	Axial; ISO 11359-2
	@Temperature 100 - 200 °C	@Temperature 212 - 392 °F	
	30.0 µm/m-°C	16.7 µin/in-°F	

Thermal Properties	Metric	English	Comments
CTE, linear Transverse to Flow	@ Temperature -50.0 - 50.0 °C	@ Temperature -58.0 - 122 °F	ISO 11359-2
	70.0 µm/m-°C	38.9 µin/in-°F	ISO 11359-2
	@Temperature 100 - 200 °C	@Temperature 212 - 392 °F	
Deflection Temperature at 1.8 MPa (264 psi)	>= 260 °C	>= 500 °F	ISO 75
Flammability, UL94	V-0	V-0	

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+15 ohm-cm	1.00e+15 ohm-cm	ASTM D-257
Dielectric Constant	4.5	4.5	ASTM D-150
	@Frequency 1000 Hz	@Frequency 1000 Hz	
	4.5	4.5	ASTM D-150
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	
Dielectric Strength	18.0 kV/mm	457 kV/in	ASTM D-149
Dissipation Factor	0.0020	0.0020	ASTM D-150
	@Frequency 1000 Hz	@Frequency 1000 Hz	
	0.0030	0.0030	ASTM D-150
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	
Arc Resistance	180 sec	180 sec	ASTM D-495

Processing Properties	Metric	English	Comments
Melt Temperature	315 - 345 °C	599 - 653 °F	
Mold Temperature	135 °C	275 °F	

Descriptive Properties	Value	Comments
Hydrolytic Stability; Tensile Strength Retained, %	>75	1000 hr in water at 140°C
Hydrolytic Stability; Weight Gain %	<1	1000 hr in water at 140°C

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