BONDING AGENTS AND ADHESIVES

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DURALPREP A.C.

BONDING AGENT AND ANTI-CORROSION COATING

EUCLID CHEMICAL

PACKAGING

3.75 gal (14.2 L) unit
Code: TD235383 7CK

1 gal (3.8 L) unit (2 per case)
Code: TD2353899

CLEAN UP

Clean tools and application equipment immediately with water. Clean spills or drips with water while still wet. Hardened DURALPREP A.C. will require mechanical abrasion for removal.

SHELF LIFE

2 years in original, unopened package

DESCRIPTION

DURALPREP A.C. is a three-component bonding agent and anti-corrosion coating for reinforcing steel. It is a pre-proportioned kit that contains a water-based epoxy, combined with portland cement that can be used as a bonding agent for placing fresh concrete and repair mortars to existing concrete substrates. DURALPREP A.C. contains a 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.

PRODUCT CHARACTERISTICS

FEATURES/BENEFITS

- Long open time
- Contains a corrosion inhibitor
- Ease of application (brush/spray)
- Non-flammable
- Does not form a vapor barrier

PRIMARY APPLICATIONS

- Bonding agent for fresh concrete to existing concrete
- Vertical & overhead concrete repairs
- Anti-corrosion coating for steel reinforcement
- Exterior or interior
- On grade or above grade applications

APPEARANCE

Part A liquid is amber in color and Part B liquid is amber in color. Part C powder is gray in color.

COVERAGE

One 3.75 gal (14.2 L) kit of DURALPREP A.C. will cover approximately 250 ft² (23.2 m²), per coat.

One 1 gal (3.8L) unit will cover approximately 65 ft² (6.0 m²), per coat.

Note: Coverage rates are approximate. Actual coverage depends on temperature, texture, and substrate porosity.

TECHNICAL INFORMATION

The following are typical values obtained under laboratory conditions. Expect reasonable variation under field conditions.

Test Method	Test Property	Result
-	Appearance/Color	Concrete Gray
-	Mix Ratio (A:B:C)	1 gal:1 gal:36 lbs (3.8 L:3.8 L:16 kg)
-	VOC Content	15 g/L
-	Contact Time	Up to 24 hours depending on temperature
-	Pot Life (2 gal (7.6 L) unit)	35 to 40 minutes
ASTM C109	Compressive Strength	3 days: 4,450 psi (30.7 MPa) 7 days: 5,610 psi (38.7 MPa) 28 days: 7,540 psi (52.0 MPa)
ASTM C348	Flexural Strength	28 days: 1,860 psi (12.8 MPa)
ASTM D2240	Shore D Hardness *(@ 28 Days)*	77
ASTM C882	Bond Strength	7 days (w/ 1 hr open time): 2,364 psi (16.3 MPa) 7 days (w/ 24 hr open time): 2,011 psi (13.9 MPa)
ASTM C496	Split Tensile Strength	28 days: 840 psi (5.8 MPa)
ASTM E96	Water Vapor Permeance	20 mils: 0.371 perms 40 mils: 0.209 perms
ASTM G109	Total Coulomb Readings *(@ 1 year)*	1 Coat: 4.4 Coulombs Control (uncoated): 372.2 Coulombs
ASTM G109	Top Rebar Corrosion *(@ 1 year)*	1 Coat: 0% Control (uncoated): 35%
ASTM C1583	Pull-Off Strength *(Concrete)*	14 days: 418 psi (2.9 MPa)
ASTM E488	Pull-Out Strength *(with 4,000 psi (27.6 MPa) concrete)*	28 Days (w/ 1 hr open time): 9,763 lbf (43.4 KN) 28 Days (w/ 24 hr open time): 10,507 lbf (46.7 KN)
ASTM E488	Pull-Out Strength *(with 8,000 psi (55.2 MPa) concrete)*	28 Days (w/ 1 hr open time): 15,586 lbf (69.3 KN) 28 Days (w/ 24 hr open time): 14,649 lbf (65.1 KN)

DIRECTIONS FOR USE

Surface Preparation: The surface must be structurally sound, clean and free of grease, oil, curing compounds, soil, dust and other contaminants. Surface laitance must be removed. Concrete surfaces must be roughened and made absorptive, preferably by mechanical means, and then thoroughly cleaned of all dust and debris. If the surface was prepared by chemical means (acid etching), a water/baking soda or water/ammonia mixture, followed by a clean water rinse, must be used for cleaning, in order to neutralize the substrate. The substrate should be saturated, surface-dry (SSD) prior to application, with no standing water/puddles. Following surface preparation, the strength of the surface can be tested if quantitative results are required by project specifications. An elcometer or similar tensile pull tester may be used in accordance with ASTM D4541, and the tensile pull-off strength should be at least 250 psi (1.7 MPa).

When coating steel, all contamination should be removed and the steel surface prepared to a "near white" finish (SSPC SP10) using clean, dry blasting media.

Mixing: Mix DURALPREP A.C. using a low-speed drill and a mixing paddle. Pre-mix Part A and Part B separately for approximately 1 minute each. Combine all of Part A with all of Part B, then mix thoroughly for 30 to 45 seconds. After the 30 to 45 seconds have elapsed, gradually add all of Part C (powder) into the mixed epoxy, then mix thoroughly for 3 minutes. Scrape the bottom and sides of the containers at least once during mixing. Do not scrape bottom or sides of the container once mixing operations have ceased; doing so may result in unmixed resin or hardener being applied to the substrate. Unmixed resin or hardener will not cure properly. Do not aerate the material during mixing. To keep aeration to a minimum, the recommended mixing paddles are #P1 or #P2 as found in ICRI Guideline 320.5R-2014.

Application: Bonding agent: Apply **one** coat, between 20 and 27 mils thick, of DURALPREP A.C. to the SSD surface using a stiff bristle brush, or spray with a hopper gun at a rate of 60 ft²/gal to 80 ft²/gal (1.5 m²/L to 2.0 m²/L). Allow to fully dry (approximately 1 hour) before placing concrete or repair mortars. DURALPREP A.C. has an open time from 1 to 24 hours at 75 °F (24 °C). **Anti-corrosion coating:** Coat the exposed reinforcing steel, making sure to coat the underside portion of the steel as well. Apply **one** coat, at 20 mils thick, of DURALPREP A.C. to the properly prepared steel using a stiff bristle brush, or spray with a hopper gun at a rate of 80 ft²/gal (2.0 m²/L). A second coat may be applied for additional protection. Allow 3 to 6 hours between applications. Place subsequent concrete or repair mortars within the open time of the final coat of DURALPREP A.C. (1 to 24 hours at 75 °F (24 °C)). This open time limit does not apply when DURALPREP A.C. is being used strictly as an anti-corrosion coating, provided that the area remains clean and dry prior to the subsequent application of concrete or repair mortar.

Note: If the applied DURALPREP A.C. exceeds its open time (see times in "Precautions/Limitations" below) before the subsequent application of concrete or repair mortar, lightly sand the existing DURALPREP A.C., wipe the surface clean, and apply a fresh coat of DURALPREP A.C. to the area.

PRECAUTIONS/LIMITATIONS

- These instructions do not dictate mechanical surface preparation required prior to ready-mix concrete toppings. This product is not intended to excuse or replace proper mechanical surface preparation. Please refer to ACI 302 Section 4.3.2 and Table 4.1, along with the project engineer for guidance on proper surface preparation for ready-mix concrete toppings.
- Store DURALPREP A.C. indoors, protected from moisture, at temperatures between 65 °F and 80 °F (18 °C and 27 °C)
- Surface and ambient temperature during applications should be between 45 °F and 90 °F (7 °C and 32 °C)
- Material temperatures should be at least 45 °F (7 °C) and rising
- Working time and cure time will decrease as the temperature increases, and will increase as the temperature decreases
- Do not use DURALPREP A.C. as a surface bonding agent for horizontal toppings less than 3.5 inches (8.9 cm) thick
- Do not thin DURALPREP A.C.
- DURALPREP A.C. is not to be used as a finished/aesthetic coating
- Do not mix DURALPREP A.C. for longer than 3 minutes
- Protect applied DURALPREP A.C. from wind and excessive heat. These conditions will shorten open time.
- Maximum open times: 12 hours at 90 °F (32 °C), 24 hours at 75 °F (24 °C), 30 hours at 45 °F (7 °C)
- In all cases, consult the product Safety Data Sheet before use