

VINNAPAS® EP 4600



Polymer Dispersions

VINNAPAS® EP 4600 is a poly(vinyl alcohol) stabilized vinyl acetate-ethylene (VAE) copolymer dispersion with a glass transition temperature (T_g) of +5°C. It was developed as a low viscosity, high solids dispersion with the ability to accept high filler loading levels.

Properties

VINNAPAS® EP 4600 has a unique combination of low viscosity and high solids which, together with its ability to accept high loadings of fillers, enables the manufacture of very high solids adhesives. In addition, VINNAPAS® EP 4600 will not thicken appreciably with the addition of plasticizers. The dispersion has very good adhesion to a wide variety of difficult-to-adhere substrates such as plastic films and coated papers. The dispersion is mechanically shear stable which upon drying forms a clear, slightly tacky film. No formaldehyde or formaldehyde donors are intentionally added to VINNAPAS® EP 4600. It is produced without the use of any surfactants or defoamers that contain alkyl ethoxylates (APEOs).

Technical data

Specification

Property	Condition	Value	Method
Solids content	-	62.5 - 64.0 %	EN ISO 3251
Viscosity, dynamic	25 °C	200 - 800 mPa·s	DIN EN ISO 2555
pH	-	6.0 - 7.5	DIN/ISO 976

General Characteristics

Property	Condition	Value	Method
Density	-	approx. 1.07 g/cm ³	ISO 2811
Frost resistance	-	protect from freezing	specific method
Glass transition temperature	-	approx. 5 °C	specific method
Dry tack	-	slight tack	specific method
Film clarity	-	clear	specific method
Flexibility	-	very good	specific method
Mechanical stability	-	excellent	specific method
Thickening response	-	low	specific method
Water resistance	-	good	specific method
Wet tack	-	high	specific method

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.

Protect against frost.

Applications

- Paper Packaging & Converting
- Film & Foil Converting
- Film-to-Wood lamination

Application details

VINNAPAS® EP 4600 can be compounded with plasticizers in a manner similar to VINNAPAS® EP7000. It is compatible with other vinyl acetate-based polymers and acrylic polymers. The high solids content and adhesion to plastic substrates of VINNAPAS® EP 4600 make it especially useful in bonding films to paper and board stocks, where lower water content and low formaldehyde adhesives are required. The very good adhesion to difficult-to-bond surfaces shown by the dispersion is very useful in laminating films such as polystyrene, poly(ethylene terephthalate), poly(vinyl chloride) (PVC) and poly(vinylidene chloride).

Packaging and storage

Storage

When the dispersion is stored in tanks, proper storage conditions must be maintained. If stored in the original, unopened containers at cool (below 30 °C), but frost-free temperatures the product has a shelf life of 9 months from the date of manufacture. 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 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

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. To maintain proper storage conditions appropriate measures should also be taken to ensure cleanliness of the tanks and pipes. In a storage tank in which the product is not stirred, it is advisable to contact your biocide representative/supplier. Proper procedures must be set up in order to prevent microbial attack between necessary periodic tank cleaning and sanitization. These procedures will vary, since loading and unloading practices in each storage situation will differ slightly. 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 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 4600



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

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