

# 3M™ Dynamar™ Polymer Processing Additive FX 5911

## Features and Benefits

- Reduces or eliminates die build-up
- Ideal for use in high viscosity, high molecular weight polyolefins
- Excellent thermal stability for high temperature processing
- Lowers apparent melt viscosity
- For use at very low levels
- Free-flowing fluoropolymer processing aid
- Can offer performance and cost advantages

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

## Typical Properties

Property	
Form	Free-flowing Granular
Color	Clear to Off-White
Active Ingredients	100%
Melting Point	110 to 126°C
Melt Flow Index (265°C, 5 kg)	5.0 to 14.0 g/10 min.
Specific Gravity	1.90 to 1.96 g/cm <sup>3</sup>
Particle Size	98% less than 2400 µm

## Product Description

3M™ Dynamar™ Polymer Processing Additive FX 5911 is a free-flowing fluoropolymer processing aid that is designed for use at very low levels to improve processing of thermoplastics. At the very low use levels (typically 250 – 1000 ppm) necessary to improve processing, it does not alter or detract from the good physical properties associated with high strength plastics.

Dynamar FX 5911 can offer performance and cost benefits in a wide range of polyolefin resins. It is particularly useful at low levels in reducing extruder die build-up. FX 5911 also exhibits exceptional commercial utility in high viscosity, high molecular weight polyolefin resins.

FX 5911 lowers apparent melt viscosity and permits fabricators to use high viscosity, high molecular weight resins in many cast and blown film, and blow molding applications which otherwise could not be processed on available equipment. Now with the aid of FX 5911, fabricators can produce blow molded bottles, pipes and other HMW HDPE articles with excellent gloss values and improved quality.

As a processing aid FX 5911 reduces or eliminates melt fracture and can reduce extruder torque. Through optimization of the extrusion process, the use of FX 5911 may also allow an increase in output in other high molecular weight, high viscosity conversion processes. Because of its enhanced efficiency in reducing die build-up and its continued cleaning performance, equipment maintenance can be minimized.

## Incorporation Procedure

To be effective, FX 5911 must be melt blended into the host resin at any of the following stages prior to conversion into extruded products.

Recommended incorporation procedures:

- Resin Producer
  - Direct addition  
See Dynamar PPA Direct Addition During Resin Manufacture Guidelines.
  - Use a concentrate containing 2 – 3% FX 5911 and let down at appropriate level.
- Concentrate Producer
  - See Dynamar PPA Concentrate Preparation Guidelines.
- End User
  - Source resin containing FX 5911 from a resin producer
  - Source a concentrate containing 2-3% FX 5911 and let down at appropriate level.

## Storage and Material Handling

Storage life can be affected by storage conditions. Even though 3M™ Dynamar™ FX 5911 is hydrophobic it should be stored in a clean dry environment. Please refer to the Material Safety Data Sheet for details on 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:

- Material Safety Data Sheet
- Dynamar PPAs Concentrate Preparation Guidelines
- Dynamar PPAs Direct Addition During Resin Manufacture Guidelines
- 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 3M PPA material.

## Food Contact/FDA Regulatory Status

3M™ Dynamar™ FX 5911 may be used at levels up to 2000 parts per million (ppm) as a processing additive for all polymers intended for use in contact with all food types as described in Table 1 of 21 C.F.R. 176.170(c) under FDA 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 these products 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.

## Test Results

The information in this publication is based on 3M tests we believe reliable. Your results may vary due to difference in test types and conditions.

The information is intended for use by persons with knowledge and technical skills to analyze, handle and use raw polymers and related compounding ingredients. You must evaluate and determine whether the product is suitable for your intended application.

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