We create chemistry

acResin® A 260 UV

Chemical Nature **A UV cross linkable acrylic hot melt polymer used in the production of self-adhesive articles**

Properties

Typical Properties	Non-volatile constituants (30 Min at 140 °C)	%	≥ 99
	K-value (1% solution in THF) (DIN ISO 1628-1)		48 – 52
Other properties	Density at 20 °C (ISO 2811)	g/cm³	ca. 1.06
	Hazen color		≤ 100
	Glass Transition Temperature T_g (DSC)	°C	-39
	Viscosity at 130 °C (EN ISO 3219, appendix B, cone and plate, shear rate, 100 s^{-1})	Pa s	30 – 70
	Stability in storage at 130 °C (Rise in viscosity after 16 h)	%	<10
	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® 4 F

Plasticizers Palatinol® AH, Plastilit® 3060

Applications

Fields of application

acResin® A 260 UV may be used in the production of pressure sensitive adhesives for various types of label, tape and specialty applications which require coat weights up to 100 g/m² (3.8 mils). Depending on the application, it may be useful as 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 260 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 260 UV is not compatible with conventional SIS or SBS hot melt polymers. Blends of these systems result in films with an uneven, hazy appearance, and under cured PSA.

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 260 UV is an acrylic “prepolymer” 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 up to 40 m/min. can be achieved 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.

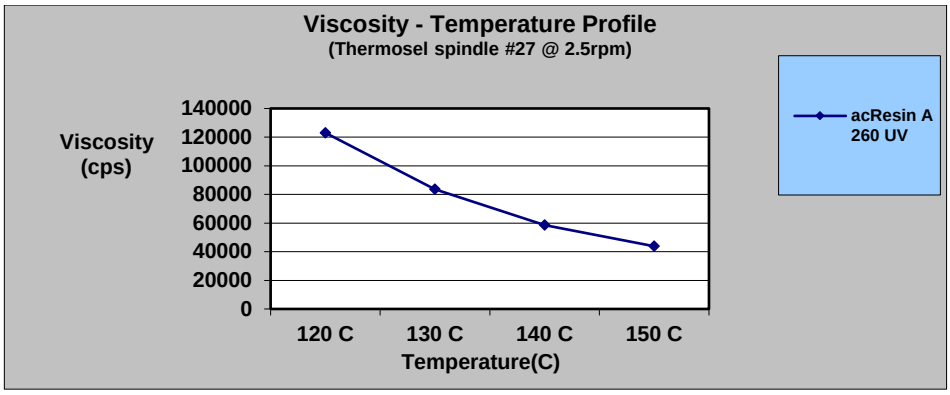
UV Dose Measurement

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 100 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



Safety

Safety Data Sheet

All safety information is provided in the Safety Data Sheets for acResin A 260 UV.

Important

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