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3M Advanced Materials Division

3M™ Dynamar™ Polymer Processing Additive FX 5920A

Features and Benefits

- Improves extrusion processing of polyolefin resins
- Reduces or eliminates melt fracture
- Ideal for use in polyolefin resins containing antiblocking agents, pigments and other inorganic additives
- Reduces or eliminates die build-up
- Lowers apparent melt viscosity

Product Description

3M™ Dynamar™ Polymer Processing Additive FX 5920A is a free-flowing fluoropolymer processing aid designed for use at low levels to improve processing of thermoplastics. At the low use levels (typically 400 – 1000 ppm) necessary to improve processing, it does not alter or detract from the 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 low-density polyethylene (LDPE), ethylene-vinyl acetate (EVA) and other polyolefin resins.

Dynamar FX 5920A lowers apparent melt viscosity and permits fabricators to use high strength resins which otherwise could not be processsed 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 polymer processing additive (PPA), Dynamar FX 5920A can reduce or eliminate melt fracture and can reduce extruder torque. Through optimization of the extrusion process, it may also allow for an increase in output and produce films with enhanced and balanced bi-directional physical properties and improved clarity and gloss.

Typical Physical Properties (Not for specification purposes.)

Property	3M™ Dynamar™ Polymer Processing Additive FX 5920A
Form	Granular
Color	White to Off-White
Active ingredients	97%
Inorganic additives	3%
Particle size	Less than 10 Mesh
Bulk density	41 lb/ft³ (0.7 g/cm³)
Typical use levels	400-1000 ppm

Incorporation Procedure

To be effective, Dynamar FX 5920A can 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 5920A and let down at appropriate level
- Concentrate Producer
  - See 3M™ 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

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 Material Handling

3M™ Dynamar™ FX 5920A, 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, please read and follow the information provided in these documents available to you through your 3M sales representative:

- Product Label
- Safety Data Sheet
- 3M™ Dynamar™ PPA Concentrate Preparation Guidelines
- 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.

Warranty, Limited Remedy, and Disclaimer: Many factors beyond 3M's control and uniquely within user's knowledge and control can affect the use and performance of a 3M product in a particular application User is solely responsible for evaluating the 3M product and determining whether it is fit for a particular purpose and suitable for user's method of application. User is solely responsible for evaluating third party intellectual property rights and for ensuring that user's use of 3M product does not violate any third party intellectual property rights. Unless a different warranty is specifically stated in the applicable product literature or packaging insert, 3M warrants that each 3M product meets the applicable 3M product specification at the time 3M ships the product. 3M MAKES NO OTHER WARRANTIES OR CONDITIONS, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY IMPLIED WARRANTY OF NON-INFRINGEMENT OR ANY IMPLIED WARRANTY OR CONDITION ARISING OUT OF A COURSE OF DEALING, CUSTOM OR USAGE OF TRADE. If the 3M product does not conform to this warranty, then the sole and exclusive remedy is, at 3M's option, replacement of the 3M product or refund of the purchase price.

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98-0504-1621-7 Rev. C