

HORDAMER PE 02

Primary polyethylene dispersion to formulate release agents for metal die casting. Improves surface protection in aqueous care products and adhesive strength in emulsion adhesives. Anti-caking additive for thermoplastics and hot-melt adhesives.

Product Data

Composition

Primary polyethylene dispersion containing an anionic emulsifier

Typical Properties

The values indicated in this data sheet describe typical properties and do not constitute specification limits.

Density (20 °C):	0.97 g/ml
Non-volatile matter:	40 %
Carrier:	Water
Melting point (wax content):	95 °C
Viscosity (20 °C):	20 mPa·s
pH value (20 °C):	8-12

Food Contact Legal Status

For the current food contact legal status, please contact our product safety department or visit www.byk.com for further information.

Storage and Transportation

Temperature sensitive. To be stored and transported between 5 °C and 35 °C. Stir before processing.

Special Note

During storage, the pH value may drop to a value as low as pH 8. This does not impact the performance of the product.

Applications

Release Agents for Metal Die Casting

Special Features and Benefits

HORDAMER PE 02 is recommended for the formulation of aqueous mold release agents that are used in aluminum die casting. The product enables the thorough wetting of the mold at high temperatures, excellent film formation and outstanding adhesion to the mold surface. The mold is protected from damage and the surface quality of the finished moldings is excellent.

Recommended Levels

10-70 % additive (as supplied) based upon total formulation.

The above recommended levels can be used for orientation. Optimal levels are determined through a series of laboratory tests.

Incorporation and Processing Instructions

HORDAMER PE 02 is preferably diluted with water, but may also be mixed directly with all components of the aqueous mold release agent.

Hot-Melt Adhesives

Special Features and Benefits

HORDAMER PE 02 is used as an anti-caking additive in the manufacture of hot-melt adhesives during underwater pelletizing so as to obtain free-flowing and non-sticking granulated material. It is directly added to the cooling water and, therefore, is easy to handle and dust-free.

Recommended Levels

0.5–5 % additive (as supplied) based upon the amount of water in the cooling circuit.

The above recommended levels can be used for orientation. Optimal levels are determined through a series of laboratory tests.

Incorporation and Processing Instructions

The additive is added directly to the circuit water. If foaming occurs in the circuit water, we recommend defoamers BYK-023 (silicone defoamer) or BYK-016 (silicone-free) at a dosage of 0.05-0.3 %.

Packaging Adhesives

Special Features and Benefits

HORDAMER PE 02 improves the adhesive properties of aqueous emulsion adhesives intended for packaging. In the bonding of film laminated surfaces using paper or cardboard, HORDAMER PE 02 improves adhesion on the side facing the film. Adhesion is particularly enhanced on films made of oriented polypropylene (OPP), bi-axially oriented PP (BOPP) and, in some cases, also polyethylene (PE). The product has good adhesion properties also at low temperatures. HORDAMER PE 02 prevents yellowing when storing bonded systems at higher temperatures. HORDAMER PE 02 is a part of the binder in these applications, which is why it is added in greater quantities.

Recommended Levels

10–50 % additive (as supplied) based upon total formulation.

The above recommended levels can be used for orientation. Optimal levels are determined through a series of laboratory tests.

Incorporation and Processing Instructions

The additive should be added after admixture of the binder.

Thermoplastics

Special Features and Benefits

Thermoplastic granulated material (TPE, TPU, EVA) tends to compact and cake under pressure and heat. HORDAMER PE 02 is used in the underwater pelletizing of such materials and forms a protective layer covering the granules, thereby generating non-sticking and free-flowing granulated materials. Unlike the commonly performed dusting of the granulate materials using solid release agents (chalk, talc), significantly lower quantities are needed, which, therefore, avoid an impact on the properties of the thermoplastic material. The generation of dust during processing is also eliminated.

Recommended Levels

0.2–5 % additive (as supplied) based upon the amount of water in the cooling circuit.

The above recommended levels can be used for orientation. Optimal levels are determined through a series of laboratory tests.

Incorporation and Processing Instructions

The additive is added directly to the circuit water. If foaming occurs in the circuit water during the underwater granulation, we recommend defoamers BYK-023 (silicone defoamer) or BYK-016 (silicone-free) at a dosage of 0.05-0.1 %.

Care Products and Polishes

Special Features and Benefits

HORDAMER PE 02 is compatible with all known polymer dispersions and plasticizers. The product provides good protection against heel marks (= foot traffic resistance), reduces dirt pick-up and has a satisfactory filling capacity. Blending of HORDAMER PE 02 with polymers using a ratio of 3:1 (solid wax on solid polymer) particularly improves the filling capacity and the dirt repellent effect. A mixing ratio of 1:6 increases the water- and alcohol-resistance, the scuff-resistance and the foot traffic resistance.

Recommended Use

HORDAMER PE 02 is used in self-shine emulsions, wax cleaners and emulsion cleaners.

Recommended Levels

5–10 % additive (as supplied) based upon total formulation.

The above recommended levels can be used for orientation. Optimal levels are determined through a series of laboratory tests.

Incorporation and Processing Instructions

The wax additive is preferably added after blending the polymers with the plasticizers and water, however prior to the incorporation of surfactants while stirring.

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BYK-Chemie GmbH
P.O. Box 10 02 45
46462 Wesel
Germany
Tel +49 281 670-0
Fax +49 281 65735
info@byk.com
www.byk.com/additives

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