



Einar®



Einar® antifog solutions for polyethylene (PE)

- Einar® antifog solutions provide excellent cold- and hotfog performance for PE food packaging
- Einar® 611 is the ideal antifog solution for coextruded and laminated PE film
- Einar® antifogs are approved worldwide for food contact applications

Application background

PE film is commonly used in a very broad range of packaging applications and the need for efficient antifogs is essential for the quality and appearance of fresh packaged food.

Fogging appears when packaged food is placed in refrigerated storage. This is the case of packaged meat, oven backed products, salads, vegetables and fruits. The entrapped air cools and moisture will condense and appear as small discrete droplets on the packaging.

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 request for good and reliable antifog solutions is on a steady growth path in a food packaging market where the consumer choice is moving more and more towards ready meals and pre-prepared food that offers convenience in a busy daily schedule.

Einar® antifog solutions for polyethylene (PE)

Einar® 211 for PE antifog applications

Einar® 211 is an excellent performer in many conventional food packaging applications where the objective is to obtain a good and reliable performance in either a cold- or hotfog application. Einar® 211 works well in both monolayer and coextruded 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® 211 is 0.3 - 0.6% for most coldfog applications in LDPE or LLDPE film. For hotfog applications the recommended loading level is 0.2 - 0.4%.

Einar® 611 for PE antifog applications

Einar® 611 is a newly developed, highly efficient antifog chemistry. It is ideally suited for demanding applications in coextruded and laminated packaging films where the antifog is often added to a very thin section of the entire film.

Einar® 611 provides fast and long term antifog performance and has proven to work well in coldfog applications at very low temperatures. It has high extraction resistance in the polymer where it is incorporated and therefore is very good at maintaining its high efficiency through a lamination process. The recommended loading level for most applications is 0.2 - 0.4%.

Application test of 0.4% Einar® 611 in 50µm LDPE film

1 min	E	E	E	E	E	E
5 min	E	E	E	E	E	E
15 min	D	E	E	E	E	E
60 min	D	E	E	E	D	E
180 min	D	E	E	E	D	E
	1 day	7 days	1 month	2 months	6 months	18 months
Days after film manufacture						

Einar® 611 shows excellent antifogging performance in LDPE film

Your direct benefits:

- Very efficient antifog performance across a very broad range of PE applications
- Excellent solutions for coextruded and laminated film
- Efficient performance with low loading levels in both cold- 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® 601 for antistat protection of PE foams
- Einar® 618 and Einar® 422 for antifogging in polypropylene (PP) applications
- Einar® 601 for antistat in polyethylene (PE) applications

Contact us and let us help you develop and test the optimum antifog solution for your PE applications.

Control test of 0.4% competitor product in 50µm LDPE film

1 min	E	C	D	E	C
5 min	E	B	C	E	D
15 min	E	B	B	E	D
60 min	E	C	C	E	D
180 min	E	E	E	E	D
	1 day	7 days	1 month	2 months	6 months
Days after film manufacture					

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

Find out more at polymers.palsgaard.com