

3M Advanced Materials Division

3M™ Dynamar™ Polymer Processing Additive FX 5914

Features and Benefits

- Applicability in engineering thermoplastics like nylon, polyester, PVC, polystyrene and acrylic
- Reduces or eliminates die build-up
- Speeds colorant changes
- Excellent thermal stability for high temperature processing
- Lowers apparent melt viscosity

Product Description

3M™ Dynamar™ Polymer Processing Additive FX 5914 is a free-flowing fluorothermoplastic processing aid designed for use at low levels to improve processing of thermoplastics. At the low use levels (typically 250 – 1000 ppm) necessary to improve processing, it does not alter or detract from the physical properties associated with high strength plastics.

Some fluoropolymer processing additives can chemically react with amines and other strongly basic chemicals, reducing their effectiveness. Dynamar FX 5914 is non-reactive and can be used with amine-containing additives such as hindered amine light stabilizers (HALS) or with basic polymers like nylon.

Dynamar FX 5914 is particularly useful in high viscosity, high molecular weight engineering thermoplastics.

Typical Physical Properties (Not for specification purposes.)

Property	3M™ Dynamar™ Polymer Processing Additive FX 5914
Form	Free-flowing Granular
Color	Clear to Off-White
Active ingredients	100%
Melting point	195 to 215°C (383 to 419°F)
Melt flow index (265°C, 5 kg)	5.0 to 14.0 g/10 min.
Specific gravity	1.76 g/cm ³
Typical use levels	250-1000 ppm

It is particularly useful at low levels to reduce die pressure and reduce extruder die build-up.

Another application for Dynamar FX 5914 is the reduction of time required to transition from one pigmented material to another. The polymer processing additive (PPA) prevents stagnation and build-up of pigments inside the extruder and die.

Because of its enhanced efficiency in reducing die build-up and its continued cleaning performance, equipment maintenance can be significantly minimized.

Dynamar FX 5914 lowers apparent melt viscosity and permits fabricators to use high viscosity, high molecular weight resins in cast and blown film, and other extrusion applications which otherwise could not be processed on available equipment.

Incorporation Procedure

To be effective, Dynamar FX 5914 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 5914 and let down at appropriate level
- Concentrate Producer
 - See 3M™ Dynamar™ PPA Concentrate Preparation Guidelines
- End User
 - Source resin containing FX 5914 from a resin producer
 - Source concentrate containing 2-3% FX 5914 and let down at appropriate level

Storage and Material Handling

3M™ Dynamar™ FX 5912, 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 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:

- 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.

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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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98-0504-1474-1 Rev. C