

**CONAP® AD-1146 - CONAP® AD-1146-C  
CONAP® AD-1147 - CONAP® AD-1147-C**

CONAP® AD-1146 and AD-1147 are high strength adhesives for bonding liquid urethanes to various substrates during the curing process. These systems are a stable solution of polymers in a solvent blend which requires heat to effect cure. An extensive evaluation program has shown AD-1146 and AD-1147 to be capable of bonding an exceptional variety of inorganic and organic materials together. Bonds to aluminum alloys, magnesium, iron, steel, glass, glass-fiber laminates, wood, and leather have high strength and excellent resistance to hydrolysis and environmental extremes. CONAP® AD-1146-C and AD-1147-C are based on the same formulation as CONAP® AD-1146, with lower solids content and lower viscosity. They too offer exceptional peel strength values, however, AD-1146-C and AD-1147-C require two coats for optimum strength.

**TYPICAL PRODUCT CHARACTERISTICS**

	<b>CONAP® AD-1146 &amp; AD-1147</b>	<b>CONAP® AD-1146-C and AD-1147-C</b>
Viscosity, cps	2000	160
Color	Amber	Amber
Solids Content, %	24	14
Specific Gravity @ 25°C (77°F)	0.90	0.86
Weight per Gallon, lb./gal.	7.50	7.22
Shelf Stability, months from date of manufacture	15	15

**SURFACE PREPARATION**

High strength bonds can only be obtained if all surfaces to be bonded are free of dirt, rust, chemicals, and mold releases. In addition, surfaces to be bonded should be sandblasted, etched, or degreased. For complete details of surface preparation for various substrates, request Bulletin AC-107 (**Surface Preparation Guide**).

**ADHESION DATA**

<b>CONATHANE® RN-1501 / CONACURE® AH-5<sup>(1)</sup></b>	<b>CONAP® AD-1147* (one coat)</b>
Original, pli	120
3 days RT Water, pli	148
7 days RT Water, pli	152
14 Days RT Water, pli	95
3 days 70°C Water, pli	112
7 days 70°C Water, pli	107
14 days 70°C Water, pli	106
4 hours 100°C water, pli	87
24 hours 100°C Water, pli	100
7 days 70°C, Oven, pli	138

<sup>(1)</sup>RN-1501/AH-5 is a 90 shore A elastomer having a tensile strength of 4500 psi, an elongation of 450% and a tear strength of 500 pli.

\* In all instances, failure occurred in the elastomer rather than in the primer.

**RECOMMENDED PROCESSING PROCEDURES**

Apply one or two coats of AD-1146 or AD-1147 (two coats are required for AD-1146-C and AD-1147-C) with a soft brush, allowing the adhesive to flow on the surface. Application may also be accomplished by spraying, roller-coating, or by doctor-blade. Air dry ½ hour between coats and one-hour or longer after the final coat.

For spray applications, dilute 1-part of AD-1146 or AD-1147 with ½ to 2 parts of CONAP® S-1 solvent. Dilute AD-1146-C and AD-1147-C 30-40% with CONAP® S-1 solvent. To double spray, coats should be applied with ½ hour air dry between coats.

NOTE: For optimum results, primer film thickness should be 0.0005 inches to 0.0015 inches. Under no circumstances should film thickness be less than 0.0005 inches.

Since these coatings contain a solvent, it is important that all residual solvent in the film be removed to obtain high bond strengths. A drying period of ½ hour at 70°C (158°F) is sufficient to accomplish solvent evaporation.

When bonding urethanes to metals, the drying period can be part of the preheat cycle used to bring the mold and part to the desired curing temperature. Preheat temperatures of 90-100°C (194-212°F) for 2 to 3 hours are not detrimental. The adhesion of the urethane to the primer film is excellent, and the adhesion of the primer to the metal is improved.

### **HANDLING INSTRUCTIONS**

CONAP® AD-1146 and AD-1147 are stable solutions of polymers in a solvent blend. They do not require agitation prior to use. The applied adhesive film should not be exposed to temperatures above 150°C (302°F) for excessive periods of time. If this occurs, the film will be converted to the insoluble state and the adhesion of the polyurethane will be reduced. CONAP® AD-1146 and AD-1147 remain active when normal preheat temperatures for molds or components are used.

### ***CAUTION: FOR INDUSTRIAL USE ONLY !***

THESE PRODUCTS ARE FLAMMABLE AND SHOULD NOT BE USED IN AREAS WHERE OPEN FLAMES ARE PRESENT. USE ONLY IN WELL-VENTILATED AREAS. AVOID BREATHING OF VAPORS AND PROTECT SKIN AND EYES FROM CONTACT WITH MATERIAL.

SHOULD SKIN CONTACT OCCUR, WASH IMMEDIATELY WITH SOAP AND WATER. IN CASE OF EYE CONTACT, IMMEDIATELY FLUSH WITH PLENTY OF WATER AND OBTAIN MEDICAL ATTENTION.

### **AVAILABILITY**

CONAP® AD-1146, AD-1147, AD-1146-C, AD-1147-C, and CONAP® S-1 solvent are packaged in quart, gallon, 5-gallon, and 55-gallon drum containers.

Evaluation samples are available for a nominal fee.

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The information presented here is based on carefully conducted laboratory tests and is believed to be accurate. However, results cannot be guaranteed and it is suggested that customers confirm results in their own laboratory before plant tests are made. Nothing contained in this bulletin shall be construed as a recommendation to use any product or process in violation of the claims of any patent now in effect.

NOTICE: Precautionary labels and Materials Safety Data Sheet(s) for all materials referred to, whether the materials are produced by CYTEC INDUSTRIES, INC. or other manufacturers, should be fully read and understood by all supervisory personnel and employees before using. For additional safety and health information, contact CYTEC INDUSTRIES INC. Purchaser has the responsibility for determining any applicability of and compliance with federal, state, and local laws and/or regulations involving labeling, use, and waste disposal, particularly in making consumer products.