

VINNAPAS® 315



Polymer Dispersions

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 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 very low as it is manufactured with chemicals that do not generate formaldehyde. The dry VINNAPAS® 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 and excellent plasticizer migration.

Specific features

- Low formaldehyde content
- Produced without APEO

Technical data

Specification

Property	Condition	Value	Method
Solids content	-	54.0 - 56.0 %	specific method
Viscosity, dynamic	25 °C	1800 - 2700 mPa·s	specific method
pH	-	4.0 - 5.0	specific method
Grit 100 Mesh	-	max. 50 ppm	specific method

General Characteristics

Property	Condition	Value	Method
Density	-	1.05 g/cm ³	specific method
Frost resistance	-	protect from freezing	specific method
Predominant particle size	-	1200 - 1800 nm	specific method
Protective colloid / emulsifier system	-	polyvinyl alcohol	-
Glass transition temperature	-	approx. 17 °C	DSC, specific method
Dry tack	-	none	specific method
Film clarity	-	slightly hazy	specific method
Flexibility	-	fair	specific method
Formaldehyde	-	< 50 ppm	-
Mechanical stability	-	excellent	specific method
Thickening response	-	high	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

Application details

VINNAPAS® 315 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 thickens rapidly to high viscosity with the addition of plasticizers and/ or solvents. The addition of plasticizers to VINNAPAS® 315 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.

VINNAPAS® 315 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, envelope back gums and rug backing.

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® 315



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

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