POLYFLON™ M-15X

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	
Filler / Reinforcement	Filler
Features	Low friction coefficient Low temperature strength High molecular weight Homopolymer Good chemical resistance No stickiness Viscosity, High
Uses	Packaging Pump parts Lining Bushing Strap Electrical components Washer Diaphragm Piping system Insulation shield Connector Laboratory apparatus Bearing
Agency Ratings	FDA 21 CFR 177.1550

Forms	Powder
Processing Method	Sintering
	Compression molding

Physical	Nominal Value	Unit	Test Method
Specific Gravity	2.16	g/cm³	ASTM D4894
Apparent Density	0.46	g/cm³	ASTM D4894
Molding Shrinkage - Flow	4.4	%	Internal method
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Strength (Yield, 1.50 mm)	> 43.0	MPa	ASTM D4894
Tensile Elongation (Break, 1.50 mm)	> 400	%	ASTM D4894
Compressive Strength			ASTM D695
0% strain [1]	7.80	MPa	ASTM D695
1% strain [2]	5.00	MPa	ASTM D695
25% strain [3]	28.1	MPa	ASTM D695
Deformation Under Load			ASTM D621
25°C, 14 MPa	17.2	%	ASTM D621
100°C, 14 MPa	33.3	%	ASTM D621
200°C, 6.9 MPa	27.0	%	ASTM D621
Elastomers	**Nominal Value**	**Unit**	**Test Method**
Compression Set			ASTM D621
25°C [4]	8.6	%	ASTM D621
100°C [5]	20	%	ASTM D621
200°C [6]	16	%	ASTM D621
Thermal	**Nominal Value**	**Unit**	**Test Method**
Continuous Use Temperature	260	°C	
Melting Temperature	327	°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	100	kV/mm	
Dielectric Constant (1 kHz)	< 2.10		ASTM D150
Dissipation Factor (1 kHz)	< 1.0E-4		ASTM D150
Additional Information	**Nominal Value**	**Unit**	**Test Method**
MIT Flexural Life	5.00E+6		ASTM D2178
Stretching Void Index	300		ASTM D4895
Breakdown Voltage (100.0 µm)	10	kV/mm	
For more information see the Brochure			

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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