



# CUSTOM®

## SECTION 03 54 16

### SUGGESTED SPECIFICATION FOR HYDRAULIC CEMENT UNDERLAYMENT

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#### PART 1 GENERAL

##### 1.1 SECTION INCLUDES

- A. Surface Preparation Products:
  - 1. Self-leveling underlayment – flow-able, self-leveling, hydraulic cement underlayment compounded to level and smooth substrate for suitable finishes.
  - 2. Primers– to be used in conjunction with moisture vapor retarders, to permit the installation of hydraulic cement self leveling underlayment and patches.
  - 3. Moisture reduction barriers- liquid-applied water vapor emission and alkalinity control coating that is applied to interior concrete slabs that will receive moisture sensitive floor coverings and/or adhesives.
  - 4. Cement patching materials – hydraulic cement compound that is used to correct imperfections in substrates prior to the installation of floor finishes.

##### 1.2 RELATED SECTIONS

- A. Section 03 30 00 - Cast-in-place concrete
- B. Section 07 26 19 – Moisture Vapor Control

##### 1.3 REFERENCES

- A. ASTM F 1869 - Standard test method for measuring moisture vapor emission rate of concrete subfloor using anhydrous Calcium Chloride.
- B. ASTM F 2170 - Standard test method for determining relative humidity in concrete floor slabs using in situ probes.
- C. ASTM 710 - Standard practice for preparing concrete floors to receive resilient flooring

- D. ASTM C1708 - 12 Standard test methods for self leveling mortars containing hydraulic cements
- E. ASTM C 109 - Compressive strength of cement mortars

#### 1.1 SUBMITTALS

- A. Submit under provisions of Section 01 33 00.
- B. Moisture vapor emission test results.
- C. [ [Product Data](#) ]: Manufacturer's data sheets on each product to be used, including:
  - 1. Preparation instructions and recommendations.
  - 2. Storage and handling requirements and recommendations.
  - 3. Installation methods.

#### 1.2 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the products of this section with minimum ten years documented experience.
- B. Installer Qualifications:
  - 1. Company specializing in performing the work of this section with minimum five years documented experience.
  - 2. INSTALL Substrate Prep Certified installer / [www.installfloors.org](http://www.installfloors.org).
- C. Company specializing in performing the work of this section with minimum five years documented experience.
- D. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and fabrication and installation.
  - 1. Locate mock-ups on site in locations and size directed by Architect.
  - 2. Finish areas designated by Architect.
  - 3. Do not proceed with remaining work until workmanship is approved by Architect.
  - 4. Refinish mock-up area as required to produce acceptable work.
  - 5. Retain and maintain mock-ups during construction in undisturbed condition as a standard for judging completed unit of work.
  - 6. Obtain Architect's acceptance of mock-ups before start of final unit of work.
- E. Conduct conference at Project site to comply with requirements of Division 1 Section "Project Meetings."

#### 1.3 DELIVERY, STORAGE, AND HANDLING

- A. Deliver and store packaged materials in original containers with seals unbroken and labels intact until time of use.
- B. Prevent damage or contamination to materials by water, freezing, foreign matter and other causes.
- C. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.

#### 1.4 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.
- B. Environmental: Install underlayment when surfaces and ambient temperature is minimum 50 degrees F (10 degrees C) and maximum 90 degrees F (32 degrees C). Consult with manufacturer for specific requirements.
- C. Do not install underlayment exterior when inclement weather conditions are expected within 48 hours after work is completed unless properly protected.
- D. Protection: Protect adjacent work surfaces during installation. Close rooms or spaces to traffic of all types until underlayment has set.
- E. Safety: Observe the manufacturer's safety instructions including those pertaining to ventilation.

## 1.5 WARRANTY

- A. Provide manufacturers standard warranty as follows:
  - 1. Installation Systems Limited Warranty:
    - a. \_\_\_\_\_.
  - 2. INSTALL Substrate Prep Certified installer / [www.installfloors.org](http://www.installfloors.org).

## PART 2 PRODUCTS

### 2.1 UNDERLAYMENT MANUFACTURERS

- A. Custom® Building Products, which is located at: 13001 Seal Beach Blvd. ; Seal Beach, CA 90740; Toll Free Tel: 800-282-8786; Email: [request info \(jackiel@cbpmail.net\)](mailto:requestinfo@jackiel@cbpmail.net); Web: [www.custombuildingproducts.com](http://www.custombuildingproducts.com)
- B. Substitutions: Not permitted.
- C. Substitutions: Comply with Division 01 requirements.

### 2.4 UNDERLAYMENT MATERIALS

- A. SELF LEVELING UNDERLAYMENT
  - 1. Custom Building Products CL-XP1 / TechLevel XP1 Self-Leveling Underlayment
    - a. High strength, low prep self-leveling underlayment that levels floors prior to wide variety of floor covering.
    - b. Suitable for traffic during construction
    - c. Applies feather edge to 2 inches
    - d. Ready for traffic in 2-4 hours and floor covering in 16 hours
    - e. Compressive strength 5000 psi
  - 1. Custom Building Products CL-150 / TechLevel 150 Self-Leveling Underlayment
    - a. High quality, low prep self-leveling underlayment that levels floors prior to a wide variety of floor covering.
    - b. Applies feather edge to 1 1/2 inches
    - c. Ready for traffic in 2-4 hours and floor covering in 18 hours
    - d. Compressive strength 4000 psi

- B. PATCHING
  - 1. Custom Building Products General Patch / GENPATCH Cement Patch
    - a. Fast setting, calcium aluminate compound that provides a smooth finish on interior and exterior subfloors prior to the installation of a wide variety of floor coverings.
    - b. Applies up to 2 inches over concrete and plywood
    - c. Install floor covering in 30 – 90 minutes
  - 2. Custom Building Products Feather Patch / SILK Cement Patch
    - a. Fast curing, calcium aluminate compound that provides a smooth finish on interior and exterior subfloors prior to the installation of a wide variety of floor coverings.
    - b. Install floor covering in as little as 30 minutes
    - c. Applies up to 1 inch over concrete and plywood
- C. PRIMERS
  - 1. Custom Building Products CP-A / TechPrime A Water Based Primer
    - a. Advanced acrylic primer/sealer that prepares surface for the application of self-leveling underlayment.
    - b. Seals porous and non-porous surfaces
    - c. Fast drying formulation
  - 2. Custom Building Products CP-E / TechPrime E Epoxy Primer
    - a. Low viscosity, two-component, 100%-solids epoxy primer for surface preparation before installing self-leveling underlayment.
    - b. Improves the bond of the self-leveling underlayment.
    - c. Use for interior and exterior applications.
    - d. Ready for traffic in 6 hours.
  - 3. Custom Building Products CP-WE / TechPrime WE Modified Epoxy Primer
    - a. high-strength, solvent-free primer that improves the adhesion of self-leveling underlayment
    - b. Applies over smooth, non-porous substrates and epoxy coatings.
    - c. Cures in as little as 3 hours.
- D. MOISTURE BARRIER COATING
  - 1. Custom Building Products CMVC / Tech MVC moisture vapor control
    - a. A single coat, high density moisture and alkali resistant, two-component, 100% solids epoxy coating, specifically formulated to control concrete moisture vapor emission and alkalinity beneath finished flooring.
    - b. Use on concrete substrates with up to 100% rH (per ASTM F2170 or 25 lbs MVT (per ASTM F1869) and pH 14.
    - c. Ready for traffic in as little as 5-6 hours.
    - d. High bond strength to concrete

## PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Examine surfaces, which are to receive underlayment.
- B. Do not proceed with work until defects or conditions which would adversely affect quality, execution and permanence of finished tile work are corrected.
- C. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

### 3.2 SURFACE PREPARATION

- A. They shall be clean and free of dust, oil, grease paint, tar, wax, curing compound, primer, sealer, form release agent, laitance, loosely bonded topping, loose particles or any deleterious substance and debris which may prevent or reduce adhesion.
- B. Mechanically abrade the substrate to completely remove all paint, loosely bonded topping, loose particles and construction debris. Surface profile should achieve ICRI CSP #3. Surface should be vacuumed to remove loose debris.
- C. Neutralize any trace of strong acid or alkali.
- D. All substrates shall be dry. The moisture emissions should not exceed floor covering manufacturer's recommendations. If so the concrete should be treated with moisture vapor remediation membrane.
- E. Turn off all forced ventilation and radiant heating systems and protect work against drafts during installation and for a period of at least 72 hours after completion. Use indirect auxiliary heaters to maintain the temperatures in the area at the recommended workable level. Vent temporary heater to exterior to prevent damage to tile work from carbon dioxide build-up.
- F. Before work commences examine the areas to be covered and report any flaw or adverse condition in writing to the architect and to the general contractor.

### 3.3 INSTALLATION

- A. Install in accordance with manufacturer's instructions.

### 3.4 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION