3M™ Dyneon™ TFM™ Modified PTFE TFM 1635

Polytetrafluoroethylene

3M Advanced Materials Division

Message:

Modified semi free-flowing PTFE of the 2nd generation with reduced moulding pressure and improved flex-life
Features
Meets ASTM D 4894 Type IV classification, Grade 2
Moulding powder with semi-free-flowing properties and high bulk-density
Homogeneous mould filling and reduced moulding pressure
Improved particle coalescence
Improved flex-life
Dense polymer structure with very low void content
Low permeability
Substantially lower deformation under load ("cold flow")
Good electrical and mechanical properties
Good weldability
Typical applications
Articles requiring improved flex-life properties (diaphragms, bellows etc.)
Large compression moulded sheets
Isostatically moulded articles
Shaped parts
Large cylinders
Skived films of >250 µm
Linings in the chemical processing industry (CPI)

General Information	
Features	Good Electrical Properties Weldable
Uses	Diaphragms Film Liners Sheet
Forms	Powder
Processing Method	Compression Molding Sintering

Physical	Nominal Value	Unit	Test Method
Density	2.16	g/cm³	ISO 12086
Apparent Density	0.83	g/cm³	ISO 60
Molding Shrinkage	4.1	%	Internal Method
Average Particle Size	230	µm	ISO 13320
Compression Molding Molding Pressure	20.0 to 25.0	MPa	

Compression Molding Temperature	23 to 26	°C	
Sintering Temperature	375 to 380	°C	
Hardness	**Nominal Value**	**Unit**	**Test Method**
Shore Hardness (Shore D)	55		ISO 868
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus	650	MPa	ISO 527-2
Deformation Under Load			ASTM D621
15 MPa [1]	5.00	%	
15 MPa [2]	10.0	%	
15 MPa [3]	9.00	%	
Films	**Nominal Value**	**Unit**	**Test Method**
Tensile Strength (200 µm)	35.0	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
NOTE			
1.	permanent		
2.	100 hr		
3.	24 hr		

Recommended distributors for this material

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