GUIDE SPECIFICATION FOR MEADOW-PATCH® T2: TWO - COMPONENT, POLYMER-MODIFIED, THIN REPAIR PATCH MORTAR

SECTION 03 0130.61

RESURFACING OF CAST-IN-PLACE CONCRETE

Specifier Notes: This guide specification is written according to the Construction Specifications Institute (CSI) format. The section must be carefully reviewed and edited by the architect or engineer to meet the requirements of the project. Coordinate this section with other specification sections and the drawings.

Specifier Notes: W. R. MEADOWS® MEADOW-PATCH T2 is a two-component, polymer-modified, cementitious repair mortar designed for horizontal, vertical and overhead applications. This all-purpose mortar is designed for patches, toppings and repairs from thicknesses of 1" to featheredge.

MEADOW-PATCH T2 is easy to mix and apply, versatile and produces repaired surfaces suitable for rubber-wheeled traffic. For overhead or vertical use, MEADOW-PATCH T2 is an ideal choice for smoothing rough surfaces, repairing honeycombs and dressing up bugholes. When mixed, the product's creamy consistency provides an excellent skim coating for swimming pools, concrete walls, balconies, etc. Because of its excellent bond and freeze-thaw resistance, MEADOW-PATCH T2 may be used for interior and/or exterior surfaces; below-, above- or on-grade.

PART 1 GENERAL

1.01 SECTION INCLUDES

A. This section specifies a two-component, polymer-modified, cementitious-based, trowel-, screed- and spray-applied overlay repair mortar suitable for horizontal, vertical and overhead applications.

B. Repair mortar: Designed for repairs (discrete confined zones) from featheredge to 1” in depth. This product may be extended up to 50 percent by weight to perform repairs up to 2” in depth.

C. Overlay system: Designed for horizontal overlays from featheredge to ½” maximum depth.

1.02 RELATED SECTIONS

Specifier Notes: Edit the list of related sections as required for the project. List other sections dealing with work directly related to this section.

A. Section 03 30 00 - Cast-in-Place Concrete.

B. Section 03 40 00 - Precast Concrete.

C. Section 03 50 00 – Cast Decks and Underlayment.

D. Section 32 16 00 – Concrete Curbs and Gutters.

1.03 REFERENCES

A. ASTM C 109/C 109M-99: Standard Test Method for Compressive Strength of Hydraulic Cement Mortars.

B. ASTM C 348-97: Standard Test Method for Flexural Strength of Hydraulic Cement Mortars.

C. ASTM C 157/C 157M-99: Standard Test Method for Length Change of Hardened Hydraulic Cement Mortar and Concrete.

D. ASTM C 469-94: Standard Test Method for Static Modulus of Elasticity and Poisson's Ratio of Concrete in Compression.

E. ASTM C 666-97: Standard Test Method for Resistance of Concrete to Rapid Freezing and Thawing.

F. ASTM C 882-99: Standard Test Method for Bond Strength of Epoxy-Resin Systems Used with Concrete by Slant Shear – Modified (No Epoxy Bonding Agent)

G. ICRI Technical Guide No. 03730.

1.04 SUBMITTALS

A. Comply with Section 01 33 00 - Submittal Procedures.

B. Submit manufacturer's product data and application instructions.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name and manufacturer.

B. Store materials in a clean, dry area in accordance with manufacturer's instructions.

C. Protect materials during handling and application to prevent damage or contamination.

1.06 ENVIRONMENTAL REQUIREMENTS

A. Apply only when ambient and surface temperatures are 45° F (7.2° C) and rising.

B. Do not apply if the ambient temperature is expected to fall below 45° F (7.2° C) within 24 hours after placement.

C. Do not apply when rain is imminent.

D. Protect from conditions that may cause early water loss: high winds, low humidity, high temperature and direct sunlight.

PART 2 PRODUCTS

2.01 MANUFACTURER

A. W. R. MEADOWS, INC., PO Box 338, Hampshire, Illinois 60140-0338. (800) 342-5976. (847) 683-4500. Fax (847) 683-4544. Web Site www.wrmeadows.com.

2.02 MATERIALS

A. Cementitious mortar: a two-component, polymer-modified, cementitious-based, trowel-, screed- and spray-applied overlay repair mortar suitable for horizontal, vertical and overhead applications.

1. Performance-Based Specification: The mortar shall be two-component, shrinkage compensating and shall be compatible with cementitious materials, brick and block. Has waterproofing characteristics, which when cured, produces the following properties:

a. Compressive Strength (ASTM C 109):

Minimum, 1 day 3,000 psi (20.7 MPa)
28 day 5,000 psi (34.5 MPa)

b. Flexural Strength (ASTM C 348):
Minimum, 1 day 725 psi (5.0 MPa)
28 day 1,850 psi (13 MPa)

c. Length Change (ASTM C 157): Maximum, -0.150%

d. Slant Shear Bond Strength (ASTM C 882, modified):
Minimum, 28 day, 1,850 psi (13 MPa)

e. Modulus of Elasticity (ASTM C 469):
Maximum 2.02 x 10^6psi (14.7 GPa) @ 28 days

f. Freeze Thaw Resistance (ASTM C 666, Proc. A, 300 cycles, Modified):
Minimum RDF 95%

2. Proprietary-Based Specification:
a. Repair Mortar: MEADOW-PATCH T2 by W.R. MEADOWS, INC., a blend of specialty Portland cement blends, specially graded aggregates, set-control admixtures, including shrinkage-compensating additives.
b. Acrylic Modifier: ACRY-LOK® by W. R. MEADOWS, INC., a 100 percent acrylic latex having a minimum 22 percent solids content admixture with proper foam control agents and biocide packaged.

2.03 ACCESSORIES

A. Concrete Curing Compound: 1100-CLEAR CURING COMPOUND, 1220-WHITE PIGMENTED CURING COMPOUND or VOCOMP®-20 CURING AND SEALING COMPOUND by W. R. MEADOWS INC.

PART 3 EXECUTION

3.01 EXAMINATION

A. Examine surfaces to receive cementitious mortar. Notify architect or engineer if surfaces are not acceptable. Do not begin surface preparation or application until unacceptable conditions have been corrected.

3.02 SURFACE PREPARATION

A. High pressure water-blast appropriate substrate at a minimum 2,000 psi and a maximum 3,000 psi to the limits on the drawing.

B. Mechanically remove unsound concrete either by shot blasting or scarifying or equal equipment to the limits indicated on the drawings.

C. Ensure complete removal of all dirt, grease, oil, toppings, coatings, or topical penetrating treatments or any other deleterious materials.

D. Ensure that the pores of the substrate have been exposed.

E. As a repair mortar:
1. Remove existing concrete facing as required to expose aggregate ensuring substrate has a minimum amplitude of 1/16” (1.5 mm).
2. Conform to the requirements of ICRI Technical Guidelines No. 03730.
3. Limit the size of chipping hammers to 15 lb. (6.8 kg) to reduce micro-fractures.
4. Square cut or undercut perimeter of the area to be repaired a minimum depth of ¼” (6 mm), ensuring that existing steel reinforcement is not cut.
5. Where reinforcing steel with active corrosion is encountered, comply with the following:
i. Abrasive blast reinforcing steel to remove rust and contaminants.
ii. Chip out behind the reinforcing to a ¾” (20 mm) minimum depth when one-half or greater of the diameter of the reinforcing steel is exposed.

iii. Splice new reinforcing steel to existing steel where corrosion has depleted the cross-section area by 25%, as directed by the architect or engineer.
iv. Thoroughly abrade the roughened surface and exposed reinforcement to remove all bond-inhibiting materials, such as rust, dirt, loose chips, and dust.

6. Pre-dampen the substrate for 30-45 minutes prior to application of the bond coat.
7. Vacuum excessive water from surface to achieve a saturated but surface dry concrete.
8. Maintain substrate in a saturated, surface dry condition.

F. As an overlay:
1. Surface shall be slightly damp and have a maximum temperature of 95° F (35° F).

3.03 MIXING

A. As a repair mortar:
1. Mix up to 1 gallon of acrylic bonding agent per 50 lb. bag of cementitious mortar, either by drill and paddle (maximum 750 RPM) or paddle-type mortar mixer.

B. As an overlay repair mortar:
1. Mix up to 1.25 gallons of acrylic bonding agent per 50 lb. bag of cementitious mortar, either by drill and paddle (maximum 750 RPM) or paddle-type mortar mixer.

3.04 APPLICATION

A. If surface deterioration is greater than 1/8" (3 mm), apply a fill coat of cementitious mortar at a rate not to exceed 50 ft.^{2} per unit or ¼" (6.35mm).

B. If surface deterioration is greater than ½" (12.5 mm), apply the cementitious mortar prior to overlaying.

C. Trowel application:
1. Apply cementitious mortar as an overlay fill coat.
2. Fill in the deteriorated, low area using a steel trowel and trowel tight to the high points in order to level out the deteriorated substrate.
3. Screed over entire deteriorated substrate using a magic trowel.
4. Wet your magic trowel and screed the cementitious mortar smooth in the same direction.
5. Work the material in to the deteriorated zone.

D. Hopper-Type texture sprayer application:
1. Always use the large size ring-nozzle supplied with the standard type sprayer.

E. Application of second coat may be proceed after final set of fill coat, which is typically 2-4 hours at 70° F (23.9°C).

F. Apply cementitious mortar at a rate not to exceed 50 ft.^{2} per unit or ¼" (6.35 mm) as outlined in section 3.04 B.

G. Light mechanical or hand sanding 72 hours at 70° F (23.9° C) after final finishing to remove any high spots or irregularities.

H. Spot apply any defects.

3.05 CURING

A. Protect fresh mortar from premature evaporation due to direct sunlight, steady winds or low humidity.

B. Cure finished repair mortar by the application of two coats of curing compound.

C. Apply the first coat immediately after completing finishing operations.

D. Apply the second coat about 24 hours later.

E. Alternatively cure finished overlay by the application of acrylic bonding agent after product has hardened at an application rate of 300 $ft.^2$/gal.

END OF SECTION