

3M Advanced Materials Division

3M™ Dynamar™ Polymer Processing Additive FX 5927

Features and Benefits

- A high performance polymer processing additive (PPA) for use at very low levels
- Fast rate of melt fracture elimination at appropriate use level
- Reduces die build-up
- Improves extrusion processing of polyolefin resins
- Robust performance in the presence of antiblock agents, pigments and other inorganic additives
- Ideal for use in extrusion of a wide range of polyolefin resins

Product Description

3M™ Dynamar™ Polymer Processing Additive FX 5927 is an improved performance PPA as compared to conventional process aids. This free-flowing fluoropolymer processing aid is designed for use at very low levels to improve processing of thermoplastics. It utilizes unique technology which makes it particularly effective as a processing additive for linear low-density polyethylene blown film. At the very low use levels (typically 200 – 800 ppm) necessary to

Typical Physical Properties (Not for specification purposes.)

Property	3M™ Dynamar™ Polymer Processing Additive FX 5927
Form	Granular
Color	White to Off-White
Active ingredients	96%
Inorganic additives	4%
Particle size	Approximately less than 10 Mesh
Bulk density	43 lb/ft ³ (0.7 g/cm ³)
Typical use levels	200 – 800 ppm

improve processing, it does not detract from the physical properties associated with high strength plastics.

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, Dynamar FX 5927 may also allow for an increase in output and improved optical properties such as clarity and gloss. This optimization can produce films with enhanced bi-directional physical properties. Dynamar FX 5927 can also improve sustainability by improving processability of high strength resins, which allows for down-gauging.

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

Incorporation Procedure

To be effective, 3M™ Dynamar™ FX 5927 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 3M™ Dynamar™ PPA Direct Addition During Resin Manufacture Guidelines)
 - Use a concentrate containing FX 5927 and let down at appropriate level
- Concentrate Producer
 - See 3M™ Dynamar™ PPA Concentrate Preparation Guidelines
 - See 3M™ Dynamar™ PPA Masterbatch Compounding Guidelines: High Performance PPAs FX 5927
- End User
 - Source resin containing FX 5927 from a resin producer
 - Source a concentrate (masterbatch) containing 2-3% FX 5927 and let down at appropriate level

Food Contact/FDA Regulatory Status

This 3M product may be used at levels up to 2000 parts per million (ppm) as a polymer processing additive for all polymers intended for use in contact with all food types described in Table 1 of 21 C.F.R. 176.170(c) under Conditions of Use A through H described in Table 2 of 21 C.F.R. 176.170(c).

3M makes no recommendation about the suitability of this product 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.

Storage and Handling

Dynamar FX 5927, when stored in a clean dry environment at temperatures below 27°C (80°F), has an extended shelf life of two years. Please refer to the Safety Data Sheet for additional information about handling.

Safety/Toxicology

To avoid potential hazards (including the evolution of toxic vapors) associated with processing this material, before using this product, please read and follow the precautions, directions for use and other information provided in the product label and these documents available to you through your 3M sales representative:

- Product Label
- Safety Data Sheet
- 3M™ Dynamar™ PPA Masterbatch Compounding Guidelines: FX 5927
- 3M™ Dynamar™ PPA Direct Addition During Resin Manufacture
- 3M™ Dynamar™ PPA Evaluation Guidelines

You should also read and follow all directions from suppliers of other ingredients that you intend to use in conjunction with 3M Dynamar PPA material.

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3M Advanced Materials Division

3M Center
St. Paul, MN 55144 USA

Phone 1-800-810-8499
Web www.3M.com/ppa

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