

# VINNAPAS<sup>®</sup> EN 1092



## Polymer Dispersions

VINNAPAS<sup>®</sup> EN 1092 is a self-crosslinking, aqueous polymer dispersion produced without the use of plasticizers from the monomers vinyl acetate and ethylene for the Nonwovens / textile coating market.

## Properties

- VINNAPAS<sup>®</sup> EN 1092 offers a unique balance of high dry and wet strength.
- The dispersion has a low formaldehyde content of less than 100 ppm.
- The binder is particularly recommended as binder for glassfiber scrims due to its firm handfeel and good alkaline resistance.

## Technical data

### Specification

Property	Condition	Value	Method
Solids content	-	51 - 53 %	DIN EN ISO 3251
Viscosity, dynamic	23 °C	50 - 400 mPa·s	DIN EN ISO 2555
pH	-	4.5 - 6.0	DIN/ISO 976

## General Characteristics

Property	Condition	Value	Method
Density	23 °C	approx. 1.07 g/cm <sup>3</sup>	DIN EN ISO 2811-3
Minimum film forming temperature	-	approx. 0 °C	DIN ISO 2115
Frost resistance	-	protect from freezing	specific method
Protective colloid / emulsifier system	-	anionic surfactants	-
Appearance of the dispersion film	-	clear, glossy	Visual
Surface of the dispersion film	-	tack free	-
Elongation at break <sup>(1)</sup>	-	approx. 1300 %	DIN EN ISO 527, part 1 - 3
Glass transition temperature	-	approx. 10 °C	specific method
Predominant particle size	-	approx. 0.1 - 3 µm	specific method
Tensile strength <sup>(2)</sup>	-	approx. 9.0 N/mm <sup>2</sup>	DIN EN ISO 527, part 1 - 3

<sup>1</sup>crosslinked

<sup>2</sup>crosslinked

These figures are only intended as a guide and should not be used in preparing specifications.

All the information provided is in accordance with the present state of our knowledge. Nonetheless, we disclaim any warranty or liability whatsoever and reserve the right, at any time, to effect technical alterations. The information provided, as well as the product's fitness for an intended application, should be checked by the buyer in preliminary trials. Contractual terms and conditions always take precedence. This disclaimer of warranty and liability also applies particularly in foreign countries with respect to third parties' rights.

## Applications

- Textile Printing

## Application details

### General

VINNAPAS® EN 1092 can be applied by a number of different application methods including saturation, spraying, foaming and print bonding.

VINNAPAS® EN 1092 performs well on various fiber types including cellulose, rayon, glass and polyester. This dispersion is especially suited for use as binder for glass fibre fabrics finishing, and has excellent adhesion to mineral substrates. After drying and curing at temperatures above 150°C the polymer forms tack-free, strong and tough film, with excellent water and alkali resistance.

### Processing

Formulating recommendations include the addition of catalyst and a wetting surfactant. Catalysts should be added to the dispersion as a 10% solution under good agitation. Typical catalysts include ammonium chloride, citric acid and sodium bisulfate. A 1% catalyst level (solids on solids dispersion) is sufficient to achieve complete crosslinking of the polymer. Surfactants can also be added to VINNAPAS® EN 1092 to improve penetration of the binder into the substrate and improve absorbency of the finished product. Effective surfactant levels are 0.5 to 1.0% on dispersion solids. The compatibility and efficacy has to be checked undertaking a storage test.

### Polymer Dispersions

VINNAPAS® EN 1092 can be mixed with most VINNAPAS®- and VINNOL®- dispersions as well as with most anionic and/or nonionic aqueous polymer dispersions. VINNAPAS® AN 2014 is recommended as blending component to stiffen handfeel notably in glassfiber scrim.

However the compatibility of the mixture should be tested by undertaking a storage test.

### Defoaming Agents

Suitable defoaming agents include 1) SILFOAM® SE1662, 2) FOAMASTER® WO 2310, 3) AGITAN® 352 or 4) Surfynol® DF58. The compatibility and efficiency should be tested in any case.

- 1) SILFOAM® is a trademark of Wacker Chemie AG
- 2) FOAMASTER® is a trademark of BASF SE
- 3) AGITAN® is a trademark of Münzing Chemie GmbH
- 4) SURFYNOL® is a trademark of Evonik Resource Efficiency GmbH

The compatibility and efficiency should be tested in any case.

### Thickening Agents

We recommend, in particular, products with neutral pH, e.g. those based on cellulose derivatives, polyvinyl alcohol or polyurethane. Should alkali-swellable polyacrylic acid derivatives be used those need to be chosen that are effective with ammonia, in order not to interfere with the acid catalyzed cross-linking of VINNAPAS® EN 1092 like e.g. 5) Rheovis® AS 1125, 6) ROHAGIT® SD15 and 7) Rheovis® AS1130.

Their compatibility and efficacy has to be checked.

- 5), 7) RHEOVIS® is a trademark of BASF SE
- 6) ROHAGIT® is a trademark of Synthomer PLC

### Additional information

If the product is used in applications other than those mentioned, the choice, processing and use of the product is the sole responsibility of the purchaser. All legal and other regulations must be complied with.

For questions concerning food contact status according to the chapter 21 CFR (US FDA) and German BfR, please feel free to contact us.

Wacker Chemie AG Hanns-Seidel-Platz 4 D-81737 München Germany

## Packaging and storage

### Storage

When the dispersion is stored in tanks, proper storage conditions must be maintained. The product has a shelf life of 6 months starting from the date of receipt if stored in the original, unopened containers at temperatures between 5 and 30 °C. Any longer periods for the maximum storage period that may be described in the Certificate of Analysis which accompanies each shipment of the product, take preference over this suggestion in which case the time period stated in the Certificate of Analysis shall be solely authoritative. Iron or galvanized iron containers and equipment are not recommended. Corrosion could result in discoloration of the dispersion or blends made from it in further processing. We therefore recommend the use of containers and equipment made of ceramic, rubberized or enameled materials, appropriately finished stainless steel, or plastic (rigid PVC, polyethylene or polyester resin). As polymer dispersions may tend to superficial film formation, skins or lumps may be formed during storage or transportation. A filtration process is thus recommended prior to utilization of the product.

### Preservation for Transport, Storage and further Processing

The product is adequately preserved during transportation and storage if kept in the original, unopened containers. However, if it is transferred to storage tanks, the dispersion should be protected against microbial attack by adding a suitable preservative package.

Measures should also be taken to ensure cleanliness of the tanks and pipes. In unstirred tanks, a layer of preservative-containing water should be sprayed onto the surface of the dispersion to prevent the formation of unwanted skin and possible attack by microorganisms. The thickness of this water layer should be < 5 mm for low viscosity dispersions and up to 10–20 mm for high viscosity products. Proper procedures – periodic tank cleaning and sanitization – must be set up in order to prevent microbial attack. Contact your biocide representative/supplier for further plant hygiene recommendations. Measures should be taken to ensure that only clean air enters the tank when the dispersion is removed. Finished products manufactured from polymer dispersions usually also require preservation. The type and scope of preservation will depend on the raw materials used and the anticipated sources of contamination. The compatibility with other components and the efficacy of the preservative should always be tested in the respective formulation. Preservative manufacturers will be able to advise you about the type and dosage of preservative required.

## Safety notes

Comprehensive instructions are given in the appropriate Material Safety Data Sheets. These are available on request from WACKER sales offices.

## QR Code VINNAPAS® EN 1092



### For technical, quality or product safety questions, please contact:

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