
Technical Information

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08_080623e-01/Page 1 of 4

Poligen[®] WE 1

® = Registered trademark of BASF group

Emulsion of a hard polyethylene wax

Chemical nature

Aqueous emulsion of a polyethylene wax with a high melting point.

Properties

	Test method	
	DIN	ASTM
Solids content	EN ISO 3251	34 – 36%
pH-value (23 °C)	EN 1262 19268	9 – 10
Flow time (cup 4 mm, 23 °C)	EN ISO 2431	20 – 36 s
Density (Aräometer, 23 °C)	51757	D-1298 approx. 1.0 g/cm ³
Average particle size	Coulter Counter	approx. 100 nm
Emulsifier system		Nonionic/anionic

The above information is correct at the time of going to press. It does not necessarily form part of the product specification.

A detailed product specification is available from your local BASF representative.

Poligen WE 1 is an aqueous, finely divided emulsion of a very hard poly-ethylene wax with a high melting point. It is emulsified under pressure by means of a special BASF process.

PRD-No.*

30043787

* BASF's commercial product numbers.

Compatibility

Poligen WE 1 is compatible with water-based products, such as conventional metal-crosslinking and metal-free polymer dispersions, resin solutions, plasticizers, film-forming agents and surfactants.

Microbial attack

Poligen WE 1 is fully protected against microbial attack during transport, but we would recommend adding preservatives to protect it from attack during storage and processing. Careful attention needs to be paid to the hygiene of storage facilities.

Low-temperature stability

It is not advisable to store Poligen WE 1 in the open during winter. Measures should be taken to prevent it from freezing. If it does freeze, the best course of action is to thaw it gradually by leaving it to stand at room temperature. It should not be heated direct. It is advisable to filter reconstituted dispersions before use.

Shelf life

Poligen WE 1 has a shelf life of one year in its sealed original packaging, provided it is stored correctly. Drums should be tightly resealed each time material is taken from them. We would recommend filtering this product before use if it has been left in storage for a long time or if a crust has formed due to the evaporation of water.

Applications

Floor polishes

Poligen WE 1 performs particularly well in floor polishes with a high polymer content, such as sealers and restorers. The polyethylene wax contained in Poligen WE 1 is very hard and tough, and this enables dry-bright films with exceptionally high traffic resistance and wear resistance to be obtained, especially in combination with polymer dispersions.

Suggested formulations

The following formulations can be prepared by dissolving or dispersing the various additives in water and then stirring them into the polymer dispersions.

Dry-bright sealers with a high polymer content

All figures refer to parts by weight.

- High gloss,
- high soiling resistance

1. 44.3 Water
3.0 Diethylene glycol monoethyl ether or Solvenon® DPM*
2.0 Ethylene glycol
1.5 Tributoxyethyl phosphate (TBEP)**
1.0 Zonyl® FSJ (1%)****
0.2 Degressal® SD 40
40.0 Syntran® 1250 or 1260 (40%)***
8.0 Poligen WE 1

- High gloss,
- high slip resistance

2. 46.3 Water
0.2 Degressal SD 40
3.0 Diethylene glycol monoethyl ether or Solvenon DPM*
2.0 Ethylene glycol
1.5 Tributoxyethyl phosphate (TBEP)**
40.0 Syntran 1950 (40%)***
5.0 Poligen WE 1
3.0 Poligen WE 7

Restorer

1. 61.3 Water
0.2 Degressal SD 40
2.5 Diethylene glycol monoethyl ether or Solvenon DPM*
1.0 Tributoxyethyl phosphate (TBEP)**
1.0 Plurafac® LF 403 (or Lutensol® ON 30 or Lutensol TO 3)
30.0 Syntran 1950 (40%)***
4.0 Poligen WE 1

* *Solvenon DPM is more volatile than diethylene glycol monoethyl ether, and formulations dry more quickly.*

** *E. g. Etingal® TP, available in Germany from Tensid-Chemie, Cologne.*

*** *Interpolymer GmbH*

**** *DuPont*

Paper and board

Because it is based on a very hard wax, Poligen WE 1 can be used in combination with film-forming auxiliaries to increase the resistance of paper to scratching and mechanical action.

Polyurethane coatings

Poligen WE 1 improves the abrasion resistance of aqueous polyurethane coatings, such as sealants applied to parquet floors.

Water-based printing inks

Poligen WE 1 can be added to water-based printing inks and overprint varnishes. It improves the abrasion resistance and reduces the sliding friction. It can be used to improve the scratch resistance and rub resistance of the printed surfaces without affecting its gloss.

Water-based printing inks have become much more popular recently for environmental reasons. Large quantities of gravure inks are used to print packaging made from paper, board and plastics.

The wax contained in Poligen WE 1 is very finely divided (0.03 – 1 µm), and it is compatible with the acrylic binders used in water-based inks.

Mould release agents

Poligen WE 1 can be used in water-based mould release agents, especially products for die-cast metal and polyurethane, either alone or in combination with other emulsions.

Safety

We know of no ill effects that could have resulted from using Poligen WE 1 for the purpose for which it is intended and from processing it in accordance with current practice. According to the experience that we have gained over many years and other information at our disposal, Poligen WE 1 does not exert any harmful effects on health, provided that it is used properly, due attention is given to the precautions necessary for handling chemicals, and the information and advice given in our safety data sheet are observed.

Note

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