

3M™ Dynamar™ Polymer Processing Additive FX 5920A

Features and Benefits

- Broadens extrusion processing capabilities of polyolefin resins
- Ideal for use in polyolefin resins containing antiblocking agents, pigments and other inorganic additives
- Reduces or eliminates melt fracture
- Reduces or eliminates die build-up
- Lowers apparent melt viscosity
- For use at very low levels
- Free-flowing fluoropolymer based processing aid
- Can offer performance and cost advantages

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

Typical Properties

| | |
|---------------------|--|
| Form | Granular |
| Color | White to Off-White |
| Active Ingredients | 97% |
| Inorganic Additives | 3% |
| Particle Size | Less than 10 Mesh |
| Bulk Density | 43 lb/ft ³ (0.7 g/cm ³) |
| Typical Use Levels | 200 – 1000 ppm |

Product Description

3M™ Dynamar™ FX 5920A is a free-flowing fluoropolymer based processing additive that is designed for use at very low levels to improve processing of thermoplastics. At the very low use levels (typically 200 – 1000 ppm) necessary to improve processing, it does not alter or detract from the good physical properties associated with high strength plastics.

Dynamar FX 5920A can offer performance and cost advantages. It exhibits exceptional commercial utility in low melt index film grade linear low density polyethylene (LLPDE) and high density polyethylene (HDPE). It is especially effective in polyolefin resins containing silica based antiblocking agents, titanium dioxide-based pigments, and other inorganic additives. It can also be used at low levels to reduce extruder die build-up when processing LDPE, EVA and other polyolefin resins.

FX 5920A lowers apparent melt viscosity and permits fabricators to use high strength resins which otherwise could not be processed on available equipment. Now with the aid of Dynamar FX 5920A, fabricators can produce films and other articles of improved strength and quality.

As a processing additive, FX 5920A can reduce or eliminate melt fracture and can reduce extruder torque. Through optimization of the extrusion process, the use of FX 5920A may also allow for an increase in output and yield films with enhanced and balanced bi-directional physical properties and improved clarity and gloss.

Incorporation Procedure

To be effective, FX 5920A 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 2-3% FX 5920A and let down at appropriate level
- Concentrate Producer
 - See Dynamar PPA™ Concentrate Preparation Guidelines
- End User
 - Source resin containing FX 5920A from a resin producer
 - Source a concentrate containing 2-3% FX 5920A and let down at appropriate level

Storage and Handling

Dynamar FX 5920A should be stored in a clean dry environment at temperatures below 27°C (80°F) to prevent agglomeration and insure long term storage. Please refer to the Material Safety Data Sheet for additional information about handling.

Food Contact/FDA Regulatory Status

This 3M product may be used as an extrusion aid under 21 C.F.R. 177.1520 in the production of extruded olefin polymers for use as articles or components of articles intended for use in contact with food subject to the provisions, including specifications, conditions of use, and limitations, if any, in this regulation including use at levels not to exceed 0.2% of the 3M product and use of the finished olefin polymer only under the conditions described in 21 C.F.R. 176.170(c), Table 2, under conditions of use B through H.

This 3M product may be used as a processing aid under 21 C.F.R. 177.1350 for ethylene-vinyl acetate copolymers for use as articles or components of articles intended for use in producing, manufacturing, packing, processing, preparing, treating, packaging, transporting, or holding food subject to the provisions, including specifications, conditions of use, and limitations, if any, in this regulation including use at levels not to exceed 0.2% of the 3M product.

Safety/Toxicology

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

- Material Safety Data Sheet
- Dynamar PPAs Concentrate Preparation Guidelines
- Dynamar PPAs Direct Addition During Resin Manufacture
- Dynamar PPAs Evaluation Guidelines

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

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