

VINNAPAS® 920

Product description

VINNAPAS® 920 is a carboxylated, poly(vinyl alcohol) stabilized, vinyl acetate-ethylene (VAE) copolymer dispersion with a glass transition temperature (T_g) of -20 °C. It offers excellent flow, wet out and adhesion to a wide variety of polymeric films, coatings and other difficult substrates.

Properties

VINNAPAS® 920 dispersion offers improved adhesion properties over conventional plasticized VAE copolymer dispersions due to a unique polymerization process that combines high ethylene content and carboxyl functionality into the backbone of the polymer. The stabilization of this dispersion with poly(vinyl alcohol) provides high wet tack, good setting speed, and good machinability. The carboxylic acid functionality provides crosslinking sites and a route for the dispersion to be thickened as the pH is increased. The total residual vinyl acetate monomer content is less than 1,000 ppm.

The dried film of this dispersion exhibits residual dry tack and greater flexibility due to the low T_g . Its excellent film coalescence offers good film clarity, water resistance and green strength over conventional VAE's. The low T_g of the dispersion provides greater flexibility, adhesion and dry tack than conventional VAE's.

Application

VINNAPAS® 920 dispersion has excellent wet out and adhesion to difficult-to-adhere substrates like polymeric and metallized polyethylene, polypropylene, and polyester terephthalate films. It can be used in various specialty packaging and converting adhesive formulations as the primary base dispersion or as an adhesion promoter for applications including but not limited to film to board/paper laminating, carton window film and specialty folding carton manufacturing. The unique properties of this dispersion allow it to be used as an adhesion promoter and modifier in other formulations where flow, wet-out, and specific adhesion are required.

VINNAPAS® 920 is a semi-pressure sensitive VAE offering low tack and high shear dry film properties. It

can be useful in enhancing the shear properties of other pressure sensitive polymer systems.

Processing

VINNAPAS® 920 dispersion is extremely versatile because it is compatible with many other raw materials and polymer systems. The viscosity and rheology can be modified with the addition of poly(vinyl alcohol), cellulose thickeners, starch, inverse polyacrylate dispersions, or associative thickeners. The viscosity can also be increased with the addition of alkalis which neutralize the carboxyl functional groups or through the addition of sulfonated alkyl-ester-based wetting agents. Addition of plasticizer will have only a marginal affect on viscosity thickening.

VINNAPAS® 920 dispersion does accept high loadings of fillers. Extremely high levels of fillers require that they be pre-dispersed.

Storage

When VINNAPAS® 920 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® 920 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® 920 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® 920 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® 920 is used in applications other than

those mentioned, the choice, processing and use of VINNAPAS® 920 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:

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Germany

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.

Product data		
Specification data	Inspection Method	Value
Solids, Oven 130 °C, 30 min.	02CM170	54.0 - 56.0 %
Viscosity, Brookfield RVF @20 RPM, 25°C	AM622	800 - 2000 mPa.s
pH-Value	AM631	4.2 - 5.2
Grit 100 Mesh	AM701	50 ppm max.
VAM by Head Space GC	93CRS038	999 ppm max.
Typical general characteristics	Inspection Method	Value
Density	WACKER method	1,05 g/cm ³
Wet tack	WACKER method	High
Mechanical Stability	WACKER method	Excellent
Thickening Response	WACKER method	Moderate
Reaction to Borax	WACKER method	Coagulates
Freeze/Thaw Stability	WACKER method	Poor
Glass transition temperature DSC	WACKER method	approx. -20 °C
Water Resistance	WACKER method	Very Good
Film Clarity	WACKER method	Clear
Dry Tack	WACKER method	Tacky
Flexibility	WACKER method	Excellent

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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