

3M Dyneon™ TFM™ 1700 Modified PTFE Powder

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

Material Notes:

Type III, gr. 1 PTFE. Dyneon™ TFM™ 1700 PTFE is a second-generation modified polytetrafluoro-ethylene (PTFE) that maintains the exceptional chemical and heat resistance properties of first-generation PTFE, but with a significantly lower melt viscosity giving better particle fusion during sintering and smoother surfaces. Dyneon TFM 1700 PTFE is a non-free-flowing compression molding powder and base material for high-quality Dyneon TFM PTFE compounds. Data provided by Dyneon.

Order this product through the following link:

http://www.lookpolymers.com/polymer_3M-Dyneon-TFM-1700-Modified-PTFE-Powder.php

Physical Properties	Metric	English	Comments
Density	2.166 g/cc	0.07825 lb/in ³	ASTM D4894
Apparent Bulk Density	0.420 g/cc	0.0152 lb/in ³	ASTM D4894
Particle Size	25 µm	25 µm	ASTM D4894
Deformation	2.0 %	2.0 %	Permanent; ASTM D621
	@Pressure 15.00 MPa	@Pressure 2175 psi	
	4.0 %	4.0 %	ASTM D621
	@Time 86400 sec, Pressure 15.00 MPa	@Time 24.0 hour, Pressure 2175 psi	

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	62	62	Initial; ASTM D2240
	58	58	ASTM D2240
	@Time 15.0 sec	@Time 0.00417 hour	
Tensile Strength at Break	33.1 MPa	4800 psi	ASTM D4894
Elongation at Break	450 %	450 %	ASTM D4894
Tensile Modulus	0.650 GPa	94.3 ksi	ASTM D638

Thermal Properties	Metric	English	Comments
CTE, linear	57.0 µm/m-°C	31.7 µin/in-°F	ASTM E831
	@Temperature 30.0 - 100 °C	@Temperature 86.0 - 212 °F	
	75.0 µm/m-°C	41.7 µin/in-°F	ASTM E831
	@Temperature 100 - 200 °C	@Temperature 212 - 392 °F	

Thermal Properties	Metric	English	Comments
	92.0 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	51.1 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	
	@Temperature 200 - 300 $^\circ\text{C}$	@Temperature 392 - 572 $^\circ\text{F}$	ASTM E831
Thermal Conductivity	0.220 W/m-K	1.53 BTU-in/hr-ft ² - $^\circ\text{F}$	ASTM D1530
	@Temperature 100 $^\circ\text{C}$	@Temperature 212 $^\circ\text{F}$	
	0.230 W/m-K	1.60 BTU-in/hr-ft ² - $^\circ\text{F}$	ASTM D1530
	@Temperature 250 $^\circ\text{C}$	@Temperature 482 $^\circ\text{F}$	
Shrinkage	5.8 %	5.8 %	ASTM D4894

Electrical Properties	Metric	English	Comments
Dielectric Strength	3.70 kV/mm	94.0 kV/in	ASTM D149

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