

## 3M™ Dyneon™ Fluoroplastic FEP 6338Z

### Product Description

3M™ Dyneon™ Fluoroplastic FEP 6338Z is a fully fluorinated copolymer comprising tetrafluoroethylene and hexafluoropropylene and is belonging to the product class FEP. It was designed for ultra high speed extrusion for wire insulation and features greatly enhanced flex life properties.

### Special Features

- Ultra high extrusion speed
- Enhanced flex life
- Excellent dielectric properties
- Wide processing window
- Complies with VDE 0207
- Extremely low flammability (high LOI)
- High thermal stability
- Low coefficient of friction
- Very high weathering and UV stability

Properties	Test method	Unit	Value
Specific Gravity	DIN EN ISO 12086	g/cm <sup>3</sup>	2.15
Melt Flow Index (372 °C / 5kg)	DIN EN ISO 1133	g/10min	38
Melting Point	DIN EN ISO 12086	°C	≥ 250
Tensile Strength at Break (23 °C)	DIN EN ISO 527-1	MPa	20
Elongation at Break (23 °C)	DIN EN ISO 527-1	%	300
Tensile Modulus	DIN EN ISO 527-1	MPa	680
MIT Folding Endurance (200 µm film)	ASTM D 2176	double folds	23,000
Dielectric Strength (250µm film)	ASTM D 149	kV/mm	70
Dielectric Constant (23 °C) at 1 MHz	ASTM D 150	-	2.05
Dielectric Constant (23 °C) at 9,4 GHz	ASTM D 150	-	2.04
Dissipation Factor at 1 MHz	ASTM D 150	-	0.0005
Dissipation Factor at 9,4 GHz	ASTM D 150	-	0.0003
Vertical Burn (UL 94)	UL Bulletin 94	-	-
Limiting Oxygen Index	ASTM D 2863	%	> 95

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### Typical Properties

3M™ Dyneon™ Fluoroplastic FEP 6338Z is a very high MFI grade that features ultra high speed extrusion capability paired with greatly enhanced flex life and stress cracking behaviour.

### Typical Applications

3M™ Dyneon™ Fluoroplastic FEP 6338Z is mainly used for primary wire insulation.

### Processing Recommendations

3M™ Dyneon™ Fluoroplastic FEP 6338Z is typically processed by extrusion. As usual for the processing of all fully fluorinated polymers, highly corrosion resistant materials need to be used for all machine parts that come into contact with melt or fumes. Such materials are e.g. alloys like Inconel 625, Haynes 242 or Hastelloy C4.

Typical processing equipment temperatures for 3M™ Dyneon™ Fluoroplastic FEP 6338Z range from 300 to 400 °C. For safety precautions please see also the topic "Safety Instructions" in this data sheet.

#### Below is an example for typical process conditions for wire extrusion:

Extruder: 30 mm DDR = 100

Screw L/D: 25 DRB = 1.00

Wire: AWG 24 Cu/Ag (0.51 mm) Insulation thickness: 250 µm

#### Temperature Settings

Ext. Zone 1	285 °C	Flange	340 °C	Wire Preheat	100 °C
Ext. Zone 2	305 °C	Head	340 °C	Water Cooling	50 °C
Ext. Zone 3	320 °C	Die	340 °C		
Ext. Zone 4	330 °C				

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Inconel® is a registered Trademark of Special Metals Corporation.

### Storage and Handling

When stored in a clean and dry place, 3M™ Dyneon™ Fluoroplastic FEP 6338Z will have a relatively long shelf life. Partially used containers should be reclosed carefully to avoid contamination. Drying the material before use is typically not necessary.

### Safety Instructions

Follow the normal precautions observed with all fluorothermoplastic 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™ Fluoroplastic FEP 6338Z is delivered in pellet form. Packaging size is:

- 50 kg cardboard box, containing two PE bags with 25 kg content each

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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.

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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](#)" (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.



#### Customer Service

Europe  
Phone: 00 800 396 366 27  
Fax: 00 800 396 366 39  
Italy  
Phone: 800 7 910 18  
Fax: 800 7 810 19  
USA  
Phone: +1 800 810 8499  
Fax: +1 800 635 8061

#### Technical Service Fluoroplastics

Dyneon GmbH  
3M Advanced Materials Division  
Industrieparkstraße 1  
84508 Burgkirchen  
Germany  
Phone: +49 8679 7 4709  
Fax: +49 8679 7 5037

#### Technical Service Fluoroelastomers & Polymer Processing Additives

3M Belgium N.V.  
3M Advanced Materials Division  
Canadastraat 11,  
Haven 1005  
2070 Zwijndrecht  
Belgium  
Phone: +32 3 250 7868  
Fax: +32 3 250 7905

#### Technical Service PTFE Compounds

Dyneon B.V.  
3M Advanced Materials Division  
Tunnelweg 95  
6468 EJ Kerkrade  
The Netherlands  
Phone: +31 45 567 9600  
Fax: +31 45 567 9619

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



Web Site: [www.dyneon.eu](http://www.dyneon.eu)

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