

# FIRM-FILL® SCM-400

## SOUND CONTROL MAT

 **Hacker Industries, Inc.**  
SUBMITTAL FORM

Technical Data	Properties	ASTM
Roll Weight	45 lb (17.7 kg)	
Core Thickness	3/8" (10 mm)	
Width	60 in (152 cm)	
Core Color	Purple	
Packaging Length	80 ft (24.5 m)	
Total Square Feet	400 ft <sup>2</sup> (37.16 m <sup>2</sup> )	
Effectiveness of Reducing IIC Sound	ΔIIC 20.0'	E2179
Fire Resistance	Class A	D2859

- Benefits**
- Provides additional impact noise control when a thicker sound mat is specified
  - Cost-effective way to address Impact Insulation Class (IIC) concerns
  - Minimal deflection, and no creep or long term degradation
  - Excellent performance in wood frame construction and concrete structures
  - Helps to achieve higher delta IIC numbers
  - Installed only by Licensed Applicators of Hacker Industries, Inc.

**Product Description** FIRM-FILL® SCM-400 is a nominal 3/8" (10 mm), entangled polymeric filament sound control mat designed to limit impact noise between floors. Designed for critical applications in which FIRM-FILL® Brand Gypsum Concrete will be utilized. Use in conjunction with a minimum 1-1/4" FIRM-FILL® Brand Gypsum Concrete topping.

- Limitations**
- Shall not be used in exterior locations, below grade, or where continuous exposure to moisture is likely.
  - Shall not be installed before drywall.
  - Shall not be used without a FIRM-FILL® Brand Gypsum Concrete topping.
  - 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 their recommendations.
  - Do not use mechanical fasteners to install FIRM-FILL® SCM-400, as mechanical fasteners conduct impact sound, reducing acoustical isolation.
  - FIRM-FILL® SCM-400 shall be installed with a perimeter isolation strip.
  - FIRM-FILL® SCM-400 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 reflect results applicable only to those specific assemblies.
  - Shall be stored in a cool, dry, well-ventilated area at a temperature of 60°F (15.5°C).

**Installation** Before, during, and after installation, the building must be enclosed and the temperature maintained at a minimum of 50°F (10°C). Prior to installation, the subfloor shall be structurally sound (L/360), broom cleaned, dry and free from oil, grease, paraffin, laitance, wax or other contaminants.

Attach perimeter isolation strip or approved alternative to the walls, conduit, flanges, ballasts, etc. in order to isolate or break the vibration transmission path between the floor and wall. Reinforcement is recommended in doorways and other high traffic or transition areas.

FIRM-FILL® SCM-400 is laid directly over the concrete, plywood or OSB subfloor, with the purple filament down and white fabric side up. It should be pushed up tightly to the isolation barrier. The gap between the floor and wall shall not exceed 0.25" (6 mm).

Abut FIRM-FILL® SCM-400 blue filament core touching the adjacent purple core without any gap. (Caution: do not overlap purple core.) Rolls are manufactured with the self-adhesive selvage edge folded over on the fabric top. When unrolled, the selvage edge remains in position. Starting at the base of the roll, smooth the selvage edge to the adjacent piece without gaps in filaments. If necessary, tape (2" [51 mm] duct tape or cellophane

**Installation cont.** tape) the 3" (76 mm) fabric overlaps snug to the fabric on the adjoining FIRM-FILL® SCM-400 strip. Tape all seams to prevent penetration into the core material during pour. Double tape seams if necessary. Use duct tape to seal seam at perpendicular connection of FIRM-FILL® SCM-400 sound mat and perimeter isolation strip. Ensure tape is installed at a 90 degree angle.

Finished floor coverings can be installed when the FIRM-FILL® Brand Gypsum Concrete is completely dry. Consult flooring contractor for acceptable levels of moisture and recommended procedures to test for dryness. 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.

	<b>Force Applied</b>	<b>Retained Thickness (%)</b>	<b>Actual Residual Thickness</b>
<b>Compressive Resistance</b>	42 lb per ft <sup>2</sup>	100.00	0.434"
	105 lb per ft <sup>2</sup>	99.50	0.437"
	505 lb per ft <sup>2</sup>	99.13	0.430"

	<b>Gypsum Underlayment</b>	<b>Sound Mat</b>	<b>Result</b>
<b>Robinson Wheel Test</b>	3/4" FIRM-FILL® 2010+	FIRM-FILL® SCM-125	Extra Heavy Duty
	1" FIRM-FILL® 2010+	FIRM-FILL® SCM-250	Extra Heavy Duty
	1" FIRM-FILL® 3310	FIRM-FILL® SCM-400	Extra Heavy Duty

**TEST PROCEDURE:** ASTM C627-10, *Standard Test Method for Evaluating Ceramic Floor Tile Installation Systems Using the Robinson-Type Floor Tester.* **CONCLUSION:** FIRM-FILL® SCM-125 / FIRM-FILL® SCM-250 / FIRM-FILL® SCM-400 meet the 2013 TCNA Handbook for Ceramic, Glass and Stone Tile Installation Guidelines for a rating of "Extra Heavy Duty Commercial Application."

<b>UL Designs</b>	G230	G516	G524	G553	G561	G565	G566	G587	G594	G595	J917	J919
	J920	J924	J927	J931	J957	J991	J994	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	L524	L525	L526	L527	L528	L529	L530	L532	L533	
L534	L535	L536	L537	L538	L539	L540	L541	L542	L543	L545	L546	
L547	L549	L550	L551	L552	L556	L557	L558	L560	L562	L563	L564	
L569	L570	L571	L574	L576	L577	L579	L581	L583	L585	L587	L588	
L589	L590	L592	L593	L598	M500	M502	M503	M504	M505	M506	M508	
M511	M513	M515	M517	M519								

**Test Data** Sound tests on underlayment systems have been conducted under laboratory and field conditions. Contact Hacker Industries, Inc. at (800) 642-3455 for information.

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

**Warranty**

Project Name: \_\_\_\_\_

**Submittal Approvals**

Contractor/Architect: \_\_\_\_\_

Date: \_\_\_\_\_

**PRODUCT INFORMATION**  
See [www.HackerIndustries.com](http://www.HackerIndustries.com) for current recommended product specifications and literature.

FIRM-FILL® SCM-400, for use with Hacker Floor Underlayments, is a component in an overall floor/ceiling assembly. Its performance is affected by every other component and the likelihood of achieving code compliance is contingent upon many other trades, including framers, plumbers and drywall contractors. Developers and general contractors are responsible for building properly and testing field performance as soon

as possible in order to ensure the reliability of the project.

**WARNING**  
Laboratory tests are not a guarantee of field performance because of the issues noted above and many other design and/or construction errors that may occur. Please consult a professional acoustical consultant to ensure plans are proper and that the floor/ceiling assembly can perform to expectations.

**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**  
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 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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