

Laromer[®] UA 9005 Aqua ECO

Product description Urethane modified acrylic resin for the formulation of radiation curable coatings for wood, wood products, paper and plastics.

Key benefits

- Very good chemical resistance
- High resistances in white pigmented coatings
- High abrasion resistance
- High scratch resistance
- Renewable content

Chemical nature Water based urethane acrylate dispersion

Properties

Physical form Opaque liquid with low viscosity

Technical data	Viscosity, dynamic	DIN EN 12092 (23°C m 250 1/s)	20 – 250 mPa.s
(not supply specification)	Non-volatile content	DIN EN ISO 3251 (60 min, 125 °C)	38.0 – 42.0 %
	pH value	DIN ISO 976	7.0 – 9.0
	Renewable content	ASTM D6866-20 Method B (AMS)	On average ~ 8 %

Application

Solubility, Compatibility

For processing, Laromer® UA 9005 Aqua ECO can be further diluted with DI water. It shows a very good compatibility with other UV curable dispersions (e.g. Laromer® UA 9095 Aqua ECO and Laromer® UA 9064 Aqua) and conventional dispersions (e.g. Joncryl® 8330). For viscosity and rheology improvement we recommend thickeners from BASF (e.g. Rheovis® PE 1330; high-shear thickener; slightly pseudoplastic) and Rheovis® PU 1250 NC; urethane mid-shear thickener; slightly pseudoplastic).

Since Laromer® UA 9005 Aqua ECO shows an outstanding chemical resistance against many different chemicals. In front of UV curing, the films formed by the dispersion, are showing a very good physical drying on the surface. Coatings which are resistant to blocking and household chemicals are only formed after radiation curing.

White pigmented coating based on Laromer® UA 9005 Aqua ECO are showing very high resistances against coffee and colouring chemicals.

Coatings based on Laromer® UA 9005 Aqua ECO offering high abrasion and scratch resistance. In addition, coatings based on Laromer® UA 9005 Aqua ECO are showing very good adhesion on melamine impregnated foils.

Prior to UV curing, all water needs to be removed from the film in order to prevent staining and mechanically unstable coatings.

For UV curing photo initiator needs to be added. Liquid photo initiators can be stirred in easily, crystalline photo initiators must be dissolved in the coating.

For the surface curing we recommend the addition of approx. 1 – 3 % of α -hydroxy ketone calculated on solid dispersion.

For film thicknesses above 50 g/m² and for pigmented coatings we recommend the additional use of an acyl phosphine oxide, e.g. BAPO and MAPO. It improves the through curing by adding 0,2 – 1,0 % calculated on solid dispersion.

With the recommended photo initiators we expect no problems during the drying process of the dispersion caused by volatility of the initiators."

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

Storage

Product ought to be kept within sealed unopened containers. Containers should be stored between 5 - 30 °C and away from sunlight.

The product is sensitivity to frost (< 0 °C (32 °F)).

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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