

Laromer[®] UA 9095 AQUA

Product description	Urethane modified acrylic resin for the formulation of radiation curable coatings for wood, wood products, paper and plastics (e.g. PVC).
Key benefits	<ul style="list-style-type: none"> ■ Very good chemical resistance ■ High wet transparency ■ Good abrasion resistance ■ Low yellowing
Chemical nature	Water-based polyurethane acrylate dispersion

Properties

Physical form Low viscosity liquid; opaque to slightly transparent

Technical data	Viscosity at 23 °C (D = 250 s ⁻¹)	DIN EN 12092	10 – 500 mPa s
(not supply specification)	Non-volatile components (1 g, 125 °C, 1 h)	DIN EN ISO 3251	37 – 39 %
	pH value	DIN ISO 976	7.3 – 8.3
	Density at 20 °C	DIN 53217, ISO 8962	~ 1.06 g/cm ³
	Sensitivity to frost		≤ 0 °C
	Mean average particle size (dynamic light scattering)		~ 120 nm

Application

Laromer® UA 9095 AQUA is suitable to make the natural wood colors appear more vibrant. Films, based on Laromer® UA 9095 AQUA form dry to touch surfaces prior UV curing, which may reduce the risk of dust contamination and may allow mechanical embossing.

Laromer® UA 9095 AQUA results in coatings with good stain resistance as well as mechanical durability, like scratch and abrasion resistance. The full performance of the product can only be reached after fully curing the product with suitable radiation, for instance UV-light or electron beam irradiation.

Coatings based on Laromer® UA 9095 AQUA are showing very little yellowing and are therefore suitable binders for white pigmented systems.

Prior to UV curing, all water needs to be removed from the film to prevent easy stain acceptance and mechanically unstable coatings.

Formulation guideline

Photoinitiators need to be added for UV curing. Liquid photo initiators can be stirred in easily, crystalline photoinitiators must be dissolved in a solvent or in the binder resin itself.

The addition of approx. 1 – 3 % of α -hydroxy ketone (based on solids) is recommended for transparent coatings.

For film thicknesses above 50 g/m² and for pigmented coatings, we recommend adding photoinitiators, absorbing UV-light with longer wavelength, like an acyl phosphine oxide e.g. BAPO and Mapo. The through cure of the coatings is significantly improved by adding 0.2 – 1.0 % based on solids.

Using the recommended photo initiators, we expect no problems during the drying process of the dispersion caused by the initiator volatility.

UV curable coating formulations containing photo initiators should be stored in UV-impermeable plastic containers.

For processing, Laromer® UA 9095 AQUA can be further diluted with DI water. The product shows good compatibility to other UV curable dispersions (e.g. Laromer® UA 9005 AQUA and Laromer® UA 9064 AQUA) and conventional dispersions (e.g. Joncryl® 8330, Joncyl® OH 8312). For viscosity and rheology improvement we recommend thickeners from BASF (e.g. Rheovis® PE 1330; high-shear thickener; slightly pseudo plastic and Rheovis® PU 1250 NC; urethane mid-shear thickener; slightly pseudo plastic).

Storage

Product ought to be kept within sealed unopened containers. Containers should be stored between 5 - 35 °C and away from sunlight.

Safety

When handling this product, please comply with the advice and information given in the safety data sheet and observe protective and workplace hygiene measures adequate for handling chemicals.

Note

The data contained in this publication are based on our current knowledge and experience. In view of the many factors that may affect processing and application of our product, these data do not relieve processors from carrying out their own investigations and tests; neither do these data imply any guarantee of certain properties, nor the suitability of the product for a specific purpose. Any descriptions, drawings, photographs, data, proportions, weights, etc. given herein may change without prior information and do not constitute the agreed contractual quality of the product. The agreed contractual quality of the product results exclusively from the statements made in the product specification. It is the responsibility of the recipient of our product to ensure that any proprietary rights and existing laws and legislation are observed.

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