

VINNAPAS[®] 920



Polymer Dispersions

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 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 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.

Technical data

Specification

| Property | Condition | Value | Method |
|--------------------|-----------|------------------|-----------------|
| Solids content | - | 54.0 - 56.0 % | specific method |
| Viscosity, dynamic | 25 °C | 800 - 2000 mPa-s | specific method |
| pH | - | 4.2 - 5.2 | 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 |
| Protective colloid / emulsifier system | - | PVOH and surfactant | - |
| Glass transition temperature | - | approx. -20 °C | DSC, specific method |
| Dry tack | - | tacky | specific method |
| Film clarity | - | clear | specific method |
| Flexibility | - | excellent | specific method |
| Mechanical stability | - | excellent | specific method |
| Reaction to Borax | - | coagulates | specific method |
| Thickening response | - | moderate | specific method |
| Water resistance | - | very 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
- Tape & Labels
- Film-to-Wood lamination

Application details

VINNAPAS® 920 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 does accept high loadings of fillers. Extremely high levels of fillers require that they be pre-dispersed. VINNAPAS® 920 has excellent wet out and adhesion to difficult-to-adhere substrates like polymeric and metallized polyethylene, polypropylene, and polyester teraphthalate films. It can be used in various specialty packaging and converting adhesive formulations to promote adhesion 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.

Packaging and storage

Storage

When VINNAPAS® 920 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 has a shelf life of 9 months from the date of manufacture. 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

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 pipes. 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.

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® 920



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

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