

VINNAPAS® EP 177



Polymer Dispersions

VINNAPAS® EP 177 is an aqueous 60 % dispersion based on a copolymer of vinyl acetate and ethylene. It is produced without the use of plasticizers.

Technical data

Specification

Property	Condition	Value	Method
Solids content	-	59 - 61 %	DIN EN ISO 3251
Viscosity, dynamic	23 °C	2800 - 4800 mPa·s	DIN EN ISO 2555
pH	-	4 - 5	DIN/ISO 976

General Characteristics

Property	Condition	Value	Method
Density	23 °C	approx. 1.07 g/cm ³	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	-	polyvinyl alcohol	-
Filler compatibility	-	very good	specific method
Appearance of the dispersion film	-	clear	Visual
Surface of the dispersion film	-	slightly tacky	-
Elongation at break	-	approx. 700 %	DIN EN ISO 527, part 1 - 3
Glass transition temperature	-	approx. 3 °C	specific method
Cold break temperature	-	approx. 2 °C	DIN EN 1876, part 2
Predominant particle size	-	approx. 0.9 µm	specific method
Tensile strength	-	approx. 6.0 N/mm ²	DIN EN ISO 527, part 1 - 3
Water absorption	24 h	approx. 10 %	DIN EN ISO 62

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

- Flame retardant coatings
- Industrial Textiles
- Textile Printing

Application details

General

VINNAPAS® EP 177 films are noted for their:

- Very good heat resistance
- Good resistance to saponification
- Excellent adhesion to a variety of substrates together with high cohesion
- Aging resistance & light stability

Special applications

Thanks to the properties listed above, VINNAPAS® EP 177 can be used in the following applications:

- Lamination of both plasticized and non plasticized PVC, polyamide, polyurethane foam, polystyrene foam and polyester to paper or to textile fabrics
- Adhesion promoter for PVC coatings
- Flocking adhesive for foam moldings
- Binder for textile pigment printing formulations

Processing

Polymer Dispersions

VINNAPAS® EP 177 is miscible in all proportions with most VINNAPAS® dispersions and many other aqueous polymer dispersions. However, storage tests should always be undertaken to check if dispersions are compatible.

To obtain a harder handle VINNAPAS® DP 55 should be added to VINNAPAS® EP 177.

Fillers and Pigments

VINNAPAS® EP 177 is compatible with all the usual mineral fillers (chalk, gypsum, dolomite, aluminum hydroxide etc.). The latter product is especially suitable for the production of low smoke emission flame proofing compounds used in textile coatings. Depending on the requirements, further flame retardent agents such as derivatives of phosphorus may be added to the compound. Customer trials must always be carried out.

Fillers can be added dry but the addition of dispersants helps to disperse effectively them and increases the storage stability of the compound.

Defoaming

Suitable defoamers encompass silicone- or organic based products. Their efficacy and compatibility in the formulation chosen should always be checked.

Thickening

Suitable thickeners include polyvinyl alcohol, fumed silica, cellulose or starch derivatives, polyacrylic acid derivatives and bentonite. Their efficacy and compatibility in the formulation chosen should always be checked.

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 the chapter 21 CFR (US FDA) and German BfR, please feel free to contact us.

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Packaging and storage

Storage

When the dispersion is stored in tanks, proper storage conditions must be maintained. VINNAPAS® EP 177 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 VINNAPAS® EP 177, 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 equipment and containers are not recommended because the dispersion is slightly acidic. Corrosion may result in discoloration of the dispersion or its blends when further processed. Therefore the use of containers and equipment made of ceramics, rubberized or enameled materials, appropriately finished stainless steel, or plastic (e.g. rigid PVC, polyethylene or polyester resin) is recommended. As polymer dispersions may tend to superficial film formation, skins or lumps may form during storage or transportation. Filtration is therefore recommended prior to utilization of the product.

Preservation for Transport, Storage and further Processing

VINNAPAS® EP 177 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 corresponding Material Safety Data Sheets. These are available on request from WACKER sales offices or may be downloaded from the WACKER Web site www.wacker.com/vinnapas.

QR Code VINNAPAS® EP 177



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

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