

# VINNAPAS® 315

## Product description

VINNAPAS® 315 is a poly(vinyl alcohol) stabilized vinyl acetate-ethylene copolymer dispersion with a glass transition temperature ( $T_g$ ) of +17 °C that offers high heat resistance and high tensile strength.

## Properties

VINNAPAS® 315 dispersion is designed for use as a base for high-speed packaging adhesives. It exhibits very high wet tack and high thickening response. Because of its poly(vinyl alcohol) stabilization and excellent mechanical stability, this dispersion has clean machining and can be used in a variety of roll, extruder or spray applications. The formaldehyde content of this dispersion is ultra low as it is manufactured with chemicals that do not generate formaldehyde. The total residual vinyl acetate monomer content is less than 1,000 ppm.

The dry Airflex 315 film is tack-free and heat-sealable. The higher  $T_g$  gives the dried adhesive film both very high heat resistance and high tensile strength while maintaining greater flexibility than poly(vinyl acetate) films. The initial adhesive strength is excellent and maintains this strength even after aging. VINNAPAS® 315 exhibits good water resistance excellent plasticizer migration

## Application

VINNAPAS® 315 dispersion is an excellent base for adhesive formulators and can be used in a wide variety of applications. Its rapid setting speed is useful in carton, case forming, and sealing applications. The natural affinity of the dispersion to coated stocks as well as kraft and its good water resistance make this dispersion suitable for bag seams, cups, tube winding, and high pressure laminates. It can also be used for application areas which include but are not limited to bookbinding, padding, laminations of leather to cloth and fiberglass to paper, craft glues, microwave packaging, and envelope back gums

## Other Applications

- Rug Backing
- Consumer Goods

## Processing

VINNAPAS® 315 dispersion is compatible with other poly(vinyl alcohol) and surfactant stabilized vinyl acetate-based dispersions and acrylic copolymers. It is also compatible with rubber latices, water based urethane dispersions, solvents, plasticizers, and other modifiers. VINNAPAS® 315 dispersion thickens rapidly to high viscosity with the addition of plasticizers and/ or solvents. The addition of plasticizers to VINNAPAS® 315 dispersion will improve the specific adhesion, water resistance, and setting speed. VINNAPAS® 315 can be further crosslinked through the hydroxyl functionality of the poly(vinyl alcohol) with materials such as glyoxal, boric acid, and isocyanates.

## Storage

When VINNAPAS® 315 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 VINNAPAS® 315 dispersion has a shelf life of 6 months. 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.

## Preservation for Transport, Storage and further Processing

VINNAPAS® 315 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 piping. In a storage tank in which VINNAPAS® 315 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.

#### **Additional information**

If VINNAPAS® 315 is used in applications other than those mentioned, the choice, processing and use of VINNAPAS® 315 is the sole responsibility of the purchaser. All legal and other regulations must be complied with.

For questions concerning food contact status according to chapter 21 CFR (US FDA) and German BfR, please contact:

Wacker Chemie AG  
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#### **Safety notes**

Comprehensive instructions are given in the corresponding Material Safety Data Sheets. They are available on request from WACKER sales offices or may be printed via WACKER web site [www.wacker.com/vinnapas](http://www.wacker.com/vinnapas).

<b>Product data</b>		
<b>Specification data</b>	<b>Inspection Method</b>	<b>Value</b>
Solids content	02CM170	54,5 – 56,0
Viscosity	AM622	1800 – 2700 mPa.s
pH-Value	AM631	4,0 – 5,0
VAM by Head Space GC	93CRS038	999 ppm max.
Grit 100 Mesh	AM701	50 ppm max.
<b>Typical general characteristics</b>	<b>Inspection Method</b>	<b>Value</b>
Density	WACKER method	1,05 g/cm <sup>3</sup>
Predominant particle size	WACKER method	approx. 1200 – 1800 nm
Wet tack	WACKER method	High
Mechanical Stability	WACKER method	Excellent
Thickening Response	WACKER method	High
Freeze/Thaw Stability	WACKER method	Protect from freezing
Glass transition temperature DSC	WACKER method	approx. +17 °C
Water Resistance	WACKER method	Good
Film Clarity	WACKER method	Slightly Hazy
Dry Tack	WACKER method	None
Flexibility	WACKER method	Fair

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

The data presented in this leaflet are in accordance with the present state of our knowledge, but do not absolve the user from carefully checking all supplies immediately on receipt. We reserve the right to alter product constants within the scope of technical progress or new developments. The recommendations made in this leaflet should be checked by preliminary trials because of conditions during processing over which we have no control, especially where other companies' raw materials are also being used. The recommendations do not absolve the user from the obligation of investigating the possibility of infringement of third parties' rights and, if necessary, clarifying the position. Recommendations for use do not constitute a warranty, either express or implied, of the fitness or suitability of the products for a particular purpose.

The management system has been certified according to DIN EN ISO 9001 and DIN EN ISO 14001

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

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