

Chevron Phillips Ryton® A-200 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-A-200-PPS-Polyphenylene-Sulfide-nbspdiscontinued-.php

Physical Properties	Metric	English	Comments
Density	1.60 g/cc	0.0578 lb/in ³	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	120	120	
Tensile Strength, Ultimate	120 MPa	17400 psi	ASTM D638
Tensile Strength, Yield	120 MPa	17400 psi	ASTM D638
Elongation at Break	1.0 %	1.0 %	ASTM D638
Modulus of Elasticity	13.0 GPa	1890 ksi	ASTM D638
Flexural Yield Strength	170 MPa	24700 psi	ASTM D790
Flexural Modulus	12.0 GPa	1740 ksi	ASTM D790
Compressive Yield Strength	170 MPa	24700 psi	ASTM D695
Poissons Ratio	0.396	0.396	
Shear Modulus	4.66 GPa	676 ksi	Calculated
Shear Strength	82.7 MPa	12000 psi	
Izod Impact, Notched	0.530 J/cm	0.993 ft-lb/in	ASTM D256
Izod Impact, Unnotched	2.40 J/cm	4.50 ft-lb/in	ASTM D256
Taber Abrasion, mg/1000 Cycles	23	23	CS-17 wheel; 1 kg

Thermal Properties	Metric	English	Comments
CTE, linear	18.0 µm/m-°C	10.0 µin/in-°F	
	@Temperature - 100 °C	@Temperature - 148 °F	
	20.0 µm/m-°C	11.1 µin/in-°F	

Thermal Properties	Metric	English	Comments
	35.0 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$ @Temperature 250.0 $^{\circ}\text{C}$	19.4 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$ @Temperature 482 $^{\circ}\text{F}$	In machine direction.
CTE, linear, Transverse to Flow	25.0 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$ @Temperature -100 $^{\circ}\text{C}$	13.9 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$ @Temperature -148 $^{\circ}\text{F}$	
	35.0 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$ @Temperature 20.0 $^{\circ}\text{C}$	19.4 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$ @Temperature 68.0 $^{\circ}\text{F}$	
	60.0 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$ @Temperature 250 $^{\circ}\text{C}$	33.3 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$ @Temperature 482 $^{\circ}\text{F}$	
Thermal Conductivity	0.320 W/m-K @Temperature 90.0 $^{\circ}\text{C}$	2.22 BTU-in/hr-ft ² - $^{\circ}\text{F}$ @Temperature 194 $^{\circ}\text{F}$	
Melting Point	285 $^{\circ}\text{C}$	545 $^{\circ}\text{F}$	
Deflection Temperature at 1.8 MPa (264 psi)	≥ 260 $^{\circ}\text{C}$	≥ 500 $^{\circ}\text{F}$	Estimated from similar grades. ASTM D648
Glass Transition Temp, Tg	88.0 $^{\circ}\text{C}$	190 $^{\circ}\text{F}$	
Flammability, UL94	5VA	5VA	V-0/5VA UL-94 Rating (value for most Ryton® grades)
Oxygen Index	50 %	50 %	Estimated from similar grades.; ASTM D2863

Electrical Properties	Metric	English	Comments
Electrical Resistivity	1.40e+15 ohm-cm	1.40e+15 ohm-cm	ASTM D257
Insulation Resistance	1.00e+11 ohm	1.00e+11 ohm	Accelerated; 194°F; 95% RH; 2 days; ASTM D257
Dielectric Strength	19.1 kV/mm	485 kV/in	ASTM D149

Processing Properties	Metric	English	Comments
Melt Temperature	304 - 343 $^{\circ}\text{C}$	579 - 649 $^{\circ}\text{F}$	

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