

Daikin POLYFLON M-139 PTFE Molding Powder, Free Flow

Category : Polymer , Thermoplastic , Fluoropolymer , PTFE , Polytetrafluoroethylene (PTFE), Molded

Material Notes:

Free flow powder. Processing Methods: Compression molding and automatic compression molding. Features: Excellent fluidity. Apparent density is large and ideal for automated compression molding processes. Moldings have an excellent creep characteristic and post molding processability. Information provided by Daikin Industries.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Daikin-POLYFLON-M-139-PTFE-Molding-Powder-Free-Flow.php

Physical Properties	Metric	English	Comments
Specific Gravity	2.13 - 2.22 g/cc	2.13 - 2.22 g/cc	ASTM D792
Bulk Density	0.900 g/cc	0.0325 lb/in ³	ASTM D894
Water Absorption	0.00 % @Thickness 8.50 mm, Time 86400 sec	0.00 % @Thickness 0.335 in, Time 24.0 hour	ASTM D570
Particle Size	400 µm	400 µm	Laser Method (Dry)
Viscosity	1.00e+13 - 1.00e+15 cP @Temperature 340 - 380 °C	1.00e+13 - 1.00e+15 cP @Temperature 644 - 716 °F	Melt viscosity
Linear Mold Shrinkage	0.020 - 0.050 cm/cm	0.020 - 0.050 in/in	
Deformation	5.0 %	5.0 %	6.7 MPa load, at 100°C, 24 hrs; ASTM D621
	7.0 %	7.0 %	13.7 MPa load, at 25°C, 24 hrs; ASTM D621

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	50 - 65	50 - 65	
Tensile Strength at Break	20.0 - 45.0 MPa	2900 - 6530 psi	ASTM D638
Elongation at Break	200 - 450 %	200 - 450 %	ASTM D638
Tensile Modulus	0.392 GPa	56.9 ksi	ASTM D638
Flexural Modulus	0.490 - 0.588 GPa	71.1 - 85.3 ksi	ASTM D790
Compressive Strength	5.00 - 6.00 MPa @Temperature 25.0 °C	725 - 870 psi @Temperature 77.0 °F	1% deformation; ASTM D695
Izod Impact, Unnotched	1.60 J/cm	3.00 ft-lb/in	ASTM D256

Coefficient of Friction Mechanical Properties	0.020 - 0.038 Metric	0.020 - 0.038 English	Non-lubricating Comments
	0.020 - 0.0385	0.020 - 0.0385	Lubricating
Coefficient of Friction, Static	0.020	0.020	Coated-steel surface
Taber Abrasion, mg/1000 Cycles	<= 40.5	<= 40.5	9.8 N load, cs-10 wheel

Thermal Properties	Metric	English	Comments
CTE, linear	100 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	55.6 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	ASTM D696
	@Temperature 23.0 - 60.0 $^\circ\text{C}$	@Temperature 73.4 - 140 $^\circ\text{F}$	
Thermal Conductivity	0.250 W/m-K	1.74 BTU-in/hr-ft ² - $^\circ\text{F}$	ASTM C177
Melting Point	327 $^\circ\text{C}$	621 $^\circ\text{F}$	
Maximum Service Temperature, Air	260 $^\circ\text{C}$	500 $^\circ\text{F}$	Continuous use
Flammability, UL94	V-0	V-0	
Oxygen Index	>= 95 %	>= 95 %	ASTM D2863

Electrical Properties	Metric	English	Comments
Volume Resistivity	<= 1.00e+18 ohm-cm	<= 1.00e+18 ohm-cm	ASTM D257
Dielectric Constant	2.1	2.1	ASTM D150
	@Frequency 1000 Hz	@Frequency 1000 Hz	
Dielectric Strength	2.1	2.1	ASTM D150
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	
Dielectric Strength	19.0 kV/mm	483 kV/in	Short time; ASTM D149
	@Thickness 3.20 mm	@Thickness 0.126 in	
Dissipation Factor	<= 0.000010	<= 0.000010	ASTM D150
	@Frequency 1000 Hz	@Frequency 1000 Hz	
Dissipation Factor	0.000020	0.000020	ASTM D150
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	

Descriptive Properties	Value	Comments
Chemical Resistance	Excellent	
Contact Angle	110	Angle to level
Weatherability	Excellent	

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Contact Songhan Plastic Technology Co.,Ltd.

Website : www.lookpolymers.com

Email : sales@lookpolymers.com

Tel : +86 021-51131842

Mobile : +86 13061808058

Skype : lookpolymers

Address : United North Road 215,Fengxian District, Shanghai City,China