

SUBMITTAL FORM

Firm-Fill® Gypsum Concrete Underlayments

Products FIRM-FILL® “Super Blue”, FIRM-FILL® 2010+, FIRM-FILL® 3310 Classic, FIRM-FILL® 3310+, FIRM-FILL® High Strength, FIRM-FILL® 4010+, FIRM-FILL® CMD, Gyp-Span® Radiant

Product Description FIRM-FILL® Gypsum Concrete Underlayments (GCU), from Hacker Industries, Inc., are formulated for use over wood or concrete subfloors in multifamily construction. FIRM-FILL® GCU provides compressive strengths from 1200 - 5200 psi (8.3 - 35.9 MPa). Depending on compressive strength specified, it can be installed before or after drywall. To keep projects on schedule and on budget, Hacker Industries, Inc.’s Licensed Applicators can install over 40,000 sq. ft. of FIRM-FILL® GCU in one day.

FIRM-FILL® GCU 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 ½” thick over concrete or ¾” thick over wood, the underlayment weighs approximately 7 to 7.7 psf with a dry density range of 105-130 pcf.

For new construction or renovation, FIRM-FILL® GCU 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® GCU with FIRM-FILL® SCM Sound Control Mats.

TECHNICAL DATA	PROPERTIES	ASTM
Weight	7 lb/ft ² to 7.7 lbs/ft ² (34.2 kg/m ² - 37.6 kg/m ²) at 3/4” (19 mm)	C472 M
Thickness	3/4” (19 mm) (minimum over wood) to 3-1/2” (89 mm), thickness over concrete varies with project	F2419
Compressive Strength	1200 to 5200 psi (8.3 to 35.9 MPa)	C472 M
Thermal Performance	K-value of 2.45 BTU/(hr.ft.F°); R-value of 0.36 (ft ² .hr.F°)	C177
Fire Hazard Classification	Flamespread index 0; Fuel contribution 0; Smoke density 0	E84
Sand	1/8” (3 mm) or less washed plaster or masonry sand	C33
Flexural Strength	900 to 1300 psi (6.21 to 8.86 MPa)	C348

Note: Compressive strengths published herein were achieved under controlled laboratory conditions. Actual field results may differ due to environmental conditions, regional sand variations, inconsistent proportioning of field applied water, sand and Hacker Floor Underlayment, as well as differences in mixing/pumping equipment.

- Product Benefits**
- Ideal for use over wood or concrete subfloors in multifamily construction
 - Essential for excellent STC and IIC ratings
 - Install over FIRM-FILL® SCM for additional sound isolation
 - ICC-ESR 3386 and IAPMO ER474 approved
 - Integral part of over 105 UL designs listings
 - Fast installation and rapid set time; can be walked on in 90 minutes
 - Contributes points to LEED®
 - Installed only by trained, Licensed Applicators across North America

- Limitations**
- Shall not be used 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 such as marble, limestone, travertine and wood may have more restrictive deflection limits. Consult the appropriate floor covering manufacturer for recommendations.
 - If installed above a crawl space, subfloor must be protected by a vapor barrier.
 - No single application of FIRM-FILL® GCU shall exceed 3-1/2” depth.
 - FIRM-FILL® GCU 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® GCU, the building must be enclosed and the temperature maintained at a minimum of 50°F (10°C). Prior to the installation of FIRM-FILL® GCU, the subfloor shall be structurally sound (L/360) and broom clean, dry and free from oil, grease, paraffin, laitance, wax or other contaminants. Concrete sub-floors 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 ensure proper drying of FIRM-FILL® GCU. If necessary, the GC shall provide mechanical ventilation. Depending on thickness and drying conditions, the underlayment should 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. After installation, temporary wood planking shall be placed by the GC wherever the floor underlayment will be subject to wheeled or concentrated loads.

Finished floor coverings can be installed when the FIRM-FILL® GCU 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.

Compliance

- ICC-ESR 3386
- IAPMO ER-474
- City of Los Angeles Research Report No. 24540
- FHA - HUD MR 1255
- Tile Council of North America (F180, F200, RH111, RH1222)

UL Designs

G230	G516	G524	G553	G561	G565	G566	G568	G587	G594	G595
J917	J919	J920	J924	J927	J931	J957	J991	J994	K906	L006
L201	L202	L206	L208	L209	L210	L211	L212	L501	L502	L503
L504	L505	L506	L507	L508	L509	L510	L511	L512	L513	L514
L515	L516	L517	L518	L519	L520	L521	L522	L523	L525	L526
L528	L529	L530	L533	L534	L535	L536	L537	L538	L539	L540
L541	L545	L546	L547	L550	L556	L557	L558	L562	L563	L569
L570	L571	L574	L576	L577	L579	L581	L583	L585	L587	L588
L589	L590	L592	L593	L598	M500	M502	M503	M504	M506	M508
M512	M513	M517	M519							

WARRANTY

SUBJECT TO EXPRESS WARRANTY STATED ON HACKER INDUSTRIES, INC.'S WEBSITE.

Submittal Approvals

Project Name: _____

Contractor/Architect: _____

Date: _____

PRODUCT INFORMATION

See www.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. LEED® is a registered trademark of the U.S. Green Building Council.

NOTICE

Hacker Industries, Inc. 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. Hacker Industries, Inc.'s 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 have been, discovered.

SAFETY FIRST

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

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