

# ADCOTE™ 812 / COREACTANT 9L10

Component Type	9	ОН	NCO	
Typical Physical	Properties	Adhesive	Coreactant	Unit
	Film to foil laminations. Inner layers of retortable stru Nylon or polyamide (PA). Outer layers of retortable str Polyester (PET). Treated cast polypropylene Treated polypropylene (PP), Structures with and without in Other types of laminates are	uctures to laminate polyester t uctures to laminate polyester (CPP) (minimum 38 dyne/cm) (minimum 38 dyne/cm). reverse printing. e possible and should be teste	o foil or nylon to foil or to to to foil or nylon to foil.	СРР.
Suggested Substrates	Aluminium foil, converter gra Aluminium oxide (AlOx) coa	ade. ted films.		
	Other application uses are p Retort laminations. Retortable structures of poly Structures containing alumir Suitable for high temperatur packaging applications. The adhesive has a high her cosmetics.	essible, subject to performance rester to foil or nylon to foil. nium foil can be processed und e laminations, e.g. autoclave, at and product resistance agg	e trials and testing. der pasteurization. steam sterilization applica ressive materials such as	tions, and recommended for retort tomato concentrates, soaps and
Applications	Films should be printed with Hot fill applications. Lamination of transparent fil without sandwich printing. On primed aluminium foil, pr	suitable ink for lamination. ms, SiOx deposited films, met rovides a high degree of greas	eu. alized and aluminum foil o e and product resistance.	containing structures with and
Description	ADCOTE™ 812/ COREACT be used with different coreac COREACTANT 9L10, the co sterilization applications and adhesive combination adher offering excellent heat and c	ANT 9L10 is a two componen ctants to reach different perfor ombination has application use specific retort packaging app res to aluminum foil and a vari hemical resistance properties	t, high performance adhee mance levels. When ADC in high temperature lami ications where an aliphati ety of film substrates, prov	sive system. ADCOTE <sup>™</sup> 812 can OTE <sup>™</sup> 812 is used with nations, e.g. autoclave, steam ic coreactant is needed. This <i>v</i> iding high initial green bond, and

Component Type	OH	NCO	
Solids Content	55	75	%
Viscosity (25°C)	2500	600	mPa·s
Weight/Gallon	9.10	8.90	lb
Volatile Solvent	Ethyl Acetate	Ethyl Acetate	
Mix Ratio by Weight (PBW)	100	7.3	
Wet Appearance	Clear Liquid Slightly Amber	Clear to Hazy Colourless to Slightly Yellow Liquid	

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

#### **Recommended Processing Guidelines**

This system can be applied at a solid content of 25 to 35% by reverse gravure, direct gravure or with semi-flexo smooth roller system. The product should be diluted to apply the recommended coating weight.

Alcohols or alcohol containing solvents must not be used.

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

The preferred method for lamination bonding is to: Coat the more stable substrate; Dry the volatiles completely; Use hot nip roll(s) to attain the recommended dry glue line temperature; Laminate to the second substrate with heat and pressure.

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

The Coreactant should be added to the Adhesive with agitation.

Dilution Table	Adhesive	Unit	Test Method
Viscosity (25°C)			Zahn Cup 2
Solids: 20%, Adhesive: 15 kg, Coreactant: 1.1 kg, Ethyl Acetate: 29 kg	16	sec	
Solids: 25%, Adhesive: 19 kg, Coreactant: 1.4 kg, Ethyl Acetate: 25 kg	18	sec	
Solids: 30%, Adhesive: 22 kg, Coreactant: 1.6 kg, Ethyl Acetate: 21 kg	23	sec	
Solids: 35%, Adhesive: 26 kg, Coreactant: 1.9 kg, Ethyl Acetate: 17 kg	35	sec	
Solids: 40%, Adhesive: 30 kg, Coreactant: 2.2 kg, Ethyl Acetate: 13 kg	62	sec	

## **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  $\geq$  38 to  $\leq$  55 dyne/cm. This is substrate dependent.

If used in conjunction with high slip films (COF <0.2), it is strongly recommended to verify that potential film property changes, due to the lamination process and materials, are acceptable for the end use performance requirements.

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

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.

This adhesive is not compatible with other conventional isocyanate curing polyurethanes and, therefore, all equipment has to be thoroughly cleaned before interchanging with different types of adhesives.

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.

Other Coreactant or Catalysts are available for special uses. Consult your Dow Technical Sales representative for suggestions and further information.

## Suggested Mixing Instructions

Adhesive should be agitated when adding Coreactant or Catalyst, using a mechanical mixer. Add the diluent with continued mixing until the mixture is uniform and at the desired application solids and/or viscosity.

Alcohol or alcohol-containing solvent must not be used.

Allow the product to reach room temperature or operating temperature before mixing. Do not mix or use cold product.

Coreactant or Catalyst is moisture sensitive. Containers should not remain open for an extended period of time.

Do not mix more adhesive with Coreactant or Catalyst than will be used in 8 hours.

#### **Recommended Application Weight**

Apply 3.3 to 4.9 g/m<sup>2</sup> dry, depending on substrate and application.

Higher applied adhesive weights may be required in laminations of heavy gauge substrates and/or where high levels of heat or chemical resistance are required.

#### **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 60 to 93°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 3.0 to 5.0 day at 21°C (70°F).

#### **Curing Time**

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

Full cure and maximum chemical and thermal properties develop within > 10.0 day at 21°C (70°F). Post curing at elevated temperatures can reduce this time.

Full properties are typically achieved in 5 to 7 days at 49 to 54°C.

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 25% of solids content. It can vary based on environmental temperature and humidity conditions.

Suggested Application and Operating Guidelines	Adhesive Unit
	Flexographic
Application Method	Gravure
	Reverse Gravure
Application Cylinder or Anilox Range	51 lines/cm
Application Solids Percent Range	25 to 35 %
	Ethyl Acetate Urethane
	Grade
Recommended Dilution Solvent	Methyl Ethyl Ketone
	Urethane Grade
	• Toluene
Drying Web Temperature	66 to 82 °C
Lamination Nip Temperature	60 to 93 °C
Cleaning Calvert	Ethyl Acetate
Cleaning Solvent	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.

Deposits or spills should be cleaned immediately with organic solvents.

If the gravure cylinder has dried in too much, scrub with a brass or fiber brush with the aid of room temperature organic solvents or warm toluene or warm hydrocarbon solvents.

Cured product may have to be cleaned by long term soaking in solvents, using chemical cleaners or sending the parts to be professionally cleaned.

#### 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 containers should be used as quickly as possible.

#### Disposal

Dispose in accordance with all local, state (provincial) or federal regulations. Empty containers may contain hazardous residues. This material and its container must be disposed in a safe and legal manner.

It is the user's responsibility to verify that treatment and disposal procedures comply with local, state (provincial) or federal regulations. Contact your Dow Technical Representative for more information.

## Notes

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