

Chevron Phillips Ryton® R10 7006A PPS Polyphenylene Sulfide (discontinued **)

Category : Polymer , Thermoplastic , Polyphenylene Sulfide (PPS)

Material Notes:

Ryton® PPS is used in many electronic and automotive applications because of its high strength, favorable electrical properties, and high temperature stability. Data provided by the manufacturer. 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-R10-7006A-PPS-Polyphenylene-Sulfide-nbspdiscontinued-.php

Physical Properties	Metric	English	Comments
Density	2.00 g/cc	0.0723 lb/in ³	ASTM D792
Water Absorption	0.070 %	0.070 %	ASTM D570

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	120	120	
Tensile Strength, Ultimate	110 MPa	16000 psi	ASTM D638
Tensile Strength, Yield	110 MPa	16000 psi	ASTM D638
Elongation at Break	0.70 %	0.70 %	ASTM D638
Flexural Yield Strength	152 MPa	22000 psi	ASTM D790
Flexural Modulus	17.0 GPa	2470 ksi	ASTM D790
Compressive Yield Strength	128 MPa	18600 psi	ASTM D695
Fatigue Strength	38.0 MPa	5510 psi	Flexural fatigue; ASTM D 671
	@# of Cycles 1.00e+7	@# of Cycles 1.00e+7	
	38.0 MPa	5510 psi	tensile fatigue
	@# of Cycles 1.00e+6	@# of Cycles 1.00e+6	
Shear Strength	76.0 MPa	11000 psi	ASTM D732
Izod Impact, Notched	0.530 J/cm	0.993 ft-lb/in	ASTM D256
	0.507 J/cm	0.950 ft-lb/in	
	@Temperature -40.0 °C	@Temperature -40.0 °F	
Izod Impact, Unnotched	1.60 J/cm	3.00 ft-lb/in	ASTM D256
	1.71 J/cm	3.20 ft-lb/in	

Mechanical Properties	Metric	English	Comments
	@Temperature -40.0 °C	@Temperature -40.0 °F	
Thermal Properties	Metric	English	Comments
CTE, linear	8.00 $\mu\text{m}/\text{m}\cdot\text{°C}$	4.44 $\mu\text{in}/\text{in}\cdot\text{°F}$	
	@Temperature 100 °C	@Temperature 212 °F	
	10.0 $\mu\text{m}/\text{m}\cdot\text{°C}$	5.56 $\mu\text{in}/\text{in}\cdot\text{°F}$	
	@Temperature -100 °C	@Temperature -148 °F	
	18.0 $\mu\text{m}/\text{m}\cdot\text{°C}$	10.0 $\mu\text{in}/\text{in}\cdot\text{°F}$	
	@Temperature 250 °C	@Temperature 482 °F	
	22.0 $\mu\text{m}/\text{m}\cdot\text{°C}$	12.2 $\mu\text{in}/\text{in}\cdot\text{°F}$	In machine direction.
	@Temperature 20.0 °C	@Temperature 68.0 °F	
CTE, linear, Transverse to Flow	20.0 $\mu\text{m}/\text{m}\cdot\text{°C}$	11.1 $\mu\text{in}/\text{in}\cdot\text{°F}$	
	@Temperature -100 °C	@Temperature -148 °F	
	22.0 $\mu\text{m}/\text{m}\cdot\text{°C}$	12.2 $\mu\text{in}/\text{in}\cdot\text{°F}$	
	@Temperature 20.0 °C	@Temperature 68.0 °F	
	50.0 $\mu\text{m}/\text{m}\cdot\text{°C}$	27.8 $\mu\text{in}/\text{in}\cdot\text{°F}$	
	@Temperature 100 °C	@Temperature 212 °F	
	75.0 $\mu\text{m}/\text{m}\cdot\text{°C}$	41.7 $\mu\text{in}/\text{in}\cdot\text{°F}$	
	@Temperature 250 °C	@Temperature 482 °F	
Specific Heat Capacity	0.770 J/g-°C	0.184 BTU/lb-°F	
	0.803 J/g-°C	0.192 BTU/lb-°F	
Thermal Conductivity	0.560 W/m-K	3.89 BTU-in/hr-ft ² -°F	
Melting Point	285 °C	545 °F	
Maximum Service Temperature, Air	230 °C	446 °F	UL temperature Index 220/240°C (430/460°F)
Deflection Temperature at 1.8 MPa (264 psi)	>= 260 °C	>= 500 °F	ASTM D648
Glass Transition Temp, Tg	88.0 °C	190 °F	
Flammability, UL94	V-0	V-0	
Oxygen Index	53 %	53 %	ASTM D2863

Electrical Properties	Metric	English	Comments
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Electrical Properties	Metric ^{15 ohm-cm}	English ^{5 ohm-cm}	Comments
Surface Resistance	2.00e+8 ohm @Temperature 90.0 °C	2.00e+8 ohm @Temperature 194 °F	95% RH, 48 hrs
Dielectric Constant	5.8 @Frequency 1000 Hz	5.8 @Frequency 1000 Hz	ASTM D150
	5.8 @Frequency 1e+6 Hz	5.8 @Frequency 1e+6 Hz	ASTM D150
Dielectric Strength	16.0 kV/mm	406 kV/in	ASTM D149
Dissipation Factor	0.029 @Frequency 1e+6 Hz	0.029 @Frequency 1e+6 Hz	ASTM D150
	0.030 @Frequency 1000 Hz	0.030 @Frequency 1000 Hz	ASTM D150
Arc Resistance	116 sec	116 sec	ASTM D495
Comparative Tracking Index	220 V	220 V	UL 746A

Processing Properties	Metric	English	Comments
Melt Temperature	304 - 343 °C	579 - 649 °F	

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