HORDAMER PE 02

Polyethylene primary dispersion for formulating release agents for metal die casting. Improves surface protection in aqueous care products and adhesion in dispersion adhesives. Anti-caking additive for thermoplastics and hot-melt adhesives. Wetting and dispersing agent for thermoplastic color masterbatches.

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
pH value (20 °C):	11
Non-volatile matter (60 min, 125 °C):	40 %
Carrier:	Water
Melting point (wax content):	95 °C
Viscosity (20 °C):	20 mPa·s

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. The optimum dosage should be determined by application-related test series.

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. The optimum dosage should be determined by application-related test series.

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 or BYK-016 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. The optimum dosage should be determined by application-related test series.

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. The optimum dosage should be determined by application-related test series.

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 defoamer BYK-023 (silicone defoamer) at a dosage of 0.05–0.1 %.

Special features and benefits
HORDAMER PE 02 is a wax dispersion that can improve mixing and compounding in the manufacturing of color masterbatches. This results in better dispersion, better color properties, and a lower filter pressure value.

Premix:
Adding up to 8 % to the premix reduces the formation of dust during processing and helps to limit the free flowing effect of organic pigments during the mixing process, which leads to greater shear forces and a better pre-dispersion.

Extrusion:
During extrusion, the finely dispersed wax particles ensure good wetting and thus prevent compaction. The torque build-up, throughput, viscosity (MVR), filter pressure value (FPV) and dispersion quality are improved.

Recommended use
HORDAMER PE 02 is suitable for dispersing solids in polyethylene (PE) and polypropylene (PP).

Recommended levels
Organic pigments: 5–8 % additive (as supplied) based on the total formulation in a standard-color masterbatch with up to 40 % pigment content.

The above recommended levels can be used for orientation. The optimum dosage should be determined by application-related test series.

Incorporation and processing instructions
Do not use with components that are sensitive to the presence of water (e.g. polyester) or in machinery that does not have adequate degassing vents.

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 (= black heel resistance), reduces dirt pick-up and shows good fill capacity.Blending HORDAMER PE 02 with polymers in a ratio of 3:1 (solid wax to solid polymer) particularly emphasizes the fill capacity and the dirt-repellent effect. Mixing at a ratio of 1:6 increases the water and alcohol resistance, scuff resistance, and black heel 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. The optimum dosage should be determined by application-related test series.

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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