FIRM-FILL® CMD Recommended Specifications

PART I. GENERAL

1.1 Scope

Specify to meet project requirements. The conditions of the Contract (General, Supplementary, and other conditions) and the General Requirements (sections of Division 1) govern the provisions of this section.

1.2 Qualifications

A. Supplier: Hacker Industries, Inc., Newport Beach, California.

B. Installer: Installation of FIRM-FILL® CMD shall be by a Licensed Applicator of Hacker Industries, Inc., using mixing and pumping equipment approved by Hacker Industries, Inc.

C. All materials specified herein shall be approved by Hacker Industries, Inc., Newport Beach, CA. All others must receive prior approval.

D. Compressive strength shall be specified at a minimum of 3500 psi (24.1 MPa).

E. Materials shall be delivered in their original, unopened packages, and protected from exposure to the elements after delivery. Do not allow bags to get wet.

F. Certification: Upon completion of this portion of the work and upon request, and as a condition of its acceptance, deliver to the architect a certificate from Hacker Industries, Inc., and signed by the Licensed Applicator, stating that the material used in this work complies with the specified requirements.

PART II. PRODUCTS

2.1 Materials

A. Gypsum Concrete: FIRM-FILL® CMD, as supplied by Hacker Industries, Inc.

B. Subfloor Primer: FIRM-FILL® CMD Primer, or equal as approved by Hacker Industries, Inc.

C. Sand: 1/8” (3mm) or less washed plaster, masonry sand or silica sand

D. Water: Potable and free from impurities

E. Hacker TopCoat™ SP (if specified).

2.2 Mix Design: see section 3.3

PART III. PREPARATION

3.1 Condition of Subfloor

A. Subfloor should be structurally sound (L/360), broom clean, dry and free from oil, grease, paraffin, laitance or other contaminants before the arrival of the Hacker Licensed Applicator. Subfloor shall meet other applicable structural standards, and be certified by a structural engineer.

B. Laps, where steel deck overlaps, are generally screwed together, and the deck is typically screwed to the joists. Maximum joist spacing shall be 24" on centers. Steel deck shall span across the joists, with deck ribs perpendicular to the joists. Contact Hacker Industries, Inc. Licensed Applicator for additional questions regarding joists and laps.

C. Leak Prevention: All cracks and voids should be filled with a quick-setting patching or taping compound or equal where leakage could occur.

D. Before installation, the General Contractor shall inspect and approve the condition of the subfloor and check elevations.

3.2 Priming

Apply FIRM-FILL® CMD primer by pouring onto the deck and spreading out with a push broom at rate of 300 sq. ft./gal.; do not thin. Primer may also be sprayed onto the deck, but it is imperative to achieve a continuous uniform coating. Allow 3 hours for adequate drying to a maximum of 24 hours before pouring the FIRM-FILL® CMD floor underlayment. Reference Hacker Industries, Inc.'s Priming Instructions for FIRM-FILL® CMD.

3.3 Mixing Instructions

A. 4 to 4.75 gallons (15.1 to 17.9L) of water and sand as specified per 80 pound (approx. 36.3 kg) bag of FIRM-FILL® CMD. Do not over water. Water amount will change with wetness of sand.

B. FIRM-FILL® CMD mix proportions and designs shall be in strict accordance with Hacker recommendations.

3.4 Underlayment Application

A. Scheduling:

1. Installation of FIRM-FILL® CMD shall not begin until the building is enclosed, including roof, windows, doors and other openings.

2. FIRM-FILL® CMD must be installed before the installation of drywall.

B. Application:

1. The minimum thickness of FIRM-FILL® CMD is 1” (25mm) over the top of the flutes. Average pour thickness is 1-9/16” (40mm). Maximum thickness is 2” (51mm).

2. Install FIRM-FILL® CMD at specified thickness by placing bags, sand and water into the approved high-speed mixing device and blend for a minimum of one minute. FIRM-FILL® CMD shall be pumped onto floor areas, spreading and screeding to a smooth surface. Place as continuously as possible until installation is complete so that no FIRM-FILL® CMD slurry is placed against FIRM-FILL® CMD that has obtained its initial set, except at authorized joints.

3. FIRM-FILL® CMD is suitable for interior applications only and must be covered by a finished floor material.

C. Protection: After installation, temporary wood planking shall be placed by General Contractor wherever the floor underlayment will be subject to wheeled or concentrated loads.

D. Drying: Before, during and after installation of FIRM-FILL® CMD, building interior must be ventilated and heated to a minimum 50°F (10°C) to assure completion of the drying process. The General Contractor must supply adequate ventilation and heat, if necessary. Do not install finished floor coverings until the FIRM-FILL® CMD is tested for dryness as specified by floor covering manufacturer or General Contractor. Reference Hacker Industries, Inc.’s Drying Conditions Flyer.

3.5 Preparation For Installation of Floor Coverings

A. Sealing: Any areas where the underlayment surface has been damaged should be cleaned and sealed regardless of floor covering specified. Floor covering manufacturers’ specifications and requirements supersede these recommendations.

B. Floor Covering Procedures: Please see the Hacker Industries, Inc.’s “Guidelines for Installing Finished Floor Coverings”. The guideline is not a warranty and should be used as a guideline only.

3.6 Field Quality Control

A. Slump Test: FIRM-FILL® CMD shall be tested for slump at the beginning of each installation in order to establish the required slump. Slump tests shall then be taken periodically during installation to verify that the required slump is maintained. Slump tests shall be conducted using a 2” by 4” (51mm by 102mm) cylinder. The acceptable patty size shall be 8” (203mm) plus or minus 1/2” (approx. 13mm) in diameter.

B. Field Samples: Testing shall be done in accordance with ASTM Modified C472 testing procedures, using 2” (51mm) split brass molds. Prior to independent sampling, contact Hacker Industries, Inc., to ensure that proper ASTM procedures are followed. If requested prior to installation, test results shall be available to the architect and/or contractor from the Licensed Applicator.