dyneon

A 3M Company

Dynamar™

Polymer Processing Additive

FX 5911

Features and Benefits

- Broadens extrusion processing capabilities of polyolefin resins
- 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

Typical Properties (Data not for specification purposes)

Form	Free-flowing granular
Color	White to off-white
Active Ingredients	100%
Melting Point, °C	110 to 126
MFI, melt flow index g/10 minutes (265°C, 5kg)	5.0 to 14.0
Specific Gravity, g/cm^3	1.90 to 1.96
Particle Size	Less than 2400 microns

Introduction

Dynamar 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. Dynamar FX 5911 also exhibits exceptional commercial utility in high viscosity, high molecular weight polyolefin resins.

Dynamar 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 Dynamar 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 Dynamar 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 in conversion processes. Because of its enhanced efficiency in reducing die build-up and its continued cleaning performance, equipment maintenance can be minimized. The use of FX 5911 may also yield blown films with enhanced and balanced bi-directional physical properties.

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.

- 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.

FX 5911

Storage and Material Handling
Storage life can be affected by storage conditions. Even though 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 Dyneon sales representative:

– Material Safety Data Sheet
– Dynamar™ PPA Concentrate Preparation Guidelines
– Dynamar™ PPA Direct Addition During Resin Manufacture
– 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 Dynamar PPA material.

Food Contact
This Dyneon product complies with 21 C.F.R. 177.2600 and may be used in the production of rubber articles intended for repeated use in producing, manufacturing, packing, processing, preparing, treating, packaging, transporting, or holding food subject to the provisions, including specifications, conditions of use, or limitations, if any, in this regulation.

Dyneon 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 Dyneon products in a particular application is suitable and will comply with applicable laws and regulations.

Management System – ISO 9001 and ISO 14001
All Dyneon design, development, production and service facilities have achieved a global ISO 9001 registration for their quality management system. In addition, our Gendorf, Germany location has achieved ISO 14001 registration for its environmental management system.

Test Results
The information in this publication is based on Dyneon 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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Important Notice:
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 following is made in lieu of all express and implied warranties (including warranties of merchantability and fitness for a particular purpose): If a Dyneon product is proved to be defective, Dyneon's only obligation, and user's only remedy, will be, at Dyneon's option, to replace the quantity of product shown to be defective when user received it or to refund user's purchase price. In no event will Dyneon be liable for any direct, indirect, special, incidental, or consequential loss or damage, regardless of legal theory, such as breach of warranty or contract, negligence, or strict liability.**

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