

Sumitomo Bakelite Durez® 31735 Phenolic, Injection Grade

Category : Polymer , Thermoset , Phenolic

Material Notes:

Durez 31735 is a special purpose phenolic molding compound developed for automotive and industrial pulleys. This material is designed to optimize pulley performance relating to belt life, dimensional tolerance, impact strength, and other properties required in pulley applications. Information provided by Sumitomo Bakelite North America, Inc.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Sumitomo-Bakelite-Durez-31735-Phenolic-Injection-Grade.php

Physical Properties	Metric	English	Comments
Density	1.43 g/cc	0.0517 lb/in ³	ASTM D792
Apparent Bulk Density	0.490 g/cc	0.0177 lb/in ³	ASTM D1895
Water Absorption	0.50 %	0.50 %	ASTM D570
Linear Mold Shrinkage	0.0090 cm/cm	0.0090 in/in	ASTM D955

Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	52.0 MPa	7540 psi	ASTM D638
Tensile Modulus	6.90 GPa	1000 ksi	ASTM D638
Flexural Strength	86.0 MPa	12500 psi	
Compressive Strength	207 MPa	30000 psi	ASTM D695
Izod Impact, Notched	0.214 J/cm	0.401 ft-lb/in	ASTM D256

Thermal Properties	Metric	English	Comments
CTE, linear	36.0 $\mu\text{m/m}\cdot\text{C}^\circ$	20.0 $\mu\text{in/in}\cdot\text{F}^\circ$	
	@Temperature 30.0 - 150 C°	@Temperature 86.0 - 302 F°	
Specific Heat Capacity	1.17 J/g $\cdot\text{C}^\circ$	0.280 BTU/lb $\cdot\text{F}^\circ$	
Thermal Conductivity	0.370 W/m-K	2.57 BTU-in/hr $\cdot\text{ft}^2\cdot\text{F}^\circ$	Cenco Fitch
Deflection Temperature at 1.8 MPa (264 psi)	163 C°	325 F°	ASTM D648

Electrical Properties	Metric	English	Comments
Electrical Resistivity	1.00e+12 ohm-cm	1.00e+12 ohm-cm	ASTM D257

Electrical Properties	Metric	English	Comments
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	
Dielectric Strength	11.8 kV/mm	300 kV/in	Step by step; ASTM D149
	12.8 kV/mm	325 kV/in	Short Time; ASTM D149
Dissipation Factor	0.050	0.050	ASTM D150
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	

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