

acResin[®] A 250 UV

	acResin A 250 UV is a UV cros self-adhesive articles	s linkable acry	lic hot melt polymer used in the production of	
Chemical Nature	UV reactive, hot melt acrylic copolymer			
	Properties			
Typical Properties	Non-volatile components (30 Min at 140 °C)	%	<u>></u> 99	
	K-value (1% solution in THF) (DIN ISO 1628-1)		~ 50	
Other properties	Density at 20 °C (ISO 2811)	g/cm ³	ca. 1.06	
	Glass Transition Temperature Tg (DSC)	°C	-39	
	Viscosity at 130 °C (EN ISO 3219, appendix B, shear	Pa.s rate, 100 s ⁻¹)	30 – 70	
	Appearance		clear, slightly yellow liquid	
Compatible with				
Solvents	Toluene, acetone, ethyl acetate, methyl ethyl ketone, tetrahydrofuran, isobutanol			
Resins	Modified natural resins, some hydrocarbon resins, Acronal $^{\ensuremath{\$}}$ 4 F and Lutonal $^{\ensuremath{\$}}$ M 40			
Plasticizers	Palatinol [®] AH, Plastilit [®] 3060			
	Applications			
Fields of application	acResin A 250 UV is intended for of label, tape and specialty app Depending on the application, it	or the production blications which may be useful a	n of pressure sensitive adhesives for various types require coat weights up to 180 g/m ² (6.7 mils). is a solvent acrylic PSA replacement.	
Characteristics	 acResin A 250 UV exhibits the following traits: Versatility (adjustable, reproducible PSA properties) Optical clarity Instantaneous, no inertization cure Excellent aging and converting properties 			
	Heat resistance			

- Moisture resistance
- Low volatile organic compound (VOC) content
- No evidence of skin irritation

Processing	acResin A 250 UV can be applied on conventional hot melt coaters at a suggested temperature range of 120 – 140 °C (250 - 285 °F). Temperatures in excess of 150 °C are not recommended. acResin A 250 UV is not compatible with conventional SIS or SBS hot melt polymers. Blends of these systems result in films with an uneven, hazy appearance. The solvents listed in the previous section may be used for cleaning equipment, provided they are used responsibly and in accordance with sound industrial practices.
UV Curing	acResin A 250 UV is an acrylic polymer which must be cross linked by exposure to UV radiation to develop useful pressure sensitive properties. The crosslink density of the polymer, and hence the performance properties, are controlled by varying the UV dose applied to the adhesive during processing. For example, a low UV dose results in high tack and low cohesive strength, whereas a high UV dose yields lower tack and higher cohesion. Small deviations in the chosen radiation dosage have little effect on the adhesive properties.
	Depending on the coat weight and desired properties, line speeds between 10m/min to 100 m/min. can be achieved when using one 120 W/cm lamp. By using a series of lamps, faster production speeds can be achieved. Generally, it is desirable to use more lamps for higher speeds rather than fewer lamps with higher intensity.
	A number of variables affect property development, including: • Line speed • Coat weight • Lamp • Type • Intensity • Number • Temperature of adhesive • Reflectors • Coater geometry and speed • Carrier type (color) • Direct/Indirect coating
Lamps	Curing is initiated by the UV radiation emitted by medium pressure mercury vapor lamps. Either conventional arc lamps or microwave powered lamps may be suitable. Most effective wavelength is between 220 ~280 nm. An inert gas atmosphere is not required for the irradiation.
UV Dose Measurement	Regular measurement of the UV dose during processing is recommended to ensure consistent development of adhesive properties. A monitoring program will reduce the effects of fluctuation in lamp performance due to failure, aging and cleanliness.
Adhesive Properties	A good balance of adhesive properties can be achieved with coat weights up to a recommended maximum of 180 g/m ² . At coat weights greater than the maximum, a crosslink density gradient forms which can result in performance differences between direct and transfer coated materials.
Viscosity	Viccosity Tomporatura Profile



Compounding

As discussed, a wide performance latitude is achievable from the neat polymer by varying the UV dose. Compounding of this product with tackifiers is not recommended. The balance of properties afforded by the initial molar mass and the photo reactive group level is not greatly improved by modification with tackifiers. Modification with plasticizers, acrylic copolymers and polyvinyl ethers is possible; however, a higher UV dose may be required, depending on the type and level of modifier and the desired adhesive properties. In any case, formulation ingredients or even contaminants containing sites of unsaturation (double bonds) will likely interfere with the cure of acResin.

The photo reactive group necessary for UV cross linking is chemically bound to the polymer. Addition of a second photoinitiator or other reactive components such as monomers or oligomers may have negative effects on adhesive properties.

	Safety
General	BASF recommends that you take the appropriate safety precautions when handling this product as you should when handling all chemicals. These include the measures described in Federal, State and Local health and safety regulations, thorough ventilation of the workplace, good skin care and wearing of protective goggles.
Safety Data Sheet	All safety information is provided in the Safety Data Sheets for acResin A 250 UV.

Important

The descriptions, designs, and data contained herein are presented for your guidance only. Because there are many factors under your control which may affect processing or application/use it is necessary for you to make appropriate tests to determine whether the product is suitable for your particular purpose prior to use. NO WARRANTIES OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE MADE REGARDING PRODUCTS DESCRIBED OR DESIGNS, OR INFORMATION SET FORTH, OR THAT THE PRODUCTS, DESIGNS, OR DATA MAY BE USED WITHOUT INFRINGING THE INTELLECTUAL PROPERTY RIGHTS OF OTHERS. IN NO CASE SHALL THE DESCRIPTIONS, DATA OR DESIGNS PROVIDED BE PRESUMED TO BE A PART OF OUR TERMS AND CONDITIONS OF SALE. Further, you expressly understand and agree that the descriptions, designs, and data furnished by BASF hereunder are given gratis and BASF assumes no obligation or liability for same or results obtained from use thereof, all such being given to you and accepted by you at your risk.

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Dispersions and Resins

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