

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® Gypsum Concrete shall be by a trained Licensed Applicator of Hacker Industries, Inc., using mixing and pumping equipment with a water meter approved by Hacker Industries, Inc.
- C.** All materials specified herein shall be approved by Hacker Industries, Inc., Newport Beach, CA. All others shall receive prior approval.
- D.** Compressive strength shall be specified from 1200 to 2200 psi (8.3 to 15.2 MPa).
- E.** Materials shall be delivered in their original, unopened packages and protected from exposure to the elements before and after delivery. Do not allow bags to get wet. Product shall not be used beyond shelf life.
- 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 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® Gypsum Concrete, as supplied by Hacker Industries, Inc.
- B. Subfloor Primer:** Hacker Floor Primer or approved equal
- C. Sand:** 1/8" (3 mm) or less washed plaster or masonry sand
- D. Water:** Potable and free from impurities
- E. Sealer:** Hacker TopCoat™ SP (if specified)

2.2 Mix Designs: See section 3.3

PART III: PREPARATION

3.1 Condition of Subfloor

- A.** Subfloor shall be structurally sound (L/360), broom cleaned, dry and free from oil, grease, paraffin, laitance, wax or other contaminants before the arrival of the Hacker Licensed Applicator.
- B.** Before installation, the General Contractor (GC) shall inspect and approve the condition of the subfloor and test the existing subfloor for moisture.

RECOMMENDED SPECIFICATIONS *(CONT.)*

3.2 Preparation of Subfloor

- A. **Leak Prevention:** All cracks and voids shall be filled with a quick-setting patching or taping compound, or equal, where leakage may occur.
- B. Prime wood subfloors with one coat of Hacker Floor Primer (diluted 1:4 with water) using one gallon (3.78 L) per 500 ft² (47 m²).
- C. Hacker Floor Primer recommended over concrete substrates. The Hacker Licensed Applicator can give specific recommendations.

3.3 Mixing Instructions

- A. Add 80-pound (36.3 kg) bag of FIRM-FILL[®] Gypsum Concrete to 6 to 7 gallons (22.7 to 26.5 L) of water followed by the specific sand ratio. Do not overwater. Water amount will vary with the wetness of the sand.

This is the proper sequence for mixing of FIRM-FILL[®] Gypsum Concrete.

First add water to bucket followed by FIRM-FILL[®] Gypsum Concrete and finally the sand.

3.4 Underlayment Application

A. Scheduling:

1. Installation of FIRM-FILL[®] Gypsum Concrete shall not begin until the building is enclosed, including roof, windows, doors and other openings.
2. In the absence of Sound Mat, FIRM-FILL[®] Gypsum Concrete may be installed before or after the installation of drywall.

B. Application:

1. The minimum thickness of FIRM-FILL[®] Gypsum Concrete varies with the type of subfloor. Over wood subfloors, a minimum of 3/4" (19 mm) is required. Over precast or poured-in-place concrete, a minimum of 1/2" (13 mm) is required.
2. Install FIRM-FILL[®] Gypsum Concrete at specified thickness by placing contents of bags, sand and water into the approved high-speed mixing device and blending for a minimum of one minute. FIRM-FILL[®] Gypsum Concrete 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[®] Gypsum Concrete slurry is placed against FIRM-FILL[®] Gypsum Concrete that has obtained its initial set, except at authorized joints.
3. FIRM-FILL[®] Gypsum Concrete is suitable for interior applications only and shall be covered by a finished floor covering.

- C. **Protection:** After installation, temporary wood planking shall be placed 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 or in hallways.

- D. Drying:** Before, during and after installation of FIRM-FILL[®] Gypsum Concrete, building interior shall be ventilated and heated to a minimum of 50°F (10°C) to ensure completion of the drying process. The GC shall provide continuous ventilation and adequate heat to rapidly remove moisture from the area until the FIRM-FILL[®] Gypsum Concrete is dry. If necessary, the GC shall provide mechanical ventilation. Do not install finished floor coverings until the FIRM-FILL[®] Gypsum Concrete has been tested for dryness. Consult flooring contractor for recommended procedures to test for dryness and acceptable levels of moisture. To avoid potential problems during the drying process, the GC shall consult Hacker Industries, Inc.'s Drying Conditions Flyer and information contained on Hacker Industries, Inc.'s website for additional information concerning drying of this product.

3.5 Preparation for Installation of Floor Coverings

- A. Sealing:** Any areas where the underlayment surface has been damaged shall be cleaned and sealed regardless of floor covering specified. Floor covering manufacturers' specifications and requirements supersede these recommendations.
- B. Floor Covering Procedures:** Please see Hacker Industries, Inc.'s Guidelines for Installing Finished Floor Coverings. The document is not a warranty and shall be used as a guideline only. See also ASTM F2419 for recommended procedures.

3.6 Field Quality Control

- A. Slump Test:** FIRM-FILL[®] Gypsum Concrete 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 on an approved plexiglass surface using a 2" by 4" (51 mm by 102 mm) cylinder. The acceptable patty size shall be 9" (228 mm) plus or minus 1/2" (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 Industries, Inc. for proper ASTM procedures

Warranty: Subject to express warranty stated on Hacker Industries, Inc.'s website.