

POLYFLON™ M-12

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	
UL YellowCard	E167420-225065
Features	Good Chemical Resistance
	Good Electrical Properties
	High Molecular Weight
	High Viscosity
	Homopolymer
	Low Friction
	Low Temperature Strength
Uses	Non-Stick
	Bearings
	Bushings
	Connectors
	Diaphragms
	Electrical Parts
	Film
	Gaskets
	Insulation Shield
	Labware
	Liners
	Packaging
	Piping
	Pump Parts
	Tape

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

Physical	Nominal Value	Unit	Test Method
Specific Gravity	2.16	g/cm ³	ASTM D4894
Apparent Density	0.35	g/cm ³	ASTM D4894
Molding Shrinkage - Flow	3.1	%	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	7.60	MPa	
1% Strain ²	5.00	MPa	
25% Strain ³	28.2	MPa	
Deformation Under Load			ASTM D621
25°C, 14 MPa	18.7	%	
100°C, 14 MPa	31.4	%	
200°C, 6.9 MPa	26.7	%	

Elastomers	Nominal Value	Unit	Test Method
Compression Set			ASTM D621
25°C ⁴	8.8	%	
100°C ⁵	19	%	
200°C ⁶	15	%	

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	130	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	7.00E+6	ASTM D2178
Stretching Void Index	270	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

The information and data on this page are provided by manufacturers and document providers. SHANGHAI SUSHENG assumes no legal liability. It is strongly recommended to verify all technical data with material suppliers before final material selection. All rights belong to the original authors. If any infringement occurs, please contact us immediately.

Recommended distributors for this material

Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China

