

# FIRM-FILL® 2010

## FLOOR UNDERLAYMENT



- Ideal for wood-frame and multi-family construction
- Contributes to excellent STC and IIC ratings
- Install over a Hacker Sound Mat for additional sound isolation
- UL Designs for 1 to 2 hour fire ratings
- Lightweight and crack-resistant
- Fast installation and rapid set time; can be walked on in 90 minutes
- Helps contribute points to LEED® project certification
- Creates a flat, durable surface for finished floor coverings
- Installed only by trained, Licensed Applicators

### Product Description

FIRM-FILL® 2010 is designed for use over wood subfloors. It stiffens the subfloor to eliminate squeaks and nail pops. With additional surface hardness, FIRM-FILL® 2010 provides compressive strengths from 1950-2750 psi (13-19 MPa). Depending on compressive strength, it can be installed before or after drywall. To keep project on schedule and on budget, Licensed Applicators can install over 25,000 sq. ft. of FIRM-FILL® 2010 in one day.

FIRM-FILL® 2010 is mixed on the job site with local sand (per ASTM E-11) and water to create a lightweight slurry. Installed at a minimum of 3/4" thick, the underlayment weighs approximately 7.2 psf with a dry density range of 105-115 pcf.

For new construction, FIRM-FILL® 2010 is a cost-efficient way to create a smooth, hard surface for finished floor coverings while offering exceptional compressive strengths matched with superior acoustical control and fire resistance properties. To achieve additional sound isolation, use FIRM-FILL® 2010 with a Hacker Industries, Inc. sound control mat.

### Limitations

- Do not use FIRM-FILL® 2010 in exterior locations, below grade, or where continuous exposure to moisture is likely.
- Shall not be used as a wear surface; must be covered by a finished floor covering.
- Structure shall be designed so that deflection does not exceed L/360 live or dead load. Certain floor coverings may have more restrictive deflection limits.
- If installed above a crawl space, subfloor must be protected by a vapor barrier.
- No single application of FIRM-FILL® 2010 shall exceed 3" in depth.
- FIRM-FILL® 2010 is but one component of an effective sound and fire control system. Care must be taken in the installation of all components to assure the ultimate design performance. Published acoustical and fire system tests were conducted under controlled laboratory or field conditions and reflect results applicable only to those specific assemblies.

### Installation

Before, during, and after the installation of FIRM-FILL® 2010, the building must be enclosed and the temperature maintained at a minimum of 50°F (10°C). Prior to the installation of FIRM-FILL® 2010, the subfloor shall be structurally sound (L/360) and broom clean, dry and free from oil, grease, paraffin, laitance, wax or other contaminants. Concrete subfloors shall be 28 days or older. For on-grade applications over concrete, measure the Moisture Vapor Emission Rate (MVER) per ASTM F1869. MVER shall not exceed 3lbs./1000 sq. ft. per 24 hours.

Prime wood subfloors per recommended specifications before installing underlayment. Adequate ventilation shall be provided by the General Contractor (GC) to

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**Installation (cont.)**

ensure proper drying of FIRM-FILL® 2010. If necessary, the GC shall provide mechanical ventilation. Depending on thickness and drying conditions, the underlayment will dry within 10 to 14 days. 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.

Finished floor coverings can be installed when the FIRM-FILL® 2010 is completely dry. Consult flooring contractor for recommended procedures to test for dryness and acceptable levels of moisture. Reference Hacker Industries, Inc.'s Guidelines for Installing Finished Floor Coverings. This guideline is not a warranty and shall be used as a guideline only. See ASTM F2419.

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**Product Data**

**Compressive Strengths per ASTM C472 Modified:** 1950 to 2750 psi  
(13 to 19 MPa)  
**Approximate Dry Density:** 105 to 115 pcf

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**Compliance**

- ICC-ES ER-4147
- City of Los Angeles Research Report No. 24540
- FHA - HUD MR 1255
- Tile Council of America (F180, F200, RH111, RH122)

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**UL Designs**

G565	G568	J917	J919	J924	J927	J931	J957	J966
J991	J994	K906	L001	L004	L005	L006	L201	L202
L206	L208	L209	L210	L211	L212	L501	L502	L503
L504	L505	L506	L507	L805	L509	L510	L511	L512
L513	L514	L515	L516	L517	L518	L519	L520	L521
L522	L523	L524	L525	L526	L527	L528	L529	L530
L531	L532	L534	L535	L536	L537	L538	L539	L540
L541	L542	L543	L544	L545	L546	L548	L549	L550
L551	L552	L553	L555	L556	L557	L558	L559	L560
L562	L563	L571	L585	L598				

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**Related Products**

Hacker Floor Primer, Hacker TopCoat SP and Hacker Floor Sealer are available for use with FIRM-FILL® 2010. Contact Hacker Industries, Inc. at (800) 642-3455 for more information.

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**Warranty**

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

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**Submittal Approvals**

Project Name: \_\_\_\_\_  
Contractor/Architect: \_\_\_\_\_  
Date: \_\_\_\_\_

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**Product Information**

See HackerIndustries.com for current recommended product specifications and literature.

**WARNING!**

When mixed with water, this product hardens and becomes extremely hot. DO NOT attempt to make a cast enclosing any part of the body using this material. Failure to follow these instructions may cause severe burns that may require surgical removal of affected tissue or amputation of limb. Portland cement is strongly alkaline. Direct contact can be corrosive

and cause severe damage or chemical burns to eyes and wet, moist skin. Avoid contact with eyes and skin. Wear protective glasses and clothing. If eye contact occurs, immediately flush thoroughly with water for 30 minutes and seek medical advice. Inhalation of dust may be corrosive or cause chemical burns or irritation to nose, throat and respiratory tract.

Avoid breathing dust. Use a NIOSH/MSHA-approved dust respirator. Wash thoroughly with soap and water after use. Do not ingest. If ingested, call a

physician. Product safety, call (800) 642-3455. **KEEP OUT OF REACH OF CHILDREN.**

**TRADEMARKS**

FIRM-FILL, GYP-SPAN, Let Our Products FLOOR You and the associated logos are trademarks of Hacker Industries, Inc.

**NOTICE**

We shall not be liable for incidental or consequential damages, directly or indirectly, sustained, nor for any loss caused by application of these goods not in accordance with current printed instruction or for other

than the intended use. Our liability is expressly limited to replacement of defective goods. Any claim shall be deemed waived unless made in writing to us within 30 days from date it was or reasonably should've been discovered.

**SAFETY FIRST**

Follow good safety/industrial hygiene practices during installation. Wear appropriate personal protective equipment. Read MSDS and literature prior to specification and installation.

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**Hacker Industries, Inc.**

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Hacker Industries, Inc.!

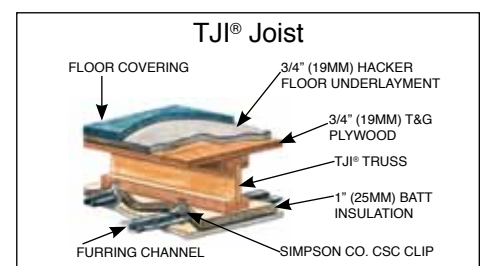
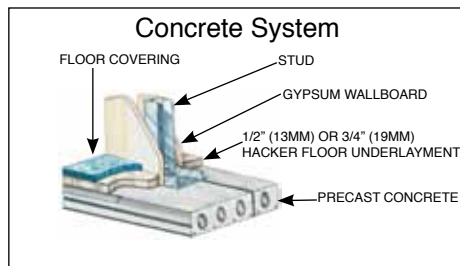
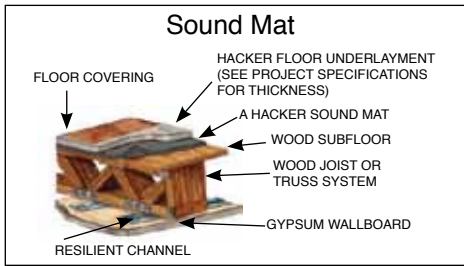
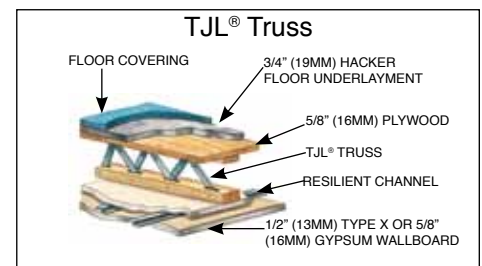
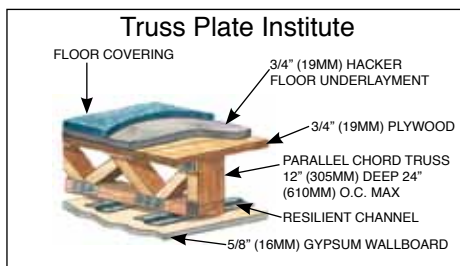
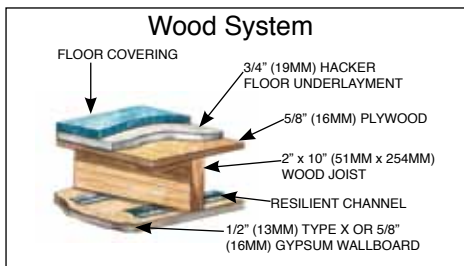


# **FIRM-FILL®** **2010+**

***FIRM-FILL® 2010+** is Hacker Industries, Inc.'s new underlayment solution over wood, precast or concrete subfloors in apartments, custom homes, and renovation projects. This new formulation has compressive strengths over 3000 psi.*

***FIRM-FILL® 2010+** stiffens subfloors and eliminates nail squeaks and pops. Its superior healing characteristics provide a smooth, durable, flat, non-structural surface for finished floor coverings.*

- **When used in a properly constructed floor-ceiling assembly, FIRM-FILL® Brand products achieve superior STC and IIC rating.**
- **Installed exclusively by Licensed Applicators nationwide.**
- **Over 100 UL Listings; ICC-ES Legacy Report.**
- **Rapid, efficient installation; mixes quickly, easy to finish.**
- **Has incredible surface hardness three hours after pouring.**
- **Three billion sq. ft. of Hacker Floor Underlayments installed nationwide.**



These drawings shall not be used without a complete evaluation by the owner's design professional to verify the suitability of its use with the project's specific application.

TRUS® TJL® and TJL® are trademarks of the TRUS, JOIST™ Corporation

## Recommended Specifications for FIRM-FILL® 2010+

### PART I GENERAL

- 1.1 Scope – Specify to meet project requirements
  - A. Work included:
    1. **FIRM-FILL® 2010+**
    2. Division 3 Section - Gypsum Cement Underlayment
    3. Division 9 Section - Acoustical Treatment
- 1.2 Qualifications
  - A. **FIRM-FILL® 2010+** shall be installed by Licensed Applicators of Hacker Industries, Inc., using approved mixing and pumping equipment with a water meter.
  - B. **FIRM-FILL® 2010+** shall be delivered in original, unopened bags and protected from exposure to the elements. Product shall not be used beyond shelf life.
  - C. Install before or after drywall, as specified.
  - D. Before, during, and after installation of **FIRM-FILL® 2010+** (until dry), the building interior shall be continuously ventilated and heated to a minimum of 50°F (10°C).
  - E. All materials, unless otherwise specified, shall be supplied by Hacker Industries, Inc.

### PART II PRODUCTS

- 2.1 Materials
  - A. Gypsum Concrete: **FIRM-FILL® 2010+**; 2200 - 3200 psi (13-19 MPa)
- 2.2 Accessories
  - A. Sound Mat: Hacker Sound Mat II; FIRM-FILL® SCM; or as otherwise specified
  - B. Hacker Floor Primer
  - C. Hacker Floor Sealer, if specified
  - D. Hacker TopCoat™ SP, if specified
  - E. Sand Aggregate: 1/8" (3mm) or less washed plaster or masonry sand meeting requirements of Hacker Industries, Inc. Sand Guidelines.
  - F. Mix Water: Potable and free from impurities

### PART III EXECUTION

- 3.1 Condition of Subfloor
  - A. The General Contractor (GC) is responsible for providing a structurally sound (L/360)

- B. Before installation, the GC shall approve the condition of the subfloor and test the existing subfloor for dryness.
- 3.2 Preparation of Subfloor
  - A. All cracks and voids shall be filled with a quick-setting patching or taping compound or equal.
  - B. Plywood/OSB: Spray one coat Hacker Floor Primer using one diluted gallon (3.78L) per 500 square feet (47m²).
  - C. Other substrata: Conditions may vary. Consult Hacker Industries, Inc. for recommended floor preparation.
- 3.3 Mixing Instructions
  - A. 6 to 7 gallons (23 to 26L) of water as specified per 80 lb. (36kg) bag of **FIRM-FILL® 2010+**. Do not overwater. Water amount will change depending upon wetness of sand.
  - B. **FIRM-FILL® 2010+** mix proportions and methods shall be in strict accordance with Hacker recommendations.
- 3.4 Underlayment Application
  - A. Application: **FIRM-FILL® 2010+** can be installed at 3/4" (19mm) minimum over wood, 1/2" (13mm) minimum over precast or poured in place concrete. Contact Hacker Industries, Inc. for recommended thickness over sound control mats. Place continuously until installation is complete.
  - B. Protection: After installation, temporary wood planking shall be placed by GC wherever the underlayment is subject to wheeled or concentrated loads.
  - C. 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

- D. **FIRM-FILL® 2010+** is suitable for interior applications only and shall be covered by a finished floor covering.
  - 3.5 Preparation for Installation of Floor Coverings
    - A. Sealing: Any areas where the underlayment surface has been damaged shall be cleaned and sealed. The 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 guideline is not a warranty and shall be used as a guideline only. See ASTM F2419.
  - 3.6 Field Quality Control
    - A. Slump Test: **FIRM-FILL® 2010+** shall be tested for slump as it is being installed using a 2" by 4" (51mm by 102mm) cylinder. The patty size shall be 8 1/2" (216mm) +/- 1/2" (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 testing consult Hacker Industries, Inc.
- SUBJECT TO EXPRESS WARRANTY STATED ON HACKER INDUSTRIES, INC.'S WEBSITE.**



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



Product Helps Contribute Points Toward LEED® Credits