

DURALPREP A.C.

Bonding Agent and Anti-Corrosion Coating for Reinforcement

BASIC CONCRETE MATERIALS AND METHODS
CONCRETE
03050

TAMMS INDUSTRIES
JANUARY 2001
(Replaces 1/00)

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- DESCRIPTION:** DURALPREP A.C. is a three component, pre-proportioned, water based epoxy modified portland cement bonding agent and anti-corrosion coating. DURALPREP A.C. is used as a bonding agent for placing fresh concrete to existing concrete and for repair and restoration of concrete surfaces. DURALPREP A.C. contains a unique migratory corrosion inhibitor which protects reinforcement when used as an anti-corrosion coating for steel. DURALPREP A.C. has a long open time, is non flammable, VOC compliant, and does not form a water vapor barrier after cure.
- USES:** DURALPREP A.C. is used as a bonding agent for fresh concrete to existing concrete, concrete repairs with cement or epoxy mortars, and as an anti-corrosion coating for steel reinforcement. It can be used for exterior or interior, on grade or above grade applications.
- COMPOSITION & MATERIALS:** DURALPREP A.C. is a three component product. Component A and B are proprietary formulations of water based epoxy, binders, modifiers and hardeners. Component C is a proprietary formulation of portland cement, finely graded aggregate, a migratory corrosion inhibitor and chemical additives.

must be removed completely to provide an absorptive surface. Remove excess moisture, drips and puddles from the surface. The surface should be saturated surface dry with no standing water prior to application. **Steel:** All oils, greases, dirt, old coatings or chemical contaminants must be removed. All steel surfaces should be blasted to a "NEAR WHITE" metal finish using clean dry blasting media.

- MIXING INSTRUCTIONS:** Mix one full kit at a time. DURALPREP A.C. must be mechanically mixed with a slow speed motor and mixing blade to thoroughly disperse all ingredients. A 1/2" drill motor and a Jiffy mixer may be used.
 - Premix the containers of Components A & B.
 - Pour the Component A and Component B into a clean container.
 - Start mixer and mix at slow speed for 30 - 45 seconds. Do not aerate the mix.
 - While mixing gradually add all of the Component C powder into the mixed liquid to produce a smooth lump free consistency.
 - Mix thoroughly for approximately 3 minutes.

APPLICATION TECHNIQUES: Air and surface temperature must be above 45°F (7°C) and rising. Maximum temperature should not exceed 90°F (32°C). The approximate working life is 30 to 45 minutes depending on the temperature. **As a Bonding Agent:** Apply DURALPREP A.C. to the pre-dampened surface using a stiff bristle brush, boom, or spray equipment. Fresh concrete should be placed while the DURALPREP A.C. is still wet or within the allowable contact time of 24 hours at 60 degrees F. **Anti-corrosion Coating:** Coat the exposed reinforcing steel. Make sure to coat the underside of the steel. Apply by brush or spray two coats at 20 mils each. Allow 3-6 hours between applications at 75°F. Install fresh mortar or concrete after DURALPREP A.C. has dried to the touch or within the allowable contact time (24 hours at 60°F).

COVERAGE: Coverage rates are approximate, and for estimating purposes only. Surface temperature, porosity, and texture will determine actual material requirements. One full kit of DURALPREP A.C. will cover approximately 250 sq. ft. Test the area prior to application to determine effective coverage rates.

MATERIAL PROPERTIES @ 75°F, 50% R.H.	
Mix ratio (A:B:C):	1 Gal: 1 Gal: 36 lbs.
Color:	Concrete Gray
Pot Life:	30-45 mins.
Contact Time:	Up to 24 hours depending on ambient temperature
Initial Set (ASTM C 266):	2-3 hrs.
Bond Strength (ASTM C 882), 7 days:	
1 hr open time	2,480 psi
24 hr open time	2,700 psi
Compressive Strength (ASTM C 109), 3 days:	>5,100 psi
7 days:	>7,300 psi
28 days:	>10,000 psi
Flexural Strength (ASTM C 348), 28 days:	>1,280 psi
Splitting Tensile Strength (ASTM C 496), 28 days:	>600 psi
Water Vapor Permeability (ASTM E96)	0.16 grains/ft. ² , hr.
Values presented are typical and not necessarily referenced to create specifications.	

SURFACE PREPARATION: The surface must be structurally sound, dry, free of grease, oils, curing compounds, efflorescence, laitance and any other contaminants that would interfere with adhesion. All previous coatings on the substrate must be removed. **Concrete:** Smooth, precast and formed concrete surfaces must be cleaned, roughened and made absorptive by abrasive blasting or other mechanical methods. All coatings

As a Bonding Agent	60-80 sq. ft./gal.
As an Anti-Corrosion Coating	60-80 sq. ft./gal./coat

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8. **CLEAN-UP:** Clean tools and equipment with water immediately following use. Clean drips with water while still wet. Dried DURALPREP A.C. will require mechanical abrasion for removal.

9. **CAUTIONS:** Mix only one full kit at a time. Do not mix for longer than 3 minutes. Do not allow components to freeze. Do not apply at temperatures below 45°F (7°C), or above 90°F (32°C). Do not add water to mix. Maximum contact time 24 hours at 40°F (4.5°C).

10. **PACKAGING & STORAGE:** DURALPREP A.C. is sold in pre-measured packaging which yields 3.75 gallons per kit.

Storage: Store at temperatures between 65°F and 80°F (18-27°C). **PROTECT FROM FREEZING.** Do not use Component A or B if it has frozen. Protect from moisture. Return of improperly stored materials will not be accepted.

Shelf Life: 1 year, stored unopened in protected storage.

Freight: Class 55.

11. **ENVIRONMENTAL / SAFETY PRECAUTIONS:**

Component A contains epoxy resin. Vapors can cause respiratory irritation. Contact may cause skin and eye irritation. Can cause sensitization after prolonged or repeated exposure. Use of safety goggles and chemical resistant gloves is recommended. Use only with adequate ventilation. **Component B** is an irritant. Contains amines which may cause moderate skin or eye injury. Safety goggles and neoprene gloves are recommended. Use only with adequate ventilation. **Component C** contains portland cement which is alkaline on contact with water. Do not breathe dust. May cause delayed lung injury (Silicosis). IARC reports crystalline silica may cause cancer in humans. Irritating to eyes and skin. Avoid splashing into eyes or contact with skin. In case of eye contact, flood eyes repeatedly with potable water and call a physician. **DO NOT RUB EYES. First Aid:** In case of skin contact, wash immediately and thoroughly with soap and water. For eye contact flush immediately with plenty of water for at least 15 minutes. Consult physician immediately. For respiratory problems, remove person to fresh air. **Disposal:** Collect with absorbent material. Dispose of in accordance with current local, state and federal regulations. **READ MATERIAL SAFETY DATA SHEET BEFORE USING. FOR INDUSTRIAL USE ONLY. KEEP AWAY FROM CHILDREN AND ANIMALS. EMERGENCY RESPONSE: 1-800-424-9300 (CHEMTREC) 1-800-862-2667 (TAMMS).**

12. **TECHNICAL SERVICE:** For application procedures or surface conditions not specified above, please contact:

TAMMS INDUSTRIES
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