



Einar[®]



Einar[®] antifog solutions for polypropylene (PP)

- Einar[®] 618 provides good coldfog properties in BOPP and cast PP film
- Einar[®] 422 is the ideal hotfog solution for PP film
- Einar[®] anti-fogs are approved worldwide for food contact applications

Application background

The excellent properties of PP film, such as stiffness, transparency and barrier properties, are creating a steadily growing demand for PP film in food packaging applications and as a result, antifog solutions for both cast and BOPP film are becoming a top priority.

The need for efficient antifogs are essential for the quality and appearance of fresh packaged food. Fogging is unacceptable for a number of reasons as it reduces the visibility of the product, provides a less attractive appearance of the package, and the presence of water droplets may cause deterioration of product quality.

The use of migratory antifogs in PP film is a constantly developing application as the crystalline nature of PP is a challenge for migratory additives. Antifog chemistries need to be sufficiently polar to reduce surface tension at the polymer and air interface so that condensing water settles as a thin continuous film and not as discrete water droplets.

At the same time, the antifog molecules need to migrate through a crystalline polymer and be present at the surface – making it a challenge to combine these essential properties in one product!

Einar® antifog solutions for polypropylene (PP)

Einar® 618 for PP coldfog applications

Einar® 618 will provide good antifog performance in PP film and is primarily suited for coldfog applications but will also have good properties in a hotfog use. Einar® 618 has an ideal balance between molecular weight and polarity so that its migratory profile suits the semi-crystalline nature of PP and at the same time it has sufficient polarity to effectively modify the surface tension on the polymer surface.

Einar® 618 works well in both cast and BOPP film and will be a fast acting antifog, producing clear and transparent film for an extended period of time. The recommended loading level of Einar® 618 is 1.0 - 1.5% when incorporated in a random copolymer PP layer and loading levels for homopolymer PP film are 1.5 - 2.0%.

Einar® 422 for PP hotfog applications

Einar® 422 is a new hotfog development and will be an excellent choice for any PP antifog application for packing of hot foods on display or microwaved ready meals. Performance is immediate and consistent throughout the period of storage at elevated temperatures.

The recommended loading level of Einar® 422 is 0.5 - 1.0% when incorporated in a random copolymer PP layer and loading levels for homopolymer PP film are 1.0 - 1.5%.

Your direct benefits:

- Very efficient antifog performance across a broad range of PP applications
- Excellent solution for both cast and BOPP film
- Efficient performance in both coldfog and hotfog applications
- High heat resistance and low volatility
- Worldwide approved for food contact
- Consultancy and technical evaluations available from our technical team

Other offerings from the Einar® range:

- Einar® 1122 antifog coating solutions
- Einar® 411 antistat solutions for PP film
- Einar® 601 for antistat performance in PE applications

Contact us and let us help you develop and test the optimum antifog solution for your PP film applications

Find out more at polymers.palsgaard.com

Palsgaard A/S
DK-7130 Juelsminde,
Denmark
Phone +45 76 82 76 82
direct@palsgaard.dk