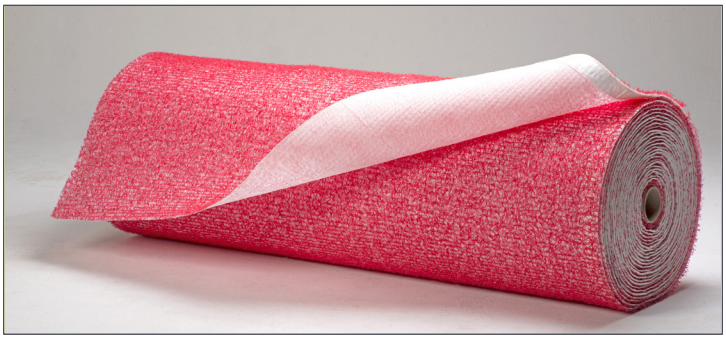
Hacker Industries, Inc.

Firm-Fill®

Sound Control Mats



1. Product Name

- Firm-Fill® Sound Control Mats (SCM)

Types

- Firm-Fill® SCM-125
- Firm-Fill® SCM-250
- Firm-Fill® SCM-400
- Firm-Fill® SCM-750

2. Manufacturer

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3. Product Description

Basic Use

Firm-Fill® Sound Control Mats (SCM) are durable, lightweight sound control mats that provide a quieter environment to meet demanding tenants expectations. Firm-Fill® SCM is intended for indoor use over wood and concrete floors in multifamily, light commercial or renovation installations. It is engineered to limit impact sound transmission between floors when used in conjunction with a Firm-Fill® Gypsum Concrete Underlayment (GCU). The package dramatically improves STC (airborne noise), like a loud radio, as well as IIC (impact noise), like someone jumping off a bunk bed, as much as 15-25 points. Firm-Fill® SCM meets the latest IBC codes and carries a Class-A fire rating under ASTM E84

Firm-Fill® SCM types are color coded by thickness to assure the specified thickness is installed on your project and to limit installer error or mistakes made in a dark warehouse. If you have specified Firm-Fill® SCM-250 (1/4"), you will see a red core; specify Firm-Fill® SCM-125 (1/8") and the core will be blue.

Composition and Materials

Firm-Fill® SCM mat products are composed of an entangled virgin polypropylene net core with a non-woven, polypropylene fabric backing.

System Features and Benefits

- Class A fire-rated product (tested per ASTM E-84)
- Lightweight and easy to install
- Improves STC and IIC sound ratings, excellent at reducing sound transmissions in mid and high frequencies
- Only color coded sound control mat on the market, aiding in quality control
- Minimal deflection, no creep or long-term degradation
- Integral component of a well-designed floor/ceiling assembly
- When used with Firm-Fill® GCU, the system have 1-hour to 2-hour UL fire ratings
- Code approvals: IAPMO ER-474, ICC-ESR-3386, LA City RR 24540, HUD 1255e and over 105 UL Fire Rated Designs
- Installed by trained, Licensed Applicators across the United States and Canada
- Specify with Firm-Fill® GCU for improved acoustical performance in wood frame construction and concrete structures
- Acheived Exta Heavy Duty Rating per ASTM C627

Options/Accessories

- Firm-Fill® Gypsum Concrete Underlayment
- Firm-Fill® 2010+ Gypsum Concrete Underlayment
- Firm-Fill® 3310 Classic Gypsum Concrete Underlayment
- Firm-Fill® 3310+ Gypsum Concrete Underlayment
- Firm-Fill® High Strength+ Gypsum Concrete Underlayment
- Firm-Fill® 4010+ Gypsum Concrete Underlayment
- Firm-Fill® CMD Gypsum Concrete Underlayment
- GYP-SPAN® Radiant Gypsum Concrete Underlayment
- Firm-Fill® Reinforcement
- Hacker Sound Control Mat (SCM) Tape
- Hacker Perimeter Isolation Strip
- Hacker Floor Sealer
- Hacker Primer
- Hacker TopCoat™ SP (Surface Preparation)

Limitations

1. Shall not be used in exterior locations, below grade or where continuous exposure to moisture is likely.
2. Shall not be used without a Firm-Fill Brand Gypsum Concrete Underlayment.
3. Before, during and after installation, the building shall be enclosed and the temperature maintained at a minimum of 50° F.
4. Structure shall be designed so that deflection does not exceed L/360 live or dead load. Certain floor coverings, such as marble, limestone, and wood, may have more restrictive deflection limits. Consult the appropriate floor covering manufacturer for their recommendations. Do not use mechanical fasteners as mechanical fasteners conduct impact sound, reducing acoustical isolation.

5. Firm-Fill® SCM shall always be installed with a perimeter isolation strip.
6. Firm-Fill® SCM is one component of an effective sound attenuation control system. Care must be taken in the installation of all components to ensure the ultimate design performance. Published acoustical and fire system tests were conducted under controlled laboratory and/or field conditions and reflected results are applicable only to those specific assemblies.

4. Technical Data

Applicable Standards

Underwriters Laboratories (UL)

- Please see Table 1

Approvals

International Association of Plumbing and Mechanical Officials (IAPMO)

- **IAPMO ER-474**

International Code Council (ICC)

- **ICC-ESR 3386**

Federal, State and Local Governments

- City of Los Angeles **RR No. 24540**
- U.S. Department of Housing and Urban Development **FHA-HUD-1255**

Table 1—US UL and Canadian ULC Ratings (as a system with any Firm-Fill Gypsum Concrete Underlayment)

UL									
G561	J966	L206	L505	L515	L525	L535	L545	L556	L585
G565	J991	L208	L506	L516	L526	L536	L546	L557	L590
G568	J994	L209	L507	L517	L527	L537	L547	L558	L592
J917	K906	L210	L508	L518	L528	L538	L548	L559	L593
J919	L001	L211	L509,	L519	L529	L539	L549	L570	L598
J920	L004	L212	L510	L520	L530	L540	L550	L574	M502
J924	L005	L501	L511	L521	L531	L541	L551	L560	M506
J927	L006	L502	L512	L522	L532	L542	L552	L562	M508
J931	L201	L503	L513	L523	L533	L543	L553	L563	M512
J957	L202	L504	L514	L524	L534	L544	L555	L571	M513
ULC									
L003	L511	M500	M503	M506	M508	M514	M520	—	—
L201	L512	M501	M505	M507	M509	M518	—	—	—

Robinson Wheel Tests

Extra Heavy Duty

- Minimum 3/4" (19 mm) of 2000 psi (13.8 MPa) FIRM-FILL® Brand Gypsum Underlayment over 1/8" (3 mm) FIRM-FILL® SCM-125
- Minimum 1" (25 mm) of 2000 psi (13.8 MPa) FIRM-FILL® Brand Gypsum Underlayment over 1/4" (6 mm) FIRM-FILL® SCM-250
- Minimum 1" (25 mm) of 2000 psi (13.8 MPa) FIRM-FILL® Brand Gypsum Underlayment over 3/8" (10 mm) FIRM-FILL® SCM-400

Light Commercial

- Minimum 1" (25 mm) of 2500 psi (17.2 MPa) GYP-SPAN® Brand Gypsum Underlayment over 1/4" (6 mm) Hacker Sound Mat II

5. Installation

Preparation

Prior to Installation:

Check wall bottom plate requirements. Some finished floor heights will exceed that of a single plate wall. Review elevation changes at doorway entrance and at all interior doors, cabinetry and plumbing for transitions and differences and any other issues with the general contractor (GC) prior to arriving at the job site.

Condition of Subfloor:

A. Subfloor shall be structurally sound (L/360), broom clean, dry and free from oil, grease, paraffin, laitance, wax or other contaminants. Concrete substrate shall be 28 days or older.

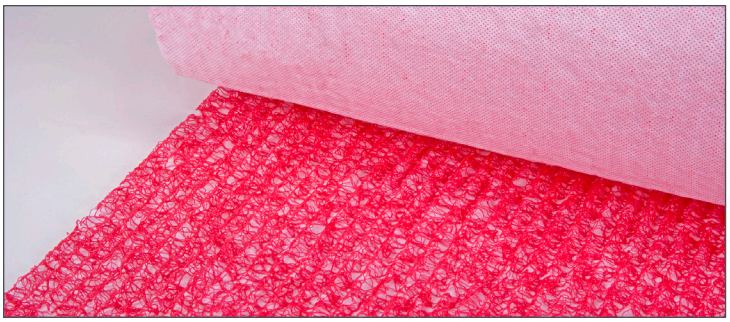
B. **Leak prevention:** All cracks and voids should be filled with a quick-setting patching or taping compound or equal where leakage may occur.

Method

A. Scheduling: installation of Firm-Fill® SCM is to be done 1 to 2 days prior to the installation of FIRM-FILL® GCU. Protect Firm-Fill® SCM from trade traffic prior to application of Firm-Fill® Gypsum Concretes.

B. Installation:

1. Perimeter Isolation Strip shall be properly installed around areas where FIRM-FILL® SCM will be installed, including any penetrations through the subfloor, including plumbing pipes, beams, heating and cooling ducts or electrical boxes. The Perimeter Isolation Strip must be attached to the wallboard using either staples, or spray adhesive. In all cases, the attachment points must be above the final poured Firm-Fill® GCU surface. Place the Perimeter Isolation around all penetrations in a similar manner.
2. FIRM-FILL® SCM is laid directly over the concrete, plywood or OSB subfloor, with the colored mesh down and white fabric side up. It should be pushed up tightly to the isolation barrier that was previously installed around the perimeter of the floor; the gap between the floor and wall should not exceed 0.25" (6 mm).
3. Firm-Fill® SCM edge must be placed adjacent to other pieces without any gap. Rolls are manufactured with the self-adhesive selvage edge folded over on the fabric top. Starting at the base of the roll, smooth the selvage edge to the adjacent piece. If necessary, tape (duct tape or Hacker Industries, Inc. approved tape) the fabric overlaps snug to the fabric on the adjoining FIRM-FILL® SCM. Tape all other seams to prevent FIRM-FILL® Gypsum Concretes from leaking or penetrating into the core material during pour. Double tape seams if necessary. Tape all points where the FIRM-FILL® SCM and the Perimeter Isolation Strip meet in an "L" formation to prevent FIRM-FILL® Gypsum Concretes from leaking or penetrating into the core material during pour.



Application of Firm-Fill Brand Gypsum Concretes

A. Taping and seams of FIRM-FILL® SCM shall be checked and approved by the GC prior to the installation of FIRM-FILL® Gypsum Concretes.

B. Install FIRM-FILL® GCU at the required minimum thickness. Thicker acoustical control mats require a thicker pour of gypsum concrete. See chart below showing minimum thickness requirements.

SCM	GCU Required Depth
FIRM-FILL® SCM-125 (1/8")	3/4" (19mm)
FIRM-FILL® SCM-250 (1/4")	1" (25mm)
FIRM-FILL® SCM-400 (3/8")	1" (25mm)
FIRM-FILL® SCM-750 (3/4")	1-1/2" (38mm)

C. Protection: after installation, temporary wooden planking shall be placed by the general contractor wherever the underlayment is subject to wheeled 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. If necessary, the general contractor shall provide mechanical ventilation and heat. 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 acceptable moisture levels. To avoid potential problems during the drying process, the general contractor shall consult Hacker Industries, Inc.'s Drying Conditions Flyer and Hacker Industries, Inc.'s website for additional information.

Preparation for Installation of Floor Coverings

A. **Sealing:** Any areas where the underlayment surface has been damaged shall be repaired, cleaned and sealed. The floor covering manufacturer's specifications and requirements supersede these recommendations.

B. **Floor Covering Procedures:** 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. Also see ASTM F2419.

C. After finished floor covering is installed, trim the perimeter isolation strip below the finished flooring. Fill the groove with a bead of acoustical sealant or elastomeric sealant. Do not allow ceramic tile, grout or Firm-Fill® Gypsum Concrete to come in contact with the wall. Shim the molding above the finished floor covering and caulk with an acoustical sealant.

6. Availability and Cost

Firm-Fill® SCM are available from trained, Licensed Applicators. Contact Hacker Industries, Inc. for the Licensed Applicator in your location. Cost information may be obtained from Hacker Industries, Inc. Licensed Applicators.

7. Technical Services

Technical assistance, including on-site consulting, application supervision, product literature, test results, project lists, and assistance in preparing project specifications, is available by contacting Hacker Industries, Inc.

8. Warranty

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 INSTRUCTIONS 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 HACKER INDUSTRIES, INC. WITHIN 30 DAYS FROM DATE IT WAS, OR REASONABLY SHOULD HAVE BEEN, DISCOVERED.

9. Maintenance

Contact Licensed Applicator for maintenance.

10. Filing Systems

- 4Spec
- BIMSmith
- CAD Details
- Sweets
- Division 03 54 13 - Gypsum Cement Underlayment
- Division 09 80 00 - Acoustic Treatment
- ConstructConnect
- Dodge