



Construction

Request For Information

Project: Monroe Library **RFI #:** 25
A/E Project # B-99-01-12 **Date:** 7/31/2012
TO: Lori Stephens - Broadleaf Architecture **Requested Response Date:** 8/1/2012
From: Ed Vaughn - 2G Construction **Trade:** Concrete
Initiated By: Ed Vaughn - 2G Construction **Subject:** Concrete repair @ stem wall

| Item # | Description |
|--------|---|
| 1 | When the concrete stem wall was poured there are 3 locations that the concrete did not fully get up under the bockout in the wall which created a void @ the top of the low step in the stem wall. This occurred @ GL's A/1.8, A.5/1 & H.5/1. |
| Item # | Suggestion |
| | Repair with Tamms Form & Pour extended with pearock as per mfg instructions. Prime with Dural Prep A/C as per mfg instructions. Data sheets for both products attached. |
| Item # | Response: |
| 1 | Suggested repair is acceptable at locations noted above. Ensure that surface is roughened to 3/4" amplitude prior to application of Dural Prep A/C. Apply Dural Prep A/C per mfg instruction to concrete, reinforcing steel and anchor bolts at repair areas. |

Attachment: Tamms Form & Pour, Duralprep A/C

Response From: James Gaskey **Date Transmitted:** 8.01.12
To: Lori Stephens **Date Received:** _____

TAMMS FORM AND POUR

FLOWABLE, SHRINKAGE COMPENSATED CONCRETE W/CORROSION INHIBITOR

DESCRIPTION

TAMMS FORM AND POUR is a flowable, one component, polymer modified cementitious repair mortar containing silica fume and a migratory corrosion inhibitor.

PRIMARY APPLICATIONS

- On grade, above and below grade on concrete
- Horizontal surfaces and formed vertical and overhead surfaces
- Repair material for parking facilities, industrial plants, walkways, bridges, tunnels, dams and balconies
- Filler for voids and cavities
- Compatible with Galvanic Anodes

FEATURES/BENEFITS

- 3/4" to 3" (19 mm to 76 mm) depth repairs
- Can be extended with pea gravel for deeper repairs
- Silica fume enhanced
- High bond strength
- Pumpable
- Compatible to coefficient of thermal expansion of concrete
- Easily mixed
- ▲ Can contribute to LEED points

TECHNICAL INFORMATION

Material Properties at 75°F (24°C)

Compressive Strength, psi (MPa) ASTM C 109*

| | |
|--------------|--------------|
| 1 day..... | 3,000 (20.7) |
| 7 days..... | 6,500 (44.8) |
| 28 days..... | 7,800 (53.8) |

Flexural Strength, psi (MPa) ASTM C 78

| | |
|--------------|------------|
| 1 day..... | 560 (3.9) |
| 7 days..... | 780 (5.4) |
| 28 days..... | 1140 (7.9) |

Slant Shear Bond Strength, psi (MPa) ASTM C 882

| | |
|--------------|--------------|
| 1 day..... | 1,730 (11.9) |
| 7 days..... | 2,500 (17.2) |
| 28 days..... | 2,650 (18.3) |

Tensile Strength, psi (MPa) ASTM C 190

| | |
|--------------|-----------|
| 1 day..... | 300 (2.1) |
| 7 days..... | 630 (4.3) |
| 28 days..... | 740 (5.1) |

Splitting Tensile Strength, psi (MPa) ASTM C 496

| | |
|--------------|-------------|
| 1 day..... | 940 (6.5) |
| 7 days..... | 1450 (10.0) |
| 28 days..... | 1840 (12.7) |

Length Change, % change ASTM C 157*

| | |
|--------------|-------|
| 1 day..... | 0.021 |
| 7 days..... | 0.023 |
| 28 days..... | 0.027 |

Freeze-Thaw Durability, ASTM C 666 300 cycles

Weight Loss, % of zero cycles..... 0.0

Chloride Permeability ASTM C 1202*

Coulombs..... 1140 "low"

Typical results obtained under laboratory conditions

* Per ICRI Guideline 03740 "Data Sheet" Protocol.

PACKAGING

TAMMS FORM AND POUR is packaged in 50 lb (22.7 kg) poly-lined bags.

SHELF LIFE

1 year in original, unopened package.

COVERAGE

One 50 lb. bag yields approximately 0.42 ft³ (0.01 m³).

DIRECTIONS FOR USE

Surface Preparation: Concrete surfaces must be structurally sound, free of loose or deteriorated concrete and free of dust, dirt, paint, efflorescence, oil and all other contaminants. Mechanically abrade the surface to a minimum depth of 3/4" (1.9 mm) to achieve a surface profile equal to CSP 8 - 9 in accordance with ICRI Guideline 03732. Properly clean profiled area.



The Euclid Chemical Company

19218 Redwood Rd. • Cleveland, OH 44110
Phone: [216] 531-9222 • Toll-free: [800] 321-7628 • Fax: [216] 531-9596
www.euclidchemical.com

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Priming: Clean and prime exposed steel with DURALPREP AC. Concrete should be primed with a spray or brush coat of DURALPREP AC. Alternately, a Saturated Surface Dry (SSD) concrete surface can be primed with a scrub coat of TAMMS FORM & POUR (horizontal only). The repair must be made before the scrub coat dries out.

Mixing: TAMMS FORM AND POUR requires 3 qts (2.8 L) of mix water per 50 lb (22.7 kg) bag. Use power drill with a jiffy type mixer to mix small quantities. For larger applications use a paddle type mortar mixer or a standard concrete mixer. Do not add additional water. Mix for 2 to 3 minutes until a smooth flowable consistency is achieved. For application depths in excess of 3 in (7.62 cm) add 30 pounds of 3/8" to 1/2" (0.95 to 1.27 cm) clean, saturated surface dry pea gravel per 50 lb (22.7 kg) bag of TAMMS FORM AND POUR.

Application: The unrestrained surface area of the repair should be kept to a minimum. TAMMS FORM AND POUR should be mixed, placed and finished within 30 minutes. Pour the mixed material into the prepared area to be patched. Screed and trowel the material so as to level with the existing concrete. If required, lightly trowel to seal the edges, and finish the surface as desired. Do not over-trowel or feather-edge. Follow ACI guidelines for proper curing. On windy or hot days or when under direct sunlight, wet curing is recommended.

CLEAN-UP

Clean application tools and mixer with water immediately after use. Hardened TAMMS FORM AND POUR will be difficult to remove.

PRECAUTIONS/LIMITATIONS

- Minimum depth of patching is 3/4" (1.9 cm).
- Do not add any additives to TAMMS FORM AND POUR.
- The patch area should be frost free prior to application.
- Do not apply at temperatures below 40°F (4°C).
- In all cases, consult the Material Safety Data Sheet before use.

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DURALPREP A.C.

BONDING AGENT AND ANTI-CORROSION COATING FOR REINFORCEMENT

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.

PRIMARY APPLICATIONS

- Bonding agent for fresh concrete to existing concrete
- Concrete repairs with cement or epoxy mortars
- Anti-corrosion coating for steel reinforcement
- Exterior or interior
- On grade or above grade applications

FEATURES/BENEFITS

- ▲ Can contribute to LEED points
- Long open time
- Migratory corrosion inhibitor

TECHNICAL INFORMATION

Material Properties @ 75°F (24°C), 50% R.H.

Mix ratio (A:B:C): 1 gal: (3.8L) 1 gal: (3.8L) 36 lbs (16.3 kg)

Color Concrete Gray

Pot Life: 30 to 45 mins.

Contact Time Up to 24 hours depending on ambient temperature

Initial Set (ASTM C 266) 2 to 3 hrs

Bond Strength (ASTM C 882), 7 days: psi (MPa)

1 hr open time 2,480 (17.1)

24 hr open time 2,700 (18.6)

Compressive Strength (ASTM C 109) psi (MPa)

3 days >5,100 (35.2)

7 days >7,300 (50.3)

28 days >10,000 (68.9)

Flexural Strength (ASTM C 348)

28 days: >1,280 (8.8)

Splitting Tensile Strength (ASTM C 496)

28 days >600 (4.1)

Water Vapor Permeability

(ASTM E 96) 0.16 grains/ft² hr.

Values presented are typical and not necessarily referenced to create specifications

PACKAGING

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

SHELF LIFE

1 year in original, unopened package.

COVERAGE

One 3.75 gal (14.2 L) kit of DURALPREP A.C. will cover approximately 250 ft² (23.2m²). One 1 gal (3.8L) unit will cover approximately 65 ft² (6 m²).

Bonding Agent 60 to 80 ft²/gal (1.47 to 1.96 m²/L)

Anti-Corrosion Coating 60 to 80 ft²/gal/coat (1.47 to 1.96 m²/L)

Note: Coverage rates are approximate, and for estimating purposes only. Test the area prior to application to determine effective coverage rates. Surface temperature, porosity, and texture will determine actual material requirements.

DIRECTIONS FOR USE

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 mechanical abrasion. All coatings 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 (SSD) 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.



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Mixing: 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" (13mm) drill motor and a "Jiffy" mixer may be used. Premix each containers (Parts A & B). Pour the Component A and Component B into a clean container. Start mixer and mix at slow speed for 30 to 45 seconds. Do not aerate the mix. While mixing gradually, add all of the Part C powder into the mixed liquid to produce a smooth lump free consistency. Mix thoroughly for approximately 3 minutes.

Application: 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. **Bonding Agent:** Apply DURALPREP A.C. to the SSD surface using a stiff bristle brush or spray equipment. Allow to cure 30 minutes before placing concrete. DURALPREP A.C. has an open time of from 30 min to 24 hrs at 75°F (24°C). **Anti-Corrosion Coating:** Coat the exposed reinforcing steel, making sure to coat the underside portion of the steel. Apply two coats at 20 mils each by brush or spray, allowing 3 to 6 hours between applications. Place fresh mortar or concrete within the open time of the second coat of DURALPREP A.C. 30 min to 24 hrs at 75°F (24°C).

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.

PRECAUTIONS/LIMITATIONS

- 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 open time: 12 hours @ 90°F (32°C), 24 hours @ 75°F (24°C), 30 hours @ 45°F (7°C).
- Store at temperatures between 65°F and 80°F (18°C to 27°C).
- Protect from freezing.
- Do not use Component A or B if it has frozen.
- Protect from moisture.
- In all cases, consult the Material Safety Data Sheet before use.

Rev. 10.09

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