

3M™ Dynamar™ Polymer Processing Additive FX 5917

Product Description

3M™ Dynamar™ Polymer Processing Additive FX 5917 is a pellet fluoropolymer based processing additive that is designed for use at low levels to improve processing of polyolefins such as LLDPE, mLLDPE, and HDPE for cast film and pipes extrusion.

At the typical low use levels (200-1000 ppm) necessary to improve polyolefin processing, FX 5917 has no influence on the surface and mechanical properties.

Special Features

- Copolymer of VF2 (Vinylidene fluoride) and HFP (Hexafluoropropylene)
- Broadens extrusion processing capabilities of polyolefin resins
- Eliminates melt fracture
- Reduces or eliminates die build-up
- Lowers apparent melt viscosity
- Can offer performance and cost advantages

Properties	Test method	Unit	Value
Active Ingredients		%	100
Colour			white to off-white
Density	ISO 1183	g/cm ³	1.78
Melt Flow Index	ASTM D 1238, 230 °C, 2.16 kg	g/10 min	2
	ASTM D 1238, 230 °C, 5 kg	g/10 min	6
	ASTM D 1238, 230 °C, 10 kg	g/10 min	-
Melting Point (crystallinity by DSC)	ASTM D 3418	°C	160
Typical Use Levels		ppm	200 - 1000

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Typical Properties

Dynamar PPA FX 5917 can offer performance and cost advantage by direct comparison to other processing additives. It provides exceptional productivity benefit when used in high density polyethylene (HDPE) and in linear low density polyethylene (LLDPE) processing. It can also be used at very low levels to reduce extruder die build-up when processing LDPE, EVA and other polyolefin resins.

Typical Applications

As a processing additive Dynamar PPA FX 5917 reduces or eliminates melt fracture and can reduce extruder torque. Through optimization of the extruder process, the use of FX 5917 may also allow to postpone the appearance of die lip build up in cast film processing resulting in a higher yield and reducing interfacial instability in the extrusion of multi-layer films.

Processing Recommendations

To be effective Dynamar PPA FX 5917 must be melt blended into the host resin at any of the following stages prior to conversion into extruded products.

- **Resin Producer**
 - Direct addition: see Dynamar PPA direct Addition during resin manufacture guidelines
 - Use a concentrate containing 2-5 % Dynamar PPA FX 5917
- **Concentrate Producer**
 - See Dynamar PPA concentrate preparation guidelines
- **End User**
 - Source resin containing Dynamar PPA FX 5917 from a resin producer
 - Source a concentrate containing 2-5 % Dynamar PPA FX 5917 and let down at appropriate level

When processing resins containing FX 5917 the benefits may not be noticed immediately. Once enough resin has been produced to coat the surface of the extruder die, effects such as gradual elimination of melt fracture and stable die pressure will become increasingly apparent. This lag time can be reduced significantly by thoroughly cleaning then either preconditioning extruder equipment with a concentrate of FX 5917 or starting out with a higher concentration of FX 5917. See Dynamar PPA "Evaluation Guidelines" for more details on running Dynamar Polymer Processing Additives.

Storage and Handling

Dynamar PPA FX 5917 has a shelf life of three years provided it is stored in a clean, dry place in the original unopened container received from 3M. FX 5917 is hydrophobic, and generally does not require drying before processing unless high humidity conditions create surface moisture adsorption.

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 any 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

Dynamar PPA FX 5917 is delivered in pellet form.

Packaging size:

- 20 kg cardboard box, containing one PE-bag with 20 kg content.

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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.



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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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