

# 3M™ Dyneon™ Fluoroplastic Granules FEP 6301Z, FEP 6303Z and FEP 6307Z

## Features and Benefits

- Excellent electrical properties
- High thermal stability
- Long term temperature rating up to 200°C
- Outstanding chemical resistance
- Wide processing window

## Typical Properties

Property	Test Method	FEP 6301Z	FEP 6303Z	FEP 6307Z
Melt Flow Index (372°C/5 kg)	ASTM D1238	1 g/10 min	3 g/10 min	7 g/10 min
Specific Gravity	ASTM D792	2.14 g/cm <sup>3</sup>	2.15 g/cm <sup>3</sup>	2.15 g/cm <sup>3</sup>
Melting Point	ASTM D4591	260°C (500°F)	260°C (500°F)	260°C (500°F)
Brittleness Temperature	ASTM D746	<-70°C (<-94°F)	<-70°C (<-94°F)	<-70°C (<-94°F)
Tensile Strength at Break (23°C)	ASTM D638	30 MPa (4,350 psi)	28 MPa (4,060 psi)	25 MPa (3,625 psi)
Elongation at Break (23°C)	ASTM D638	350%	350%	350%
Flexural Modulus	ASTM D790	530 MPa (77,000 psi)	580 MPa (84,000 psi)	580 MPa (84,000 psi)
Izod Impact (notched, -40°C)	ASTM D256	No Break	No Break	No Break
Dielectric Strength (4.5 mil film)	ASTM D149	–	–	2.6 kV/mil
Dielectric Constant	ASTM D150	–	2.15 @ 1 kHz (2.15 @ 1MHz)	2.15 @ 1 kHz (2.15 @ 1MHz)
Dissipation Factor	ASTM D150	<0.0003 kHz 0.0007 MHz	<0.0003 kHz 0.0007 MHz	<0.0003 kHz 0.0007 MHz
Vertical Burn (UL94)	UL Bulletin 94	V-0	V-0	V-0
Limiting Oxygen Index (LOI)	ASTM D2863	>95%	>95%	>95%

**Note:** Data in this document are not for specification purposes.

## Product Description

3M™ Dyneon™ Fluoroplastic Granules FEP 6301Z, FEP 6303Z and FEP 6307Z are offered for extrusion, injection molding and transfer molding for the wire and cable and chemical process industries.

## Product Form and Packaging

These products are supplied in pellet form. FEP 6301Z is packaged in 110 lb (50 kg) PE bags in a box; FEP 6303Z is packaged in either 110 lb (50 kg) PE bags in a box or 550 lb (250 kg) HDPE drums with a moisture and dust-proof PE liner; FEP 6307Z is packaged in 55 lb (25 kg) PE bags.

## Storage and Material Handling

FEP 6301Z, FEP 6303Z and FEP 6307Z have an unlimited shelf life provided they are stored in a clean, dry place in the original unopened container received from 3M. FEP 6301Z, FEP 6303Z and FEP 6307Z are hydrophobic, and generally do not require drying before processing unless high humidity conditions create surface moisture adsorption.

## Food Contact/FDA Regulatory Status

FEP 6301Z, FEP 6303Z and FEP 6307Z comply with 21 CFR 177.1550 (perfluorocarbon resins under paragraph (a)(1)) and may be used as articles or components of articles intended to contact food, subject to the provisions, including specifications, conditions of use, and limitations, if any, in this regulation.

3M makes no recommendation about the suitability of these 3M products in the user's intended application. It is user's responsibility to determine whether its use of 3M products in a particular application is suitable and will comply with applicable laws and regulations. As appropriate, the user is also responsible for testing its finished product(s) made with 3M products to ensure compliance with any applicable specifications, conditions of use, and limitations (including extractives limitations) under applicable laws and regulations such as 21 C.F.R. 177.1550.



## Safety/Toxicology

This is a fluoroplastic material, so normal precautions observed with fluoroplastics should be followed. Before processing this product, be sure to read and follow all precautions and directions for use contained in the product label and the Material Safety Data Sheet. General handling/processing precautions include: (1) Process only in well-ventilated areas; (2) Do not smoke in areas contaminated with powder/residue from this product; (3) Avoid eye contact; (4) After handling this product, wash any contacted skin with soap and water. Potential hazards, including evolution of 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.

**Product Stewardship – Replacement Emulsifier:** Dyneon™ and Dynamar™ fluoroplastic products identified with a “Z” at the end of the product name indicate products that are made using a replacement emulsifier. This emulsifier, which Dyneon began using in the manufacturing processes for these products in 2008, is a polymerization aid used to manufacture certain fluoropolymers and is not an intended ingredient in the polymers. The new emulsifier eliminates the use of the former polymerization aid, APFO (ammonium perfluorooctanoate, the ammonium salt of perfluorooctanoic acid (PFOA)), in the manufacture of these fluoropolymers. The use of the replacement emulsifier in the manufacture of these products is consistent with our product stewardship principles and our commitment to US EPA’s Voluntary PFOA Stewardship Program under which fluoropolymer manufacturers agreed to work towards eliminating PFOA in emissions and product content by the year 2015. **We are pleased to report that Dyneon completely eliminated the use of APFO in its manufacturing processes in December 2008.**

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