Durez® 31735 (Injection)

Phenolic

Sumitomo Bakelite North America, Inc.

Message:

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.

General Information	
Features	Good dimensional stability Impact resistance, good
Uses	Industrial application Pulley Application in Automobile Field
Appearance	Black
Forms	Particles
Processing Method	Resin transfer molding Injection molding

Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.43	g/cm³	ASTM D792
Apparent Density	0.55	g/cm³	ASTM D1895
Molding Shrinkage - Flow	0.90	%	ASTM D6289
Water Absorption	0.50	%	ASTM D570
Flexural Modulus - Long Term Heat Test			
177°C [1]	80.7	MPa	
177°C [2]	44.1	MPa	
Tensor modulus-Long Term Heat Test			
177°C [3]	36.5	MPa	
177°C [4]	56.5	MPa	
Heat Resistance (232°C)	2.0	hr	
Young's Modulus	8.00	GPa	

Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	6900	MPa	ASTM D638
Tensile Strength	52.0	MPa	ASTM D638
Flexural Modulus	8270	MPa	
Flexural Strength	86.0	MPa	ASTM D790
Compressive Strength	207	MPa	ASTM D695
Poisson's Ratio	0.33		

Impact	Nominal Value	Unit	Test Method
Notched Izod Impact	21	J/m	ASTM D256
Thermal	**Nominal Value**	**Unit**	**Test Method**
Deflection Temperature Under Load (1.8 MPa, Unannealed)	163	°C	ASTM D648
CLTE - Flow (30 to 150°C)	3.6E-5	cm/cm/°C	
Specific Heat	1170	J/kg/°C	
Thermal Conductivity	0.37	W/m/K	
Electrical	**Nominal Value**	**Unit**	**Test Method**
Volume Resistivity	1.0E+12	ohms·cm	ASTM D257
Dielectric Strength			ASTM D149
-- [5]	13	kV/mm	ASTM D149
-- [6]	12	kV/mm	ASTM D149
Dielectric Constant (1 MHz)	5.10		ASTM D2520
Dissipation Factor (1 MHz)	0.050		ASTM D150
Thermoset	**Nominal Value**	**Unit**	
Shelf Life	52	wk	
Additional Information	**Nominal Value**	**Unit**	
Test Specimens Molded at 340-350°FTypical transfer-molded shrinkage is 0.008 in/in			
NOTE			
1.	As Is		
2.	1000 hrs		
3.	1000 hrs		
4.	As Is		
5.	Method A (short time)		
6.	Method B (step by step)		

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