

Elvanol™ in Water-Based Adhesives

Its unique properties, such as water solubility combined with high tensile strength and flexibility make Kuraray Elvanol™ one of the most useful synthetic polymers in the adhesives industry.

Elvanol™ polyvinyl alcohol is widely used in

- industrial adhesives for paper and paperboard.
- general purpose adhesives for bonding paper, textiles, leather, wood, and porous ceramic surfaces.

Completely hydrolysed grades are typically used in quick-setting water resistant adhesives including paper-laminating adhesives for the production of solid fibreboard, spiral wound tubes, cores and drums, and laminated specialties. Elvanol™ may also be utilized as a modifier for adhesives based on resin emulsions, particularly polyvinyl acetate.

Water Resistant Adhesives for Paper

Elvanol™ is used extensively in the preparation of high wet-strength and high tack type of adhesives for paper. Especially Combinations of Elvanol™ with starch or clay are very effective and economical. When high water resistance and high viscosity is required, fully hydrolysed grades should be selected. Solutions of these grades tend to form a gel structure upon storage, therefore when extended shelf life of the adhesive is needed, the special gel-resistant grades Elvanol™ 75-15 and Elvanol™ 85-82 should be used. The cold-water insolubility of Elvanol™ allows the production of water resistant adhesives. These adhesives can be used to manufacture water-resistant solid fibreboard, laminated paper, and for the fabrication of paper bags.

Remoistenable Adhesives

Since partially hydrolysed Kuraray Poval™ grades are more sensitive to cold water, these grades are the preferred material to formulate remoistenable adhesives. The use of Kuraray Poval™ grades leads to a lower tendency for "curl" in the coated paper and helps to prevent problems due to blocking or sticking at high humidity.

Emulsions and Dispersions

Kuraray Poval™ polyvinyl alcohol is used widely as an emulsifier and protective colloid in the emulsion polymerization of vinyl acetate and ethylene/vinyl acetate to form high-solids emulsions with outstanding stability and excellent adhesive properties. Further it is highly effective in preparing stable polystyrene and styrene/butadiene copolymer latices and for suspension polymerization of vinyl monomers. Kuraray Poval™ can be used to control particle size and particle size distribution. Kuraray Poval™ also retards creaming and settling by acting as a viscosity builder in the continuous phase.

Binder Adhesives

Elvanol™-based adhesives are also ideally suitable as binders for:

- nonwoven fabrics.
- cementitious formulations for construction materials.
- ceramics.



Adding value to your products – worldwide

KURARAY POVAL™, EXCEVAL™, ELVANOL™, and MOWIFLEX™ are the trademarks for polyvinyl alcohols (PVOH) made by Kuraray. Their key characteristics — outstanding film-forming properties and high binding strength — add real value to your products. Our polymers are water-soluble, highly reactive, crosslinkable and foamable. They have high pigment binding capacity, protective colloid characteristics and thickening effects. The physical and chemical properties of KURARAY POVAL™ make it ideal for a wide variety of applications, ranging from adhesives through paper and ceramics to packaging films. Many of our polymers are food contact-approved and thus suitable for food applications.

Kuraray produces its wide range of KURARAY POVAL™ grades in Japan, Singapore, Germany and the USA. Kuraray's global production and service network make us your partner of choice for innovative high-quality PVOH resins.



Kuraray Poval™

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