

NORTH AMERICA | VINNOL® 4514, 4530

VINNOL® 4514 & 4530

A Family of Vinyl-Chloride-Containing Copolymers for Specialty Coating Applications

VINNOL® ethylene-vinyl chloride (EVCL) dispersions are suitable for use in a variety of specialty coating applications. Their unusual combination of tailored flexibility, alkali and abrasion resistance, vapor barrier properties and fire resistance makes them beneficial in formulations ranging from mastics to industrial baked coatings.

VINNOL® EVCL Dispersions Provide a Unique Balance of Properties

VINNOL® EVCL dispersions are fine-particle-size emulsion products with excellent pigment-binding powers. Because of their vinyl chloride content, these products have superior wet- and dry-abrasion resistance compared to conventional emulsion polymers. In addition, their films are more hydrophobic and possess excellent alkali resistance.

VINNOL® EVCL Dispersions Are Available in a Broad T_g Range for Use in a Variety of Applications

VINNOL® EVCL dispersions range in glass transition temperature (T_g) from approximately 12 °C to 29 °C. The lower T_g product (VINNOL® 4514) provides films that are soft yet tough and flexible. The high T_g product (VINNOL® 4530) is a non-film former at room temperature, requiring heat or the addition of a plasticizer or fugitive coalescing solvent for good film consolidation. Dried films of VINNOL® 4530 polymer are hard, tough and the most block-resistant of the EVCL products.

VINNOL® EVCL Dispersions are Formulator Friendly

VINNOL® EVCL dispersions are easy to formulate and compound readily with the same plasticizers, coalescing agents and solvents commonly used with vinyl acetate

and acrylic systems. These dispersions are low-viscosity products. However, due to their fine particle size, they maintain stability on dilution, enabling them to be used as low-viscosity, low-solids saturants or sealers.

Properties of VINNOL® EVCL Dispersions

	VINNOL® 4514	VINNOL® 4530
Solids (%)	50	50
T_g (°C)	12	29
MFFT (°C)	14	34
Average particle size (microns)	0.12	0.11
Viscosity (cPs)	25–150	25–150
pH	7–9	7–9
Density (g/cm ³)	9.2	9.2
Surfactant type	Anionic	Anionic
Weight (lbs/gal)	9.2	9.4
Mechanical stability	Excellent	Excellent
MVTR (g/m ² /24 hrs)	0.17	N/A
pH stability	Excellent	Excellent
Functionality	Amide	Amide

Typical Film Properties

	VINNOL® 4514	VINNOL® 4530
Flexibility	Good	Fair
Tensile strength (psi)	1,100	2,100
Elongation (%)	675	140
Reactivity	Crosslinkable	Crosslinkable
Water resistance	Good	Excellent
Oil resistance	Excellent	Excellent

VINNOL® 4514/4530 – Products with Higher T_g that Provide Unique Performance in a Variety of Applications

Films or coatings made from VINNOL® 4514 and 4530 polymer dispersions achieve a maximum of physical toughness among the EVCL products. This results in superior tensile strength and water, grease and abrasion resistance. Due to their higher vinyl chloride content, these products also display the best fire retardance, with and without other fire-retardant additives. VINNOL® 4514 and 4530 emulsion polymers can also be used in high pigment volume concentration (PVC) paint formulations for intermediate coats and topcoats for ceiling tiles and board coatings. Here, they exhibit excellent abrasion resistance and pigment-binding power.

At a Glance: Properties of VINNOL® EVCL Dispersions

- Produced without the use of APEOs
- Broad T_g range (12–29 °C)
- Easy to formulate
- Extremely hydrophobic films
- Excellent alkali resistance
- Small particle size and excellent pigment binding
- Flame-retardant films without the addition of other fire-retardant additives
- Recommended applications include flame-retardant coatings, mastics, masonry primers, vapor barrier coatings, etc.

VINNOL®

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