3M™ Dyneon™ TFM™ Modified PTFE TFM 1600

Polytetrafluoroethylene

3M Advanced Materials Division

Message:

Modified free-flowing PTFE of the 2nd generation for moulding
Features
Meets ASTM D 4894 Type III, Grade 2 classification
Moulding powder with very good free-flowing properties
Good mould filling behaviour
Improved particle coalescence
Dense polymer structure with reduced void content
Low permeability
Substantially lower deformation under load ("cold flow")
Good electrical and mechanical properties
Increased modulus of elasticity
Good weldability
Typical applications
Shaped parts
Skived films of >500 µm
Linings in the chemical processing industry (CPI)
Sealings
Ball valve seats

General Information	
Features	Good Electrical Properties Good Flow Weldable
Uses	Film Liners Seals Valves/Valve Parts
Forms	Powder
Processing Method	Compression Molding Sintering

Physical	Nominal Value	Unit	Test Method
Density	2.16	g/cm³	ISO 12086
Apparent Density	0.82	g/cm³	ISO 60
Molding Shrinkage	3.4	%	Internal Method
Average Particle Size	450	µm	ISO 13320
Compression Molding Molding Pressure	30.0	MPa	

Compression Molding Temperature	23 to 26	°C	
Sintering Temperature	375 to 380	°C	
Hardness	**Nominal Value**	**Unit**	**Test Method**
Shore Hardness (Shore D)	59		ISO 868
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus (23°C)	650	MPa	ISO 527-2
Deformation Under Load			ASTM D621
15 MPa [1]	4.00	%	
15 MPa [2]	9.00	%	
15 MPa [3]	8.00	%	
Films	**Nominal Value**	**Unit**	**Test Method**
Tensile Strength (200 µm)	37.0	MPa	ISO 527-3
Tensile Elongation (Break, 200 µm)	600	%	ISO 527-3
Thermal	**Nominal Value**	**Unit**	**Test Method**
CLTE - Flow			DIN 53752
30 to 100°C	1.2E-4	cm/cm/°C	
30 to 200°C	1.4E-4	cm/cm/°C	
30 to 260°C	1.7E-4	cm/cm/°C	
Thermal Conductivity	0.22	W/m/K	DIN 52612
Electrical	**Nominal Value**	**Unit**	**Test Method**
Surface Resistivity	1.0E+17	ohms	IEC 60093
Volume Resistivity	1.0E+18	ohms·cm	IEC 60093
Electric Strength (0.200 mm)	78	kV/mm	ISO 12086
Flammability	**Nominal Value**	**Unit**	**Test Method**
Flame Rating	V-0		UL 94
NOTE			
1.	permanent		
2.	100 hr		
3.	24 hr		

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