



# DURALPREP A.C.

## BONDING AGENT AND ANTI-CORROSION COATING

### 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.

### 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

### FEATURES/BENEFITS

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

### TECHNICAL INFORMATION

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

PROPERTY	RESULT
Mix Ratio (A:B:C)	1 gal:1 gal:36 lbs (3.8 L:3.8 L:16 kg)
Contact Time	Up to 24 hours depending on temperature
Pot Life (2 gal (7.6 L) unit), minutes	35 to 40
Compressive Strength, psi (MPa) ASTM C109	3 days: 2,900 (20.0) 7 days: 4,100 (28.3) 28 days: 4,500 (31.0)
Flexural Strength, psi (MPa) ASTM C348	28 days: > 1,280 (8.8)
Shore D Hardness ASTM D2240	90 to 95
Bond Strength, psi (MPa) ASTM C882	7 days (w/ 1 hr open time): 2,480 (17.1) 7 days (w/ 24 hr open time): 2,700 (18.6)
Split Tensile Strength, psi (MPa) ASTM C496	28 days: > 600 (4.1)
Water Vapor Transmission ASTM E96	0.16 grains/hr•ft <sup>2</sup>
Appearance/Color	Concrete Gray

### PACKAGING

DURALPREP A.C. is packaged in 3.75 gal (14.2 L) kits and in cases of 1 gal (3.8 L) units (2 units per case).

### SHELF LIFE

2 years in original, unopened package

### COVERAGE

One 3.75 gal (14.2 L) kit of DURALPREP A.C. will cover approximately 250 ft<sup>2</sup> (23.2 m<sup>2</sup>), per coat.

One 1 gal (3.8L) unit will cover approximately 65 ft<sup>2</sup> (6.0 m<sup>2</sup>), per coat.

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

## 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 to 80 ft<sup>2</sup>/gal (1.5 to 2.0 m<sup>2</sup>/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 **two** coats, at 20 mils thick each, 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 ft<sup>2</sup>/gal (2.0 m<sup>2</sup>/L). Allow 3 to 6 hours between applications. Place subsequent concrete or repair mortars within the open time of the second coat of DURALPREP A.C. (1 to 24 hours at 75°F (24°C)).

**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.

## 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.

## PRECAUTIONS/LIMITATIONS

- 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

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