

# acResin<sup>®</sup> A 250 UV

## Adhesive Raw Materials



We create chemistry

### Chemical nature

UV-reactive, solvent-free acrylic copolymer

### Technical data

Non-volatile matter	approx. 99 %
K-value	approx. 50
Viscosity <sup>1</sup>	approx. 40–60 Pa·s
Glass transition temperature	approx. –39 °C

<sup>1</sup> ISO 6721-10, (130 °C, 100 1/s)

For detailed information see Specification Data-Sheet.

### Application area

acResin A 250 UV is intended for the production of pressure sensitive adhesives which are applied as a melt and then crosslinked by brief exposure to UV radiation.

### Processing

acResin A 250 UV can be processed on standard hotmelt adhesive coating installations at approx. 100–120 °C. After application the coating is irradiated with UV light. Standard medium-pressure mercury vapour lamps or micro-wave-excited UV sources, for example, are suitable. For crosslinking, the wavelength range below approximately 340 nm, especially that between 220 and 280 nm is most effective. An inert gas atmosphere is not required for the irradiation.

The exposure time required for crosslinking, i. e. the speed at which the coated surface passes under the UV source, depends on many different factors, including the power of the UV source, the quantity of material applied and the type and quantity of the additives employed.

The crosslinkage density and hence the adhesive properties can be varied within certain limits by the UV dosage. Relatively high levels of radiation result in higher shear strength while lower levels of radiation produce higher tackiness with lower shear strength. Small deviations in the chosen radiation dosage have little effect on the adhesive properties.

Since irradiation is normally carried out from one side only, a slight gradient in crosslinking density in the coating sets in. The upper side during exposure is slightly more strongly crosslinked than the lower side. Coatings which are produced under otherwise identical conditions by the direct and transfer processes can, therefore, exhibit different adhesive properties.

When a UV source having a power of 120 W/cm is used, throughput rates for acResin A 250 UV of between 100 m/min. and 10 m/min. are possible depending on the thickness of the layer and the desired adhesive properties. High production rates are achieved by means of several UV sources connected one behind the other. In the case of acResin A 250 UV the photoinitiator required for UV crosslinking is a constituent of the polymer. Addition of further photoinitiators may possibly have a detrimental effect on UV crosslinking and hence on the adhesive properties. When developing adhesives based on acResin A 250 UV careful inhouse trials have to be carried out since when producing and processing such adhesives many effects arise not all of which can be picked up in our tests.

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Edition: April 2015

TI/ED 2021 e

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