Technical Information

Dyneon™

TF™ 1750 PTFE

Non free-flowing PTFE for compression moulding

Features

- Meets ASTM D 4894 Type II classification
- Moulding powder with very small particle size
- Low moulding pressure
- Good electrical and mechanical properties

Typical applications

- Shaped parts
- Moulded cylinders
- Skived film of >20 µm
- Compounds

Typical properties

Powder properties		Test Method	Unit	Value*
Bulk density		DIN EN ISO 60	g/l	380
Average particle size		ISO 13320	µm	25
Mechanical properties				
Specific gravity		DIN EN ISO 12086	g/cm^3	2.16
Tensile strength (0.1 mm film)		DIN EN ISO 527-3	MPa	42
Elongation at break (0.1 mm film)		DIN EN ISO 527-3	%	430
Hardness Shore D		ISO 868	-	56
Shrinkage		Internal Dyneon method	%	4.3
Tensile Modulus		DIN EN ISO 527	MPa	600
Deformation under load (15 MPa)	24 h	Similar to ASTM D 621	%	16
	100 h			17
	permanent			10
Thermal properties				
Thermal conductivity		DIN 52 612	W/m·K	0.22
Coefficient of linear expansion (parallel to moulding direction)	30-100 °C	DIN 53 752	K^{-1}	12 · 10^{-5}
	30-200 °C			14 · 10^{-5}
	30-260 °C			17 · 10^{-5}
Flammability		UL 94		V-0
Electrical properties				
Dielectric strength (0.1 mm film)		DIN EN ISO 12086	kV/mm	88
Volume resistivity		IEC 60093	Ω · cm	10^{18}
Surface resistivity		IEC 60093	Ω	10^{17}

* typical value

Processing

If transport or storage temperatures are too high, the material may agglomerate in its container. In such cases, it is advisable to store the material for 48 hours at below 23 °C and then sieve it (mesh size 4 mm) before filling the mould. To achieve optimum properties, compression moulding should be carried out within a temperature range of 23 °C to 26 °C at a pressure of 15 MPa. The sintering temperature should be in the range of 375 °C to 380 °C

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Supply Form

Dyneon™ TF 1750 PTFE is supplied in moisture and dust tight plastic boxes with an inner polyethylene liner.

Quantity per drum:	25 kg
Order quantity per pallet:	300 kg

Storage and Material Handling

Dyneon™ TF 1750 can be stored for a relatively long period of time. It should preferably be stored at a clean, dry place at a temperature of less than 30 °C. Before processing it is advisable to store the material in a sealed container for 24 hours in the production area. This is particularly important if ambient temperature is low; in such cases the material might be conditioned for up to 72 hours in the production area.

Safety/Toxicology

This is a PTFE material, so normal precautions observed with PTFE should be followed. Before processing these products, consult the Material Safety Data Sheet and follow all label directions and handling precautions. General handling/processing precautions include: (1) Process only in well-ventilated areas; (2) Do not smoke in areas contaminated with powder/residue from these products; (3) Avoid eye contact; (4) After handling these products wash any contacted skin with soap and water. (5) Avoid contact with hot fluoropolymer. Potential hazards, including evolution of toxic vapors, can exist if processing occurs under excessively high temperature conditions. Vapor extractor units should be installed above processing equipment. When cleaning processing equipment, do not burn off any of this product with an open flame or in a furnace.

Our Worldwide Commitment to Quality

Indicative of our commitment, most Dyneon design, development, production and service facilities have achieved global quality management certification. Production facilities have also received certification for their environmental management system. Please see the Dyneon website (www.dyneon.com) for the most up-to-date certification details.

Important Notice

All information set forth herein is based on our present state of knowledge and is intended to provide general notes regarding products and their uses. It should not therefore be construed as a guarantee of specific properties of the products described or their suitability for a particular application. Because conditions of product use are outside Dyneon's control and vary widely, user must evaluate and determine whether a Dyneon product will be suitable for user's intended application before using it. The quality of our products is warranted under our General Terms and Conditions of Sale as now are or hereafter may be in force.

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General recommendations on health and safety in processing, on work hygiene and on measures to be taken in the event of accident are detailed in our material safety data sheets.

You will find further notes on the safe handling of fluoropolymers in the brochure "Guide for the safe handling of Fluoropolymers Resins" by PlasticsEurope, Box 3, B-1160 Brussels, Tel. +32 (2) 676 17 32.

The present edition replaces all previous versions. Please make sure and inquire if in doubt whether you have the latest edition.

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