EUCLID CHEMICAL

GUIDE SPECIFICATION

EUCOCRETE
High Performance Concrete with Corrosion Inhibitor

EUCOCRETE is a versatile, single component, microsilica modified repair mortar that contains an integral corrosion inhibitor for concrete repair projects of all types. Requiring only the addition of water, EUCOCRETE is a high strength material with an extended working time for ease of placement. It is similar in appearance to concrete and is suitable for use as a topping or repair mortar concrete structures from 1" (2.5 cm) to full depth.

{Note to Specifier: The paragraphs below are meant to be incorporated into Parts 2 and 3 of a standard CSI 3 Part Format specification, project's General Structural Notes or directly onto the plans. They must be carefully reviewed by a qualified design professional and edited to meet the particular requirements of the project at hand, assure compliance with any governing building codes, and coordinate with other specification sections and drawings. In no case shall these Guide Specifications be considered to be Contract Documents or serve as installation instructions for the product being discussed. In any cases of discrepancy the manufacturer's most recently published data sheet shall take precedent.}

PART 1.0 GENERAL

1.01 RELATED WORK:

A. *Joint Fillers –* Eucolastic, Tammsflex, Dural 340, Qwikjoint UVR
B. *Concrete Repair:*
  1. *Vertical and Overhead:* Euco V-100, Tamms Structural Mortar
  2. *Horizontal:* Express Repair, VersaSpeed
  3. *Form and Pour:* Eucocrete
C. *Crack Repair/Injection:* Dural 452 LV, Dural Fast Set Epoxy Gel
D. *Bonding Agents:* Eucoweld 2.0, Duralprep A.C., Dural 452 MV, EucoFloor Epoxy Primer
E. *Waterproofing/Dampproofing :* Tamoseal, Vandex Super, Hey'Di K-11, Vandex BB75
F. *Architectural Coatings:* Tammscoat, Tammolastic
G. *Anti-Graffiti Coatings:* AG 100, AG-400,
H. *Traffic Deck Coatings:* Tammsdeck, Flexdeck
I. *Decorative Floor Coatings:* Duraltex
J. *Epoxy Chemical Resistant Coatings:* Duralkote 240, Duralkote 500, Duraltex 1705/07, Duraltex 1805/07
K. *Penetrating Water Repellents:*
  1. *Horizontal and Vertical:* Baracade Silane 40 WB, Baracade WB 244, Baracade 100C, Baracade Silane 40 IPA,
  2. *Vertical:* Chemstop WB Regular/Heavy Duty
L. *Penetrating Epoxy Sealer:* Euco #512 VOX Epoxy Sealer
M. *Cathodic Protection:* Sentinel Galvanic Anodes

PART 2.0 PRODUCTS

2.__ **{Optional}** BONDING AGENT/PRIMER

{Note to Specifier: Euclid Chemical bonding agents, adhesives and primers can be used to enhance the bond of this repair mortar. If desired choose a recommended bonding agent/primer

from the data sheet and insert product description here. (Note: Latex additives will increase the volumetric resistivity of the mortar making it no longer compatible with Galvanic Anode Protection}

2.__ CEMENTITIOUS REPAIR MORTAR

A. **High Performance Concrete Repair Mortar for Application Thicknesses from 1" (2.5 cm) to Full Depth:** one component, high-slump, repair mortar that is microsilica modified, and contains an integral corrosion inhibitor. Material shall have the following properties neat:

1. Compressive Strength minimum 5,000 psi (34.5 MPa) at 1 day and minimum 8,500 psi (58.6 MPa) at 28 days per ASTM C 109, 2" (50 mm) cubes at 0.5 gal/50 lb. bag
2. Compressive Strength minimum 4,500 psi (31 MPa) at 1 day, and minimum 8,000 psi (55.2 MPa) at 28 days per ASTM C39, 3" x 6" cyl. @0.5 gal/50 lb. bag
3. Flexural Strength minimum 1,000 psi (6.8 MPa) at 28 days per ASTM C348
4. Chloride Permeability maximum 1,200 coulombs per ASTM C1202
5. Length Change <0.073% at 28 days per ASTM C157
6. Initial Slump 10"
   30 minute slump 9.5"
   1 hour slump 9"
7. Freeze Thaw Resistance of 300 Cycles…96% dynamic modulus per ASTM C666
8. Basis of Design Product:
   a) Euclid Chemical Company (The); EUCOCRETE, www.euclidchemical.com

B. Manufacturer shall have ISO 9001 Quality Certification.

C. To ensure compatibility bonding agent and curing compound where used shall be from same manufacturer as repair mortar.

2.___ CURING

{Euclid Chemical suggests curing this repair mortar with a high-solids curing compound. If desired choose a recommended product from the data sheet and insert a product description here. Guide spec language for these products can be found by accessing each product separately through the Euclid Chemical web site.

Be advised that liquid curing compounds are typically not compatible with future penetrating sealer, adhesives or coatings. If such treatments are intended the specifier should insert language for a dissipating resin curing compound such as KUREZ DR VOX or insert language for proper ACI 308 curing methods. Duration of such cure should be minimum 3 days.}

PART 3.0 EXECUTION

3.___ SURFACE PREPARATION

A. Concrete Removal: Remove all loose and unsound concrete per recommendations of ICRI Guideline 310.2R "Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, Polymer Overlays and Concrete Repair"

1. Areas to be repaired shall have perimeter boundaries saw cut to minimum depth of ½" inch or less if such depth will cause saw to come in contact with embedded reinforcing steel. Saw cuts shall be made perpendicular to the concrete surface and all concrete removal boundaries shall be straight and aligned parallel to

opposite boundary edges resulting in repair areas that are rectangular in shape. The aspect ratio of the repair area shall be as square as possible, not exceeding 1.5:1. Odd shapes shall be avoided. If they cannot be avoided, re-entrant corners shall be mitered or reinforced to limit cracking at these locations.

a. Extend repair boundaries to beyond corrosion on reinforcing bars.
b. Do not allow saw to come into contact with reinforcing steel.

2. All concrete shall be removed from within repair boundary to a uniform depth. Depth of removal shall be as required to accommodate manufacturer's recommended minimum and maximum placement depth range for specified repair mortar and as required to remove all delaminating, cracking or unsound materials. Provide a sound surface with suitable profile for bond, as defined in repair mortar manufacturer's written recommendations.

B. Preparing Reinforcing Steel: Clean and prepare any exposed embedded reinforcing steel per recommendations of ICRI Guideline 310.1R. "Guideline for Surface Preparation for the Repair of Deteriorated Concrete Resulting from Reinforcing Steel Corrosion"

1. Where ½ or more of diameter of reinforcement steel is exposed either by existing conditions or concrete removal, bond between the concrete and reinforcing steel is broken, or corrosion is present, the concrete shall be removed to provide a minimum ¾" clearance around entire perimeter of steel and along entire exposed length.
2. Remove concrete fragments, corrosion product, mill scale, and other contaminants from reinforcing bars in accordance with SSPC-SP 6 until a bare metal finish has been achieved on the reinforcing bars.

a. Where section loss on a reinforcing bar is more than **<<insert number>>**%, or **<<insert number>>**% in two or more adjacent bars contact Engineer.
b. Any damage to epoxy-coated reinforcement shall be repaired by coating with an approved epoxy-coating repair material.

C. Remove bruised concrete substrate weakened by microcracking by abrasive blasting or high-pressure water blasting with or without abrasive.

D. Concrete Preparation and Cleaning: Areas to receive concrete repair shall be structurally sound and free from deteriorated concrete, dust, dirt, debris, loosened concrete and aggregates, bruised concrete substrate weakened by microcracking, paint, oil, efflorescence, laitance, and other contaminants, and shall have a minimum Concrete Surface Profile CSP equal to that recommended by the repair mortar manufacturer per ICRI Guideline 310.2.

3.___ {Optional} BONDING AGENT APPLICATION

{Note to Specifier: If a separate Euclid bonding agent is to be specified. Insert bonding agent execution language hear.}

3.___ FORM WORK

A. Form work shall be in accordance with specification section **<<insert section number>>.**

B. Forms shall be filled with water 24 hours prior to placement of self-consolidating repair mortar to ensure water tightness and adequate form surface saturation. Ensure forms are complete drained and drainage outlets are sealed before repair mortar placement.

3.___ REPAIR MORTAR APPLICATION:

A. At areas where a bonding agent has not been specified, the saturated-surface dry (SSD) concrete shall be primed with a scrub coat of the specified repair mortar.

1. Soak the repair area with potable water to achieve a saturated-surface dry (SSD) condition.
2. The repair mortar must be made before the scrub coat dries out.

B. Repair Mortar: Mix and place Repair Mortar per manufacturer's recommendations within the open time of the product scrub coat or any bonding agents. Finish to level of surrounding concrete surface utilizing techniques recommended by manufacturer.

3.___ CURING

{Euclid Chemical suggests curing this repair mortar with a high-solids curing compound. If desired choose a recommended product from the data sheet and insert here. Guide spec language for these products can be found by accessing each product separately through this web site. Be advised that liquid curing compounds are typically not compatible with future penetrating sealer, adhesives or coatings. If such treatments to be used cure with moisture retaining curing methods meeting ACI 308. Duration of such cure should be minimum 3 days.}

A. Exposed repair mortar surfaces not receiving subsequent applications of penetrating sealers, coatings or adhesives, shall be cured utilizing a high-solids, water-based curing compound recommended by the repair mortar manufacturer.

1. Apply per manufacturers written instructions.
2. In hot, windy or direct sunlight conditions rewet the surface after curing compound has dried and cover with polyethylene moisture retaining cover for a minimum of 3 days in accordance with ACI 308.1

B. Liquid curing compound shall not be applied to surfaces that are to receive subsequent applications of penetrating sealers, coatings, or adhesives. Instead cure surfaces utilizing wet cure methods per ASTM C308.1 for minimum 3 days.

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