

Dynamar™

Polymer Processing Additives

Introduction to Dynamar PPAs

What are Dynamar Polymer Processing Additives?

Dynamar™ Polymer Processing Additives (PPAs) are a family of additives developed by Dyneon to improve the processing of polymers used in your products.

How will Dynamar PPAs help me?

In general, Dynamar PPAs enable you to use high performance resins without the processing problems that can come with them. For example:

- You can switch to lower melt index resins, especially fractional Melt Index (MI) grades, where throughput or melt fracture might otherwise be a problem.
- You can increase the amount of LLDPE in blends (up to 100%) to take advantage of its superior mechanical properties.
- You can process using narrower die gaps for a better bidirectional balance of properties.
- You can operate at lower temperatures to avoid possible polymer degradation and reduce cooling requirements.

Whether switching to high performance resins or not, Dynamar PPAs have been shown to:

- Improve throughput and decrease power consumption.
- Reduce surface defects commonly known as melt fracture.
- Reduce or eliminate die build-up.
- Allow extrusion of heat sensitive polymers or formulations at lower temperatures.
- Reduce gels formed in the extrusion process.
- Extend time between die cleaning.

Are all Dynamar PPA products the same?

Dyneon offers several Dynamar PPAs. Many are based on similar building blocks, but each is designed to work in specific polymer systems. We'll help find the Dynamar PPA product for you.

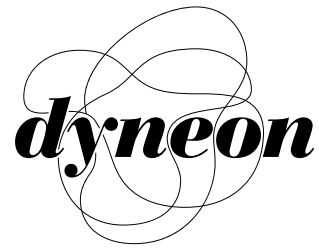
How do I put it into my polymer system?

Fabricators: Resin grades containing appropriate end use levels of Dynamar PPAs are already available from many producers, or Dynamar PPAs can be added as a concentrate available from many compounders.

Resin Producers: Dynamar PPAs can be added through concentrates or direct addition of the neat additive.

How do I know how much to use?

Typical use levels are in the range of 50-1000 ppm. Your resin, current additive package and processing conditions will all be important in determining the most effective level. Dynamar PPA technical personnel will be glad to help with your questions.



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How fast does it work?

Equipment can be conditioned with a Dynamar™ PPA concentrate, allowing you to make your product in as little as 15-20 minutes. Or you can start right off with your let-down level and see improvement in 30-60 minutes.

What about reactions with other additives?

When used with generally recognized processing procedures, Dynamar PPAs have not interfered with the functioning of other additives.

Dynamar PPAs are used at very low levels. As a result, other additives can impact Dynamar PPA effectiveness. Dyneon has conducted research to understand additive interactions, and can advise you of the details relevant to your polymer system. Some Dynamar PPA products have even been designed to be used with certain additives, like antiblocks or pigments. Questions? Dynamar PPA technical personnel will be glad to help.

Can Dynamar PPAs be easily removed from my equipment?

Running polymer without Dynamar PPAs will eventually remove them from the surfaces of your processing equipment, but we recommend using a purge compound to do a thorough cleaning in a shorter time. Just be sure your purge compound does not contain PPA. Ask your supplier. Solvents can also be used to remove Dynamar PPAs from smaller or disassembled equipment.

Are polymer mechanical properties affected by Dynamar PPAs?

Not directly, as the use levels are so low. In fact, Dynamar PPAs can enhance your products physical properties by enabling you to use high performance resins and/or more effective processing techniques.

What about effects on printing and sealing?

Our studies show that Dynamar PPAs do not bloom to the surface of extruded parts, so there's no change in surface chemistry affecting printing or heat sealing. Dynamar PPAs can even improve printing and heat sealing by eliminating melt fracture.

Are Dynamar PPAs compliant with indirect food contact regulations?

Most Dynamar PPAs comply with the food contact regulations in a variety of countries for use at specified levels in polyethylene and polypropylene. Other applications for food contact compliance with local regulations are in progress. Check with us for specific regulatory compliance and allowed use levels in your country.

Where can I get more information?

Please visit the Dyneon website, www.dyneon.com, for the latest news, data sheets, and technical papers.

Technical Information and Test Data:

Technical information, test data, and advice provided by Dyneon personnel are based on information and tests we believe are reliable and are intended for persons with knowledge and technical skills sufficient to analyze test types and conditions, and to handle and use raw polymers and related compounding ingredients. No license under any Dyneon or third party intellectual rights is granted or implied by virtue of this information.

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