ADCOTE™ 577/ CR 87-124

Description

ADCOTE™ 577 is the isocyanate-terminated polyester urethane component of a two-component adhesive system that requires the use of CR 87-124 coreactant to achieve full properties. This adhesive system is designed to be applied at high solids.

ADCOTE™ 577/ CR 87-124 adhesive provides excellent green bond, high bond strength and superior heat and chemical resistance in a wide range of laminate structures. It can be processed at 40-45% solid content with gravure cylinders and 50-55% solid with flexography.

The cure rate of laminations made with ADCOTE™ 577/ CR 87-124 adhesive is dependent on the temperature and relative humidity of the storage or holding area.

Typical Applications

Applications where higher temperature resistance is required.
Applied to solvent stable substrates, such as polyester film, polypropylene film, unprimed aluminium or primed aluminium foil and paper.
Coffee pouches.
Condiment packaging.
Films should be printed with suitable ink for lamination.
For food packaging, medical packaging and industrial applications.
Lamination of metalized and aluminium foil structures.
Lamination of PETP, metal oxide deposited film in connection with OPA and CPP.
Lamination of PETP, PA, PP, PE (including EVA-types) structures.
Meat and cheese packaging.
Suggested for aggressive fill food stuffs.
The adhesive has a high heat and product resistance aggressive materials such as tomato concentrates, soaps and cosmetics.

Suggested Substrates

Film to foil laminations.
Metalized films.
Oriented polyamide film (OPA) or oriented nylon (BON).
Outer layers of retortable structures to laminate polyester to foil or nylon to foil.
Polyester (PET).
Polyvinylidene di-chloride (PVdC) coated substrates.
Reverse printed or unprinted substrates.
Structures containing aluminium.
Substrates should be printed with suitable inks for lamination.
Treated cast polypropylene (CPP) (minimum 38 dyne/cm).
Treated coextruded film, (minimum 38 dyne/cm).
Treated polyethylene PE (including EVA-types).
Treated polypropylene (PP), (minimum 38 dyne/cm).

Typical Physical Properties	Adhesive	Coreactant	Unit
Component Type	NCO	OH	
Solids Content	75	89	%
Viscosity (25°C)	3900	950	mPa·s
Density	1.16	1.03	g/cm³
Weight/Gallon	9.70	8.40	lb
Volatile Solvent	Ethyl Acetate	Ethyl Acetate	
Mix Ratio by Weight (PBW)	100	7.0	
Wet Appearance	• Clear • Liquid • Slightly Amber	• Clear • Liquid • Slightly Amber	

*These are typical properties only and are not to be construed as specifications. Users should confirm results by their own tests.

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Recommended Processing Guidelines

The product can be diluted to the desired solid content with urethane grade solvents like: Methyl Ethyl Ketone (MEK), Ethyl Acetate (EAc), Acetone.

The quantity of solvent to be added for the different final solid is shown in the enclosed dilution table.

General Comments

Dow's Technical Service is ready to supply assistance in regards to the correct use of our products.

Interaction may occur with other components of the structure. Inks, retained solvents from any source, substrates, additives, coatings and the packed product are some of the components that may cause a property change of the total structure.

Before regular production, the end user is responsible to verify the suitability and performance properties of the total construction for the intended end use application, including the suitability of the process, construction and components.

The optimum performance of initial and final bonds is achieved when substrates are corona treated in a range of ≥ 38 to ≤ 55 dyne/cm. This is substrate dependent.

The Coreactant or Catalyst must be used at the recommended mix ratio to achieve the desired properties.

Initial bonds are typically lower than bonds reached in 24 hours.

Alcohol and similar materials containing active hydrogen can react with this adhesive causing inadequate cure and unexpected performance.

This product is sensitive to moisture and should be stored under and transferred with dry nitrogen.

The adhesive layer must be separated from the food product by a functional barrier. Consult your Dow Technical Sales representative for suggestions and further information.

Suggested Mixing Instructions

Mix the proper amount of Coreactant or Catalyst into the diluent solvent and then add this mixture to the adhesive. Adding concentrated Coreactant or Catalyst directly to either undiluted or diluted adhesive may result in a cloudy mixture.

Recommended Application Weight

Apply 2.0 to 5.7 g/m² dry, depending on substrate, printing and application.

Drying Guidelines

An increasing temperature profile in multi-zone dryers is recommended.

Dry properly with sufficient amount of heated air at adjusted temperature range of 66 to 82°C to evaporate solvents at given production speed.

Nip Temperature

For a good lamination adhesion bonds, nip temperature should be 66 to 104°C.

The rubber roll in the nip with hardness of 85 Shore A or greater is recommended.

Slitting / Rewind Time

Slitting and rewind is possible after 4.0 to 6.0 hr at 21°C (70°F).

Curing Time

Converters should verify appropriate cure times and conditions for their individual application.

Full cure properties are typically achieved in 2.0 day at 21°C (70°F).

It is necessary to wait until complete curing has taken place before the laminate is fit for use.

Approximate Pot Life

The mixed Pot Life of the product is approximately 8.0 hr at 40% of solids content. It can vary based on environmental temperature and humidity conditions.

Suggested Application and Operating Guidelines	Adhesive	Unit
Application Method	Gravure	
Application Cylinder or Anilox Range	59 to 98	lines/cm
Application Solids Percent Range	42 to 55	%
Recommended Dilution Solvent	Ethyl Acetate Urethane Grade	
Drying Web Temperature	66 to 82	°C
Cleaning Solvent	• Ethyl Acetate • Methyl Ethyl Ketone	

Suggested Cleanup Guidelines

A proper cleaning procedure should be implemented and practiced as part of the machine operation.

After finishing work, the equipment should be cleaned immediately with organic solvents like ketone or acetate, or similar organic solvents before the product's cure progresses too far.

Ethyl acetate is a suitable solvent for cleaning. Other solvents such as MEK or Acetone may also be used.

Storage and Shelf Life Guidelines

The expiry date of each product is the date reported on the label of the package.

The product may be stored up to stated expiry date provided that the product is stored in a dry and cool, well ventilated place between 5 - 35°C (41 - 95°F) unopened in the original shipping container.

Opened shipping containers, especially those of NCO-containing products, should be fitted with desiccant drier tubes to minimize moisture contamination.

FDA and/or European Food Contact Compliance

Due to the evolving nature of European and FDA food contact compliances, please contact Dow's Customer Information Group for the most up to date food contact compliance information. Call 800-258-2436 or use the web form at Dow.com for complete FDA and European food contact statements available.

Notes

These are typical properties only and are not to be construed as specifications. Users should confirm results by their own tests.

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