

Sumitomo Bakelite North America RX[®] 431 Cellulose Reinforced Phenolic Novolac

Category : Polymer , Thermoset , Filled/Reinforced Thermoset , Phenolic , Phenolic, Novolac, Cellulose Filled

Material Notes:

RX431 is a cellulose fiber reinforced phenolic novolac molding compound. This material is recommended for large parts requiring moderate toughness. It is designed to meet the requirements of ASTM D-5948-96, Type CFI-10. (Replaces Military Specification MIL-M-14H.) Information supplied by Sumitomo Bakelite North America.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Sumitomo-Bakelite-North-America-RX-431-Cellulose-Reinforced-Phenolic-Novolac.php

Physical Properties	Metric	English	Comments
Bulk Density	0.400 g/cc	0.0145 lb/in ³	Powder; ASTM D1895
Density	1.43 g/cc	0.0517 lb/in ³	ASTM D-792
Water Absorption	0.60 %	0.60 %	24 hour; ASTM D570
	1.9 %	1.9 %	48 hour; ASTM D570
Linear Mold Shrinkage	0.0020 cm/cm	0.0020 in/in	ASTM D955

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell E	75	75	ASTM D785
Tensile Strength, Ultimate	41.0 MPa	5950 psi	ASTM D638
Flexural Strength	75.0 MPa	10900 psi	ASTM D790
Flexural Modulus	11.0 GPa	1600 ksi	ASTM D790
Compressive Strength	186 MPa	27000 psi	ASTM D695
Izod Impact, Notched	0.580 J/cm	1.09 ft-lb/in	ASTM D256A

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	27.0 $\mu\text{m/m}\cdot\text{Å}^\circ\text{C}$	15.0 $\mu\text{in/in}\cdot\text{Å}^\circ\text{F}$	ASTM E831
	@Temperature 20.0 $\text{Å}^\circ\text{C}$	@Temperature 68.0 $\text{Å}^\circ\text{F}$	
CTE, linear, Transverse to Flow	69.0 $\mu\text{m/m}\cdot\text{Å}^\circ\text{C}$	38.3 $\mu\text{in/in}\cdot\text{Å}^\circ\text{F}$	ASTM E831
	@Temperature 20.0 $\text{Å}^\circ\text{C}$	@Temperature 68.0 $\text{Å}^\circ\text{F}$	
Thermal Conductivity	0.580 W/m-K	4.03 BTU-in/hr-ft ² - $\text{Å}^\circ\text{F}$	ASTM C518

Thermal Properties	Metric	English	Comments
Deflection Temperature at 1.8 MPa (264 psi)	180 °C	356 °F	As Molded; ASTM D648A
Flammability, UL94	HB	HB	
	@Thickness 1.60 mm	@Thickness 0.0630 in	
	HB	HB	
	@Thickness 3.20 mm	@Thickness 0.126 in	

Electrical Properties	Metric	English	Comments
Dielectric Strength	1.40 kV/mm	35.6 kV/in	60 Hz, wet, SS; ASTM D149
	1.60 kV/mm	40.6 kV/in	ST; ASTM D149
Arc Resistance	60 sec	60 sec	ASTM D495

Descriptive Properties	Value	Comments
Available Molding Grades	Compression, Transfer, Injection	
Color	Black	
Form	Pellet	

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