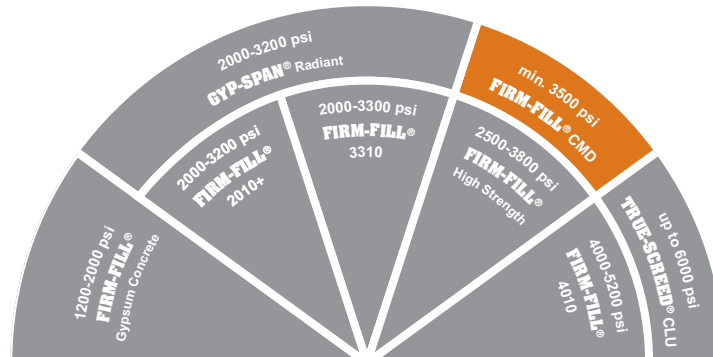


FIRM-FILL® CMD

Recommended Product Specifications



PART I. GENERAL

1.1 Scope

- A. Specify to meet corrugated metal deck (CMD) 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.
- B. Designed for use in multi-family, commercial and institutional buildings with light-gauge steel framing and a corrugated steel deck, FIRM-FILL® CMD is a lightweight, high-strength gypsum concrete floor underlayment. Installed at 1-inch above the top of the flutes, FIRM-FIRM® CMD reduces deadloads and thickness, significantly lowering costs.

NOTE TO ARCHITECTS: FIRM-FILL® CMD is a non-structural, interior floor underlayment. All designs shall be reviewed and approved by a licensed structural engineer. Contact HACKER for additional information.

1.2 Qualifications

- A. Supplier: HACKER, Newport Beach, California.
- B. Installer: Installation of FIRM-FILL® CMD shall be by a Licensed Applicator of HACKER, using mixing and pumping equipment with a water meter approved by HACKER.
- C. All materials specified herein shall be approved by HACKER Newport Beach, CA. All others must receive prior approval.
- D. Compressive strength shall be specified at a minimum of 3,500 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. Product shall not be used beyond shelf life.

PART II. PRODUCTS

2.1 Materials

- A. Gypsum Concrete: FIRM-FILL® CMD, as supplied by HACKER.
- B. Subfloor Primer: FIRM-FILL® CMD Primer, or equal as approved by HACKER.

FIRM-FILL® CMD Recommended Specifications (Continued)

- C. Sand: Well graded (ASTM C33) washed plaster, or masonry sand or concrete sand meeting the requirements of Hacker Industries, Inc. Sand Guidelines.
- D. Water: Potable and free from impurities; temperature shall be a minimum 45°F.
- E. Hacker TopCoat® SP, if specified.
- F. Optional Sound Mat: Hacker Sound Mat II.

2.2 Mix Designs: See Section 3.3

PART III. PREPARATION

3.1 Condition of Subfloor

- A. Galvanized corrugated steel deck subfloor shall be structurally sound (minimum L/360), with a minimum G60 galvanization that meets the requirements of the Steel Deck Institute. Metal deck shall be broom clean, dry and completely free from oil, grease, paraffin, wax, alkali, laitance or other material that could interfere with the bond before the arrival of the Hacker Licensed Applicator. Corrugated steel deck shall meet all other applicable structural standards, and be certified by a licensed 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-inch on centers. Steel deck shall span across the joists, with deck ribs perpendicular to the joists.
- C. Leak Prevention: All cracks and voids shall be filled with a quick setting taping compound, caulking, or similar material where leakage could occur.
- D. Before installation, the General Contractor (GC) shall inspect and approve the condition of the galvanized corrugated steel deck, leak prevention, and check elevations.
- E. The recommendations of the steel frame manufacturer will take precedence.

3.2 Priming

Apply FIRM-FILL® CMD primer by pouring onto the metal deck and spreading out with a push broom at a rate of 200-300 sq. ft./gal./ do not add water. Primer may also be sprayed onto the deck using a 1.5-gallon airless sprayer, but it is imperative to achieve a continuous uniform coating. Broom any puddles that may develop during application. Allow 3 hours for adequate drying to a maximum of 24 hours before pouring the FIRM-FILL® CMD Floor Underlayment. Cooler weather will lengthen primer drying time. Reference HACKER's Recommended Specifications for FIRM-FILL® CMD.

FIRM-FILL® CMD Recommended Specifications (Continued)

3.3 Mixing Instructions

- A. 4 to 4.75 gallons (15.1 to 17.9L) of water and sand as specified per 80 pound (approximately 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 shall be installed before or after drywall, as specified.

B. Application:

1. Prior to the installation, the degree of flatness or levelness shall be agreed upon in writing by the General Contractor and Licensed Applicator.
2. With the interior wall partition framing members already in place, FIRM-FILL® the corrugated steel deck, as well as the runner track of any installed interior partitions. The minimum thickness of FIRM-FILL® CMD shall be 1-inch (25 mm) over the top of the flutes. Average pour thickness is 1-9/16-inch (40 mm). Maximum thickness is 2-inch (51 mm) in one lift.
3. 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 a 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 as authorized joints.
4. FIRM-FILL® CMD is suitable for interior applications only and must be covered by a finished floor covering.

C. Protection: After installation, temporary wood planking shall be place by the GC wherever the floor underlayment will be subject to wheeled or concentrated loads. The GC shall not place concentrated loads such as pallets of material, drywall, taping compounds or any heavy items, which may cause deflection in the middle of the floor.

D. Drying: The GC shall provide continuous ventilation and adequate heat to rapidly remove moisture from the area until the underlayment is dry. If necessary, the GC shall provide mechanical ventilation and heat. Do not install finished floor coverings until the provide mechanical ventilation and heat. Do not install finished floor coverings until the FIRM-FILL® CMD has been tested for dryness and acceptable moisture levels. To avoid potential problems during the drying process, the GC shall consult HACKER's Drying Conditions Flyer and information contained on HACKER's website for additional information concerning drying of this product.

FIRM-FILL® CMD Recommended Specifications (Continued)

3.5 Preparation for Installation of Finished Floor Covering

- A. Floor Covering Procedures: Please see HACKER's "Guidelines for Installing Finished Floor Coverings." The guideline is not a warranty and shall 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-inch by 4-inch (51 mm by 102 mm) cylinder. The acceptable patty size shall be 8-inch (203 mm) plus or minus ½-inch (13 mm) in diameter.
- B. Field Samples: Testing shall be done in accordance with ASTM C472 Modified testing procedures using split brass molds. Prior to independent testing, consult HACKER for proper ASTM procedures.

Warranty: Hacker Industries, Inc. warrants Hacker Gypsum Floor Underlayments (GFU) to be free from manufacturing defects, and when properly prepared and installed according to approved specified methods, GFU will attain minimum physical specifications as stated by Hacker Industries, Inc.'s most recent literature. Hacker Industries, Inc.'s obligation shall be limited to the replacement of the bagged product only and is subject to notice and inspection requirements. This warranty is in lieu of all other warranties, express or implied, including the warranties of merchantability and fitness for a particular purpose and all other obligations or liabilities.