

Solvay Specialty Polymers Ryton® R-4-220BL Polyphenylene Sulfide (PPS), 40% Glass Fiber

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

Material Notes:

Ryton® R-4-220NA and R-4-220BL 40% glass fiber reinforced polyphenylene sulfide compounds provide enhanced mechanical strength after constant or repeated exposure to high temperature water. Features: Good Strength Additional Properties: Hydrolytic Stability - > 80 %; Hydrolytic Stability - < 1.0 % Automotive Specifications CHRYSLER MS-DB-570 CPN3502 Color: Black; FORD WSL-M4D807-A; GM GMP.PPS.001 Information provided by Solvay Specialty Polymers.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Solvay-Specialty-Polymers-Ryton-R-4-220BL-Polyphenylene-Sulfide-PPS-40-Glass-Fiber.php

Physical Properties	Metric	English	Comments
Density	1.68 g/cc	0.0607 lb/in ³	ASTM D792
Filler Content	40 %	40 %	Glass Fiber
Water Absorption	0.020 % @Time 86400 sec	0.020 % @Time 24.0 hour	ISO 62
Linear Mold Shrinkage, Flow	0.0020 cm/cm @Thickness 3.18 mm	0.0020 in/in @Thickness 0.125 in	
Linear Mold Shrinkage, Transverse	0.0050 cm/cm @Thickness 3.20 mm	0.0050 in/in @Thickness 0.126 in	ASTM D955

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	103	103	ASTM D785
Hardness, Rockwell R	122	122	ASTM D785
Tensile Strength	172 MPa	24900 psi	ASTM D638
Tensile Stress	175 MPa	25400 psi	ISO 527-2
Elongation at Break	1.5 %	1.5 %	ISO 527-2
	1.5 %	1.5 %	ASTM D638
Flexural Strength	248 MPa	36000 psi	ASTM D790
	250 MPa	36300 psi	ISO 178
Flexural Modulus	14.0 GPa	2030 ksi	ISO 178
	14.5 GPa	2100 ksi	ASTM D790

Mechanical Properties	Metric	English	Comments
Poissons Ratio	0.37	0.37	ASTM E132
Izod Impact, Notched	0.800 J/cm @Thickness 3.18 mm	1.50 ft-lb/in @Thickness 0.125 in	ASTM D256
Izod Impact, Unnotched	4.80 J/cm @Thickness 3.18 mm	8.99 ft-lb/in @Thickness 0.125 in	ASTM D256
Izod Impact, Notched (ISO)	8.00 kJ/m ²	3.81 ft-lb/in ²	Notch A; ISO 180
Izod Impact, Unnotched (ISO)	30.0 kJ/m ²	14.3 ft-lb/in ²	ISO 180

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	15.0 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$	8.33 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$	2
	@Temperature 100 - 200 $\text{Å}^\circ\text{C}$	@Temperature 212 - 392 $\text{Å}^\circ\text{F}$	
	15.0 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$	8.33 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$	2
	@Temperature -50.0 - 50.0 $\text{Å}^\circ\text{C}$	@Temperature -58.0 - 122 $\text{Å}^\circ\text{F}$	
CTE, linear, Transverse to Flow	40.0 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$	22.2 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$	TMA; ASTM E831
	@Temperature -50.0 - 50.0 $\text{Å}^\circ\text{C}$	@Temperature -58.0 - 122 $\text{Å}^\circ\text{F}$	
	85.0 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$	47.2 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$	TMA; ASTM E831
	@Temperature 100 - 200 $\text{Å}^\circ\text{C}$	@Temperature 212 - 392 $\text{Å}^\circ\text{F}$	
Thermal Conductivity	0.310 W/m-K	2.15 BTU-in/hr-ft ² - $\text{Å}^\circ\text{F}$	ASTM C177
Maximum Service Temperature, Air	200 - 220 $\text{Å}^\circ\text{C}$	392 - 428 $\text{Å}^\circ\text{F}$	UL Temperature Rating
Deflection Temperature at 1.8 MPa (264 psi)	265 $\text{Å}^\circ\text{C}$	509 $\text{Å}^\circ\text{F}$	Unannealed; ASTM D648
Flammability, UL94	V-0	V-0	
	@Thickness 1.60 mm	@Thickness 0.0630 in	
Oxygen Index	45 %	45 %	ASTM D2863

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+16 ohm-cm	1.00e+16 ohm-cm	ASTM D257
Surface Resistance	1.00e+16 ohm	1.00e+16 ohm	ASTM D257

Electrical Properties	^{3.8} Metric	^{3.8} English	Comments
	@Frequency 1000 Hz	@Frequency 1000 Hz	
	3.8	3.8	ASTM D150
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Dielectric Strength	22.0 kV/mm	559 kV/in	ASTM D149
	0.0020	0.0020	ASTM D150
Dissipation Factor	@Frequency 1000 Hz	@Frequency 1000 Hz	
	0.0030	0.0030	ASTM D150
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Arc Resistance	125 sec	125 sec	ASTM D495
Comparative Tracking Index	150 V	150 V	UL 746

Descriptive Properties	Value	Comments
Availability	Asia Pacific	
	Europe	
	Latin America	
	North America	
Color	Black	
Form	Pellets	
Processing Technique	Injection Molding	
RoHS Compliance	RoHS Compliant	

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