Product Data Sheet

3M™ Dyneon™

PTFE Compound FC 16863

Product Description

3M™ Dyneon™ PTFE Compound FC 16863 is a non-free-flowing suspension PTFE compound containing a 62.5 % bronze / graphite filler combination for compression moulding.

Special Features

- Increased thermal dimensional stability
- Increased surface hardness
- Improved deformation under load
- Reduced friction and wear
- Low moulding pressure
- High limiting oxygen index (LOI)
- Low friction behaviour
- Improved mechanical properties
- Exceptional temperature resistance
- Good chemical stability

Product Properties	Test method	Unit	Value
Bulk Density	ASTM D 4894-07	g/l	760
Shrinkage	ASTM D 4894-07	%	0.9
Specific Gravity	ASTM D 4745-06	g/cm³	3.30

Mechanical Properties	Test method	Unit	Value
Tensile Strength	ASTM D 4745-06	MPa	14.4
Elongation at Break	ASTM D 4745-06	%	13.5
Hardness	DIN 53505	Shore 'D'	71

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Typical Properties

PTFE compound moulding powder with very small particle size is preferred for moulded parts requiring very good mechanical properties.

Typical Applications

3M™ Dyneon™ PTFE Compound FC 16863 can be used in sealing applications in the chemical processing (CPI) and automotive industries.

Processing Recommendations

If transport or storage temperatures are too high the material can agglomerate in its container. In such cases, it is advisable to store the material for 48 hours at below 23 °C and then to 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 and a humidity range of 45 % to 55 % and a pressure of 50 MPa. The maximum sintering temperature should be 365 °C.

Storage and Handling

3M™ Dyneon™ PTFE Compound FC 16863 can be stored for a relatively long period of time. It should preferably be stored in a clean, dry place at a temperature of less than 30 °C. Before processing it is advisable to store the material in the sealed boxes for 24 hours in the production area. This is particularly important when ambient temperature is low; in such cases the material should be conditioned for up to 72 hours in the production area in the recommended temperature range.

Safety Instructions

Follow the normal precautions observed with all fluoropolymer materials.

Please consult the Material Safety Data Sheet and Product Label for information regarding the safe handling of the material. By following all precautions and safety measures, processing these products poses no known health risks. 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) If skin comes into contact with these products during handling, wash with soap and water afterwards. 5) Avoid contact with hot fluoropolymer.

Potential hazards, including release of toxic vapours, can arise if processing occurs under excessively high temperature conditions. Vapour extractor units should be installed above processing equipment. When cleaning processing equipment, do not burn off any of this product with a naked flame or in a furnace.

Delivery Form

3M™ Dyneon™ PTFE Compound FC 16863 is supplied in moisture- and dust-tight plastic boxes.

Packaging sizes are:

- Capacity per box: 25 kg
- Order quantity per pallet: 300 kg

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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.
Technical information, test data, and advice provided by Dyneon personnel are based on information and tests we believe are reliable and are intended for persons with knowledge and technical skills sufficient to analyze test types and conditions, and to handle and use raw polymers and related compounding ingredients.

No license under any Dyneon or third party intellectual rights is granted or implied by virtue of this information.
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" (download link) by PlasticsEurope, Box 3, B-1160 Brussels, Tel. +32 (2) 676 17 32.

You can also download it with your smartphone using the QR code below.

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We will gladly supply further contact details for our full network of global sales offices. Alternatively, find them here.

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