

3M™ Dynamar™

Polymer Processing Additive

FX 5927

Product Description

3M™ Dynamar™ Polymer Processing Additive FX 5927 is an improved performance PPA compared to conventional processing additives. This free-flowing fluoropolymer-based processing additive is designed for use at very low levels to improve processing of thermoplastics especially polyethylene as LLDPE, mLLDPE. It utilizes unique technology which makes it particularly effective as processing additive for liner low density polyethylene blown film. At the very low levels (typically 100 – 800 ppm) necessary to improve processing, it does not affect any of the mechanical or optical properties of plastic films.

Special Features

- A high performance PPA for use at very low levels in blown film processes
- Easily dispersed in compounding resins
- Fast rate of melt fracture elimination
- Broadens extrusion processing capabilities of polyolefin resins
- Ideal for use in extrusion of a wide range of polyolefin resins
- Robust performance in the presence of anto-blocking agents, pigments, and other inorganic additives
- Reduces die build-up

Properties	Test method	Unit	Value
Active Ingredients		%	96
Bulk Density		lb/ft ³ g/cm ³	43 0.7
Colour			White to off-white
Inorganic Additives		%	4
Particle Size		Mesh	< 10
Typical Use Levels		ppm	100 - 800



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Typical Properties

Dynamar PPA FX 5927 lowers apparent melt viscosity and permits fabricators to use high strength resins which otherwise could not be processed on available equipment. As a processing additive Dynamar FX 5927 can eliminate melt fracture and reduce die build up, extruder torque and pressure. Through optimization of the extrusion process, FX 5927 may also allow for an increase of in output and improved optical properties such as clarity and gloss. This optimization can yield films with enhanced bi-directional physical properties. FX 5927 can also improve sustainability by improving processability of higher strength resins, which allows for down-gauging.

Typical Applications

Compared to many conventional PPAs FX 5927 exhibits enhanced melt fracture elimination performance in a variety of polyolefin resins, encompassing a wide range of melt index, molecular weight distribution, density. It exhibits exceptional commercial utility in the blown extrusion of film grade linear low density polyethylene (LLDPE), metallocene linear low density polyethylene (mLLDPE) and high density polyethylene (HDPE). It is especially effective in polyolefin resins containing talc and silica-based anti-blocking agents, titanium dioxide pigments, fillers, and other inorganic additives. It can also be used at low levels to reduce die build-up when processing LDPE, EVA and other polyolefin resins.

Processing Recommendations

FX 5927 can be easily incorporated and dispersed into masterbatch form. FX 5927 exhibits an outstanding balance of properties for dispersion and effectiveness for melt fracture elimination.

To be effective FX 5927 must be melt blended into host resin at any of following stages prior to conversion into extruded products.

- **Resin Producer**

- Direct addition method (See 3M™ Dynamar™ PPAs “Direct Addition During Resin Manufacturing Guidelines”)
- Use a concentrate containing FX 5927 and let down at appropriate level

- **Concentrate Producer**

- See PPAs “Masterbatch Compounding Guidelines: High Performance PPAs – FX 5927”

- **End User**

- Source resin containing FX 5927 from a resin producer
- Source a concentrate (masterbatch) containing FX 5927 and let down at appropriate level

Storage and Handling

3M™ Dynamar™ FX 5927 should be stored in a clean dry environment at temperatures below 27°C (80°F) to prevent agglomeration and ensure long term storage. Please refer to the material safety data sheet for additional information about handling.

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™ Dynamar™ FX 5927 is delivered in granular form.

Packaging size is:

- 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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