Nissin Chemical Industry Co., Ltd.

Shin-Etsu Group

VINYBLAN 603 TECHNICAL DATA SHEET

Product description

VINYBLAN 603—Vinyl Chloride/Vinyl acetate Copolymer

Features

- VINYBLAN 603 is a Vinyl Chloride—Vinyl Acetate copolymer emulsion. Due to its excellent water resistance it is used widely in heat sealing adhesive applications.

Applications

- Superb heat sealing properties when used as an adhesive for vinyl chloride leathers.
- Adds excellent chromogenic properties to paint and ink formulas, as well as coated surfaces.
- Often used as a binder for inks.
- Offers superior adhesion to the substrate and colorant dispersion in the absorbing layer when used in industrial inkjet printing applications.
- Provides good adhesion to glass fiber.
- Commonly used as a printing ink base for vinyl chloride materials such as wallpaper, with good water resistance after film formation (no film whitening after being submerged for 24 hours.)

VINYBLAN 603 General Properties

Attributes	Results
Appearance	Milky white dispersion
Solid Content (%)	50
Viscosity (mPa·s)	300
PH	6.0
Average Particle Size (nm)	150
Tg (°C)	63
MFT (°C)	58
Specific Gravity	1.1
Acid Value (KOHmg/g)	12
Ionicity	Anion
Machine Stability (*1)	Good
Low Temperature Stability (*2)	Good

(*1) By the Marlon Stability tester.
(*2) No condensation was observed under 5°C.

Film Properties	VINYBLAN 603
Tensile Strength (MPa)	34(*3)
Elongation (%)	0 (*3)
Oxygen Index Number (LOI value)	23 (*4)
Non-combustibility (MVSS Standard) Coating Volume 50g [mm/min]	110 (*5)
Non-combustibility (MVSS Standard) Coating Volume 100g [mm/min]	Self-extinguishing (*5)
Transparency	Transparent (*6)
Heat Resistance [150°C]	Good (*7)
Heat Resistance [200°C]	Good (*7)

Evaluation Method

*3: Prepares a film of VINYBLAN with a thickness of Ca. 0.3mm
Measures Tensile Strength under the tension of 500mm/min and Elongation of the film when the film is torn down.

*4: By LOI Standard (JIS K7201)

*5: By MVSS-302 standard
Backing: 100% polyester woven fabric
Costing volume: 50g or 100g/m^2 (dry)
Treatment: Dipping Drying: 130°C x 5 min.

*6: Applies VINYBLAN on glass plate with a #12 Bar Coater, drying condition: 100°C then observes the sample.

*7: Applies VINYBLAN on a piece of paper with a #12 Bar Coater, drying condition: 150°C and 200°C, then observes if the film turns yellow after 30 minutes.

Packaging

- 18kg can; 200kg Drum; 1,000kg Container

Shelf Life

- When this product is properly stored in the original unopened container at cool temperature, ranging between 5°C and 30°C, and in a dark location, we certify that every characteristic of this product meets the specifications for 6 months after the shipping date from our factory in Japan.

Storage Conditions

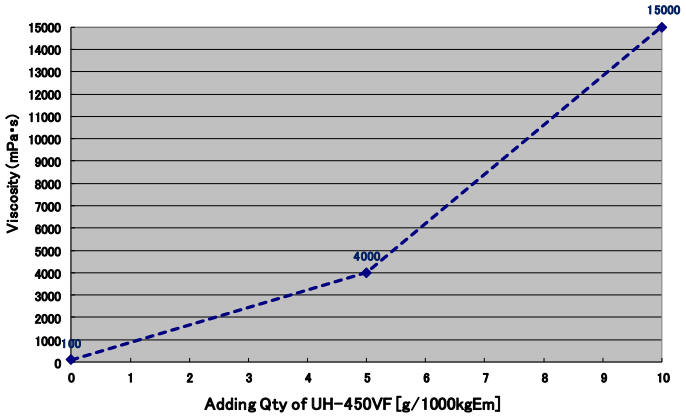
- Store in cool, dry location and avoid direct sunlight. The desirable temperature range for storage is between 5°C and 30°C.

VINYBLAN 603

Processing Information

- VINYBLAN can be applied in various methods, including spray, gravure, foaming, dipping, and knife coating.
- Recommended drying temperature is 120°C or higher.
- When higher viscosity is needed, thickening agent (urethane associative type or alkali type) can be used.

Please see the below table for an example of Urethane associative type thickening agent. (Adekanol UH-450VF)



- To achieve better film formation, we recommend adding glycol type high-boiling point solvents.
- VINYBLAN can be diluted by water.
- VINYBLAN can be mixed with various anionic emulsions.
- Mixing Vinyblan with alcohol, such as Methanol or IPA, can cause gelation. (Except for 700 series)

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Caution

- Follow the precautions in the material safety data sheet and technical references.
- VINYBLAN is for industrial use only.
- The data in this document does not include all specifications. Purchasers must conduct tests of their own before putting the product to practical use to verify its compliance, with their intentions for its employment.
  We give no guarantee that the uses presented in this document do not come in conflict with any patents.
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