POLYFLON™ M-111

Polytetrafluoroethylene

DAIKIN AMERICA, INC.

Message:

Daikin PTFE (polytetrafluoroethylene) molding powders are excellent, fine cut resins, well suited for a variety of demanding chemical, mechanical, electrical and non-stick surface applications. These PTFE resins are fully fluorinated and have the best thermal, electrical, and chemical properties of all fluoropolymers with a continuous service rating of 500°F (260°C). Daikin PTFE molding powders are available in homopolymer and modified fine cut grades.
Daikin PTFE molding powders can be used continuously at temperatures up to 260°C (500°F) and for short periods of time at higher temperatures. They also possess excellent low temperature strength.
Daikin PTFE molding powders are completely inert to attack by all chemicals except hightemperature, high-pressure elemental fluorine gas, molten alkaline metals and chlorine trifluoride.
The non-polar molecular structure makes Daikin PTFE molding powders ideal for use as high-frequency insulating material. The dielectric constant and dissipation factor are uniformly low over a wide frequency range.
Under ordinary conditions of use, Daikin PTFE molding powders possess the lowest coefficient of friction of any solid material. Also, the non-stick properties of these products prevent most materials from adhering to them.
Chemical/Mechanical—Packings, gaskets, diaphragms, bellows, corrosion-resistant linings, piping components, pump parts, O-rings, V-rings, bushings, slide bearings, etc.
Electrical/Other—Insulating skived tape, insulating sleeves, terminals, connectors, sockets, spacers, electronic parts, laboratory equipment, etc.

General Information	
Additive	Unspecified Additive
Features	Good Chemical Resistance
	Good Creep Resistance
	High Molecular Weight
	High Viscosity
	Low Friction
	Low Temperature Strength
	Non-Stick
	Weldable
Uses	Bearings
	Bushings
	Connectors
	Diaphragms
	Electrical Parts
	Gaskets
	Insulation Shield
	Labware
	Liners
	Packaging
	Piping
	Pump Parts
	Sheet
	Tape

Agency Ratings	FDA 21 CFR 177.1550
Forms	Powder
Processing Method	Compression Molding Sintering

Physical	Nominal Value	Unit	Test Method
Specific Gravity	2.17	g/cm³	ASTM D4894
Apparent Density	0.36	g/cm³	ASTM D4894
Molding Shrinkage - Flow	4.4	%	Internal Method
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Strength (Yield, 1.50 mm)	40.0	MPa	ASTM D4894
Tensile Elongation (Break, 1.50 mm)	500	%	ASTM D4894
Compressive Strength			ASTM D695
0% Strain [1]	8.70	MPa	
1% Strain [2]	5.90	MPa	
25% Strain [3]	28.6	MPa	
Deformation Under Load			ASTM D621
25°C, 14 MPa	10.6	%	
100°C, 14 MPa	21.7	%	
200°C, 6.9 MPa	14.9	%	
Elastomers	**Nominal Value**	**Unit**	**Test Method**
Compression Set			ASTM D621
25°C [4]	3.0	%	
100°C [5]	7.4	%	
200°C [6]	4.1	%	
Thermal	**Nominal Value**	**Unit**	**Test Method**
Continuous Use Temperature	260	°C	
Melting Temperature	324	°C	DSC
Electrical	**Nominal Value**	**Unit**	**Test Method**
Surface Resistivity	> 1.0E+15	ohms	ASTM D257
Volume Resistivity	> 1.0E+18	ohms·cm	ASTM D257
Dielectric Strength	140	kV/mm	
Dielectric Constant (1 kHz)	< 2.10		ASTM D150
Dissipation Factor (1 kHz)	< 1.0E-4		ASTM D150
Additional Information	**Nominal Value**		**Test Method**
MIT Flexural Life	3.00E+6		ASTM D2178
Stretching Void Index	62.0		ASTM D4895
NOTE			
1.	off set, 10x20 mm sample		
2.	10x20 mm sample		
3.	10x20 mm sample		

4.	13.7 MPa
5.	13.7 MPa
6.	6.9 MPa

Recommended distributors for this material

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