



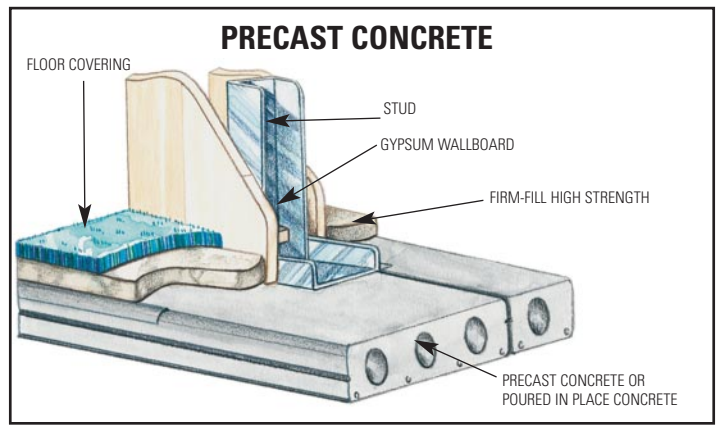
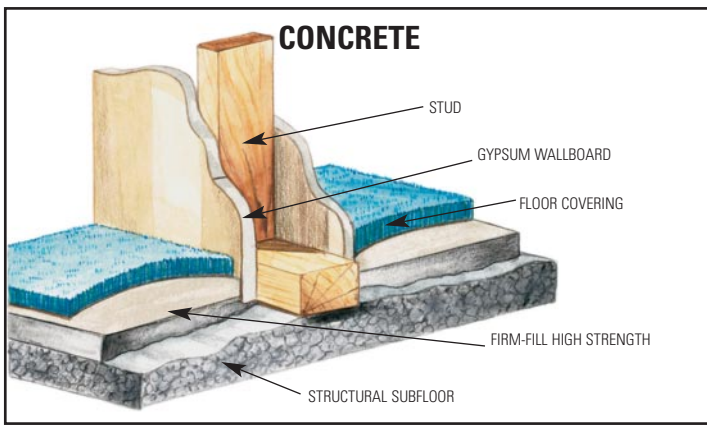
Firm-Fill[®]
High Strength

From sprawling malls to sky-scraping office buildings, FIRM-FILL HIGH STRENGTH is the floor underlayment solution for renovation and new construction projects.

Whether it's leveling a small office or resurfacing an entire building, FIRM-FILL HIGH STRENGTH is the most cost-effective choice to correct damaged, uneven or cracked concrete in commercial projects.

From a feather edge to 3½ inches, FIRM-FILL HIGH STRENGTH provides exceptional surface hardness with compressive strengths up to 3800 psi.

- Superior bonding characteristics
- Ideal for new construction or renovation
- Rapid installation; up to 40,000 sq. ft. per day
- Listed in over 82 UL Assemblies; ICC-ES Report
- Strong, crack-resistant, long-lasting surface for finished floor coverings
- Installed only by expertly trained, Licensed Applicators for Quality Assurance



Recommended Specifications

PART I GENERAL

- 1.1 Scope – Specify to meet project requirements
- A. Work included:
1. **FIRM-FILL HIGH STRENGTH**
 2. Hacker Floor Primer
 3. Hacker Floor Sealer
- 1.2 Qualifications
- A. **FIRM-FILL HIGH STRENGTH** shall be installed by Licensed Applicators of Hacker Industries, Inc., using approved mixing and pumping equipment.
- B. **FIRM-FILL HIGH STRENGTH** shall be delivered in original, unopened bags and protected from exposure to the elements after delivery. Do not allow material to get wet.
- C. Install before or after drywall as specified.
- D. Before, during, and after installation of **FIRM-FILL HIGH STRENGTH**, the building interior shall be continuously ventilated and heated to a minimum of 50°F (approx. 10°C).
- E. Compressive strength can be specified from 2500 psi to 3800 psi (approx. 17.2 to 26.2 MPa).
- F. All material specified herein shall be approved by Hacker Industries, Inc.

PART II PRODUCTS

- 2.1 Materials
- A. Gypsum Concrete- **FIRM-FILL HIGH STRENGTH** as supplied by Hacker Industries, Inc., Newport Beach, CA.
- B. Hacker Floor Primer
- C. Hacker Floor Sealer
- D. Sand- 1/8" (approx. 3mm) or less washed plaster or mortar sand meeting requirements of Hacker Industries, Inc.'s Sand Guidelines.
- E. Mix Water- Potable and free from impurities.

PART III EXECUTION

3.1 Condition of Subfloor

- A. The General Contractor shall provide structurally sound (L/360) subfloor, broom cleaned, and free of oil, grease or other contaminants. The concrete substrata shall be 28 days or older.
- B. Before installation, the General Contractor shall inspect and approve the condition of the subfloor.
- 3.2 Preparation of Subfloor
- A. All cracks and voids shall be filled with a quick-setting taping compound to prevent leakage.
- B. Prime the subfloor using Hacker Floor Primer and/or Sealer. Priming requirements may vary according to subfloor. Multiple coats may be necessary.
- 3.3 Mixing Instructions
- A. 4 to 6 gallons (approx. 15.1 to 22.7 L) of water and sand as specified per 80 pound (approx. 36.3 kg) bag of **FIRM-FILL HIGH STRENGTH**. Do not overwater. Water amount will change with wetness of sand.
- B. **FIRM-FILL HIGH STRENGTH** mix proportions and methods shall be in strict accordance with Hacker recommendations.
- 3.4 Underlayment Application
- A. Scheduling- Application shall not begin until the building is enclosed, including windows, doors, and roof.
- B. Application- The minimum thickness of **FIRM-FILL HIGH STRENGTH** varies with the type of floor system. **FIRM-FILL HIGH STRENGTH** can be feather edged in low traffic areas over all concrete substrates. The maximum thickness of **FIRM-FILL HIGH STRENGTH** shall be 3 1/2" (approx. 89mm) in one lift.
- C. Protection- After installation, temporary wood planking shall be placed

- wherever the underlayment will be subject to heavy wheeled or concentrated loads.
- D. Drying: The General Contractor shall provide continuous ventilation and adequate heat to rapidly remove moisture from the area until the underlayment is dry. Prior to the installation of finished floor goods, **FIRM-FILL HIGH STRENGTH** shall be free from any moisture. Consult flooring contractor for recommended procedures to test for dryness.
- E. **FIRM-FILL HIGH STRENGTH** is suitable for interior applications only and shall be covered by a finished floor material.
- 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 the specified floor covering. The floor covering manufacturers specifications and requirements supercede 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 shall be used as a guideline only.
- 3.6 Field Quality Control
- A. Slump Test- **FIRM-FILL HIGH STRENGTH** shall be tested for slump as it is being installed using a 2" by 4" (approx. 51mm by 102mm) cylinder. The patty size shall be 7" (approx. 178mm) plus or minus 1/2" (approx 13mm) in diameter.
- B. Field Samples- Testing of molded cube samples shall be in accordance with ASTM: C472 modified using split brass molds. Prior to independent sampling, contact Hacker Industries, Inc., to insure proper ASTM methods are followed.



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For the Licensed Applicator in your area, please call our toll-free number (800) 642-3455.