

# 3M™ Dyneon™

## Fluoroplastic ET 6235Z

### Product Description

3M™ Dyneon™ Fluoroplastic ET 6235Z is a partially fluorinated copolymer comprising tetrafluoroethylene and ethylene and is belonging to the product class ETFE. It was designed primarily for film extrusion.

### Special Features

- Extremely high weathering and UV stability
- Wide service temperature range (-200 to +150 °C)
- Excellent tear and tear propagation resistance
- Very good non-stick characteristics
- Good resistance to high energy radiation
- Type I, Grade 1 material as per ASTM D3159
- High light transmission in the visible and UV-A range
- Low flammability
- Excellent mechanical properties
- Very good resistance to solvents and chemicals
- Low permeability

Properties	Test method	Unit	Value
Specific Gravity	DIN EN ISO 12086	g/cm <sup>3</sup>	1.72
Melt Flow Index (297 °C / 5kg)	DIN EN ISO 1133	g/10min	10
Melting Point	DIN EN ISO 12086	°C	266
Tensile Strength at Break (23 °C)	DIN EN ISO 527-1	MPa	50
Elongation at Break (23 °C)	DIN EN ISO 527-1	%	450
Tensile Modulus	DIN EN ISO 527-1	MPa	1,200
Tear Propagation Resistance	DIN 53363	N/mm	500
MIT Folding Endurance (200 µm film)	ASTM D 2176	double folds	40,000
Refractive Index (100 µm film)		-	1.4
Light Transmission at 550 nm (100 µm film)		%	93
Dielectric Strength (250µm film)	ASTM D 149	kV/mm	59
Dielectric Constant (23 °C) at 1 MHz	ASTM D 150	-	2.58
Fire Behaviour of Building Material	DIN 4102-1	classification	B1
Vertical Burn (UL 94)	UL Bulletin 94	-	V-0
Limiting Oxygen Index	ASTM D 2863	%	35

# 3M™ Dyneon™ Fluoroplastic ET 6235Z

## Typical Properties

3M™ Dyneon™ Fluoroplastic ET 6235Z is a medium molecular weight grade and features an excellent balance of properties.

## Typical Applications

3M™ Dyneon™ Fluoroplastic ET 6235Z is mainly used in film extrusion for final applications in the architectural market and in injection moulding.

## Processing Recommendations

3M™ Dyneon™ Fluoroplastic ET 6235Z is typically processed by extrusion or injection moulding. As usual for the processing of all fluorinated polymers, it is highly recommended to use corrosion resistant materials 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 ET 6235Z range from 250 to 350 °C. For safety precautions please see also the topic "Safety Instructions" in this data sheet.

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

Extruder: 30 mm

Screw L/D: 27

Film thickness: 100 µm

### Temperature Settings

Ext. Zone 1	255 °C	Flange	310 °C
Ext. Zone 2	280 °C	Die center	320 °C
Ext. Zone 3	290 °C	Die edges	345 °C
Ext. Zone 4	310 °C	Chill Roll	195 °C

Hastelloy®, Haynes® 242 are registered Trademarks of Haynes International.

Inconel® is a registered Trademark of Special Metals Corporation.

## Storage and Handling

When stored in a clean and dry place, 3M™ Dyneon™ Fluoroplastic ET 6235Z 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 ET 6235Z is delivered in pellet form.

Packaging sizes are:

- 50 kg cardboard box, containing two PE bags with 25 kg content each
- 650 kg Gaylord box, containing 26 PE bags with 25 kg content each

### 3M™ Dyneon™ Fluoroplastic ET 6235Z

#### 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.



#### 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 BVBA / SPRL  
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)

Printed in Germany  
© Dyneon 2021  
Status: Oct 2021

3M, Dyneon and Dynamar are Trademarks of 3M Company.

All Rights reserved. The present edition replaces all previous versions. Its content is being continuously adjusted to reflect the current level of knowledge. Please make sure and inquire if in doubt whether you have the latest edition.