# VINNAPAS® EP 401

## Polymer Dispersions

VINNAPAS® EP 401 is an aqueous, plasticizer-free polymer dispersion produced from the monomers viniyl acetate and ethylene.

## Properties

- Good adhesion to various plastic surfaces
- Permanently flexible adhesive joints
- Good reemulsification
- High setting speed
- Suited for nozzle application

## Technical data

### Specification

| Property | Condition | Value | Method |
|---|---|---|---|
| pH | - | 4.0 - 5.0 | DIN/ISO 976 |
| Viscosity, dynamic | 23 °C | 1700 - 3300 mPa·s | DIN EN ISO 2555 |
| Solids content | - | 54 - 56 % | DIN EN ISO 3251 |

## General Characteristics

| Property | Condition | Value | Method |
|---|---|---|---|
| Glass transition temperature | - | approx. -7.0 °C | specific method |
| Surface of the dispersion film | - | slightly tacky | - |
| Appearance of the dispersion film | - | opaque | Visual |
| Filler and pigment compatibility | - | very good | specific method |
| Protective colloid / emulsifier system | - | polyvinyl alcohol | - |
| Frost resistance | - | protect from freezing | specific method |
| Minimum film forming temperature | - | approx. 0 °C | DIN ISO 2115 |

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

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

## Application details

- Adhesives for paper packaging application
- PVC furniture foil adhesives

### 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 401 has 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. 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 resins) is recommended. As polymer dispersion may tend to superficial film formation, skins or lumps may form during storage or transportation. Filtration is therefore recommended to utilization prior of the product.

**Preservation for Transport, Storage and further Processing**

VINNAPAS® EP 401 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 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 401

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

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