

Firm-Fill®

SCM-250

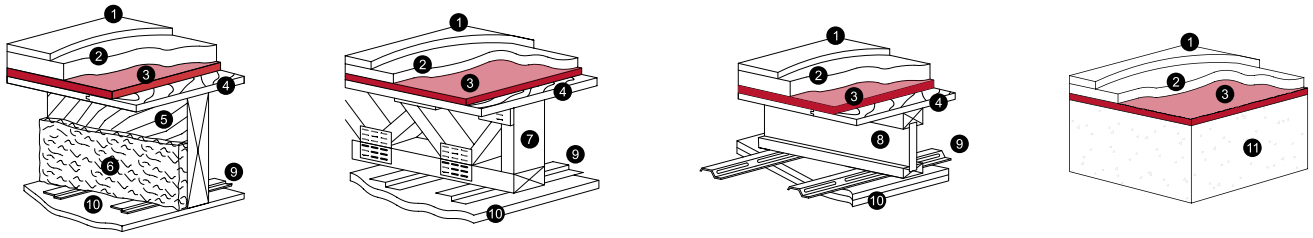
SOUND CONTROL MAT

When demanding consistent quality, specify **FIRM-FILL**® **SCM-250** to assist in achieving highly improved IIC sound performance in multi-family construction.

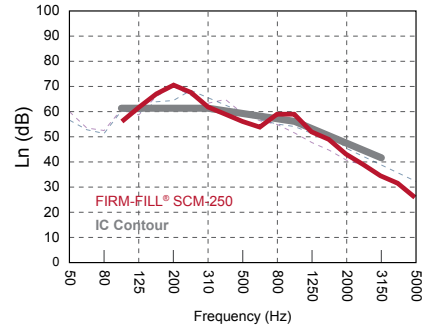
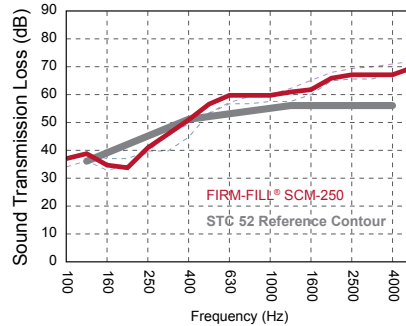
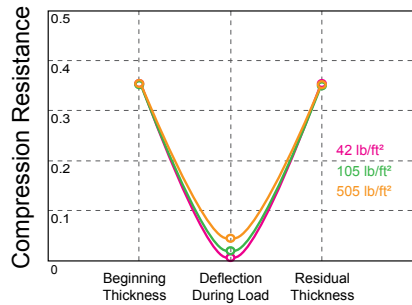
FIRM-FILL® **SCM-250** is an integral component of a well designed floor/ceiling assembly.

FIRM-FILL® **SCM-250** may be installed under a FIRM-FILL® Gypsum Concrete Floor Underlayment to produce an exceptional vibration isolation floor system.

- Assists in achieving improved IIC sound performance
- Integral component of a well designed floor/ceiling assembly
- Performs well in wood frame construction and concrete structures
- Minimal deflection, no creep or long term degradation
- Lightweight and easy to install
- Installed by trained Licensed Applicators



1 - FLOOR COVERING / 2 - FIRM-FILL® BRAND GYPSUM CONCRETE / 3 - FIRM-FILL® SCM-250 / 4 - PLYWOOD OR OSB / 5 - NOMINAL WOOD JOIST / 6 - BATT INSULATION / 7 - PARALLEL CHORD TRUSS / 8 - TJI® JOIST / 9 - RESILIENT CHANNEL / 10 - GYPSUM WALLBOARD / 11 - 6" CONCRETE



Performance in wood-frame and concrete structures



Improves Impact Insulation Class (IIC) ratings



Improves Sound Transmission Class (STC) ratings



Allows vapor to pass through to prevent trapped moisture



Class A Fire-rated Product



Installed by Hacker Industries trained Licensed Applicators



Requires dry-in (building must be fully enclosed before installation)



May not be used as a vapor barrier



Deflection must not exceed L/360 live or dead load



Do not use Mechanical Fasteners



Must be used with FIRM-FILL® Gypsum Concrete



Robinson Wheel tested Extra Heavy Duty



Install isolation barrier around perimeter of floor



Install FIRM-FILL® SCM-250 mat with red mesh down



Tape all seams with duct tape or 2" wide tape



Install FIRM-FILL® Gypsum Concrete



Apply Hacker TopCoat® SP when Specified



Install finished floor covering only when completely dry

SUBMITTAL FORM

TECHNICAL DATA	PROPERTIES
Roll Weight	39 lb (17.7 kg)
Thickness	1/4 in (6 mm) nominal
Width	58.5 in (149 cm)
Core Color	Red
Packaging Length	80 ft (24.5 m)
Total Square Feet	400 ft ² (37.16 m ²)
Effectiveness of Reducing IIC Sound	Δ IIC 20.0`
Steiner Tunnel Test	Class A

Benefits

- Assists in achieving improved IIC sound performance
- Integral component of a well designed floor/ceiling assembly
- Minimal deflection, no creep or long term degradation
- Performance in wood frame construction and concrete structures
- Lightweight and easy to install
- Installed only by trained Licensed Applicators across North America

Product Description

FIRM-FILL[®] SCM-250 is a nominal 1/4" (6 mm), random filament, corrugated "U"- groove core sound control mat designed to limit impact noise between floors. Designed for critical applications in which FIRM-FILL[®] Gypsum Concrete will be utilized. FIRM-FILL[®] SCM-250 prevents moisture from passing through to the substrate, an essential quality for wood frame construction. FIRM-FILL[®] SCM-250 is a Class A fire-rated product. Use in conjunction with a minimum 1" FIRM-FILL[®] Gypsum Concrete topping.

Limitations

- Shall not be used in exterior locations, below grade or where continuous exposure to moisture is likely.
- 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-250 as mechanical fasteners conduct impact sound, reducing acoustical isolation.
- FIRM-FILL[®] SCM-250 shall be installed with a perimeter isolation strip.
- FIRM-FILL[®] SCM-250 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.

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.

SUBMITTAL FORM

INSTALLATION (cont.)

FIRM-FILL® SCM-250 is laid directly over the concrete, plywood or OSB subfloor, with the red mesh down and white/red fabric side up. It should be pushed up tightly to the isolation barrier. Alternately, the FIRM-FILL® SCM-250 may be pushed up tightly to the gypsum wall board when the isolation barrier installed is FIRM-FILL® Perimeter Isolation. The gap between the floor and wall should not exceed 0.25" (6 mm).

FIRM-FILL® SCM-250 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. When unrolled, the selvage edge remains in position. Starting at the base of the roll, smooth the selvage edge to the adjacent piece. If necessary, tape (duct tape or 2" [51 mm]-wide tape) the 3" (76 mm) fabric overlaps snug to the fabric on the adjoining FIRM-FILL® SCM-250 strip. Tape all seams to prevent penetration into the core material during pour. Double tape seams if necessary.

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

Product Data

Core Thickness:	1/4 in (6 mm) nominal
Roll Weight:	39 lb (17.7 kg)
Packaging Length:	80 ft (24.5 m)
Core Width:	58.5 in (149 cm)
Total square feet:	400 ft ² (37.16 m ²)

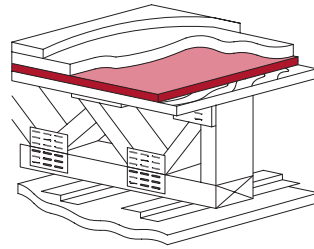
Sound Test & UL Fire Rated Designs

PURPOSE STATEMENT/DISCLAIMER

These guidelines are designed to provide the architectural and building communities with detailed performance data on Hacker Industries, Inc.'s comprehensive portfolio of sound attenuation tests and UL Fire Rated Designs. The tests for the assemblies included in these guidelines were conducted in a laboratory setting per ASTM C177, E84, E90, E492 and E2179. These guidelines are not warranties and should be used as guidelines only. The architects' and general contractors' recommendations supersede these guidelines. Field performance may vary. Subject to express Warranty stated on Hacker Industries, Inc.'s website.

Hacker Industries, Inc. regularly performs acoustical and fire (UL) testing to ensure performance standards for our products. Firm Fill® SCM (sound control mats), including Firm Fill® SCM-250, were tested acoustically with the following floor assemblies and performed as noted.

SUBMITTAL FORM

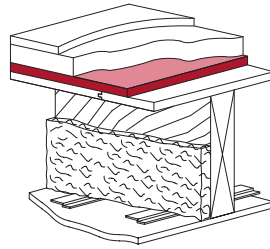


Firm-Fill SCM-250® – Open Web 1										
Subfloor Topping	Sound Mat	Subfloor	Insulation	Truss	Ceiling Isolation	Ceiling	Finish	Sound Rating		Report #
								STC	IIC	
1" (25 mm) FIRM-FILL® Brand Gypsum Concrete	1/4" (6 mm) FIRM-FILL® SCM-250 Sound Control Mat	3/4" (19 mm) oriented strand board	3-1/2" (89 mm) unfaced R-13 fiberglass insulation	18" (457 mm) L/360 open web truss	Clark Dietrich RCSD Resilient Channel	5/8" (16 mm) type C gypsum board	Bare	60	50	D6435.22
							2 mm Vinyl Plank	62	53	D6435.23
							3 mm Vinyl Tile	61	53	D6435.24
							2 mm Vinyl Sheet	61	54	D6435.25
							7 mm Sheet Vinyl with Rubber Backing	59	58	D6435.26
							13 mm	61	57	D6435.27
							8 mm Ceramic Tile	60	50	D6435.28

Firm-Fill SCM-250® – Open Web 2										
Subfloor Topping	Sound Mat	Subfloor	Insulation	Truss	Ceiling Isolation	Ceiling	Finish	Sound Rating		Report #
								STC	IIC	
1" (25 mm) FIRM-FILL® Brand Gypsum Concrete	1/4" (6 mm) FIRM-FILL® SCM-250 Sound Control Mat	3/4" (19 mm) oriented strand board	3-1/2" (89 mm) unfaced R-13 fiberglass	18" (457 mm) L/360 open web truss	PAC	5/8" (16 mm) type C gypsum board	Bare	62	53	F4545.01
							2 mm Vinyl Plank	62	56	F4545.02
							3 mm Vinyl Tile	62	56	F4545.03
							2 mm Vinyl Sheet	62	56	F4545.04
							13 mm	62	60	F4545.05
							8 mm Ceramic Tile	61	57	F4545.06

UL Fire Rated Designs	
Open Web	L521, L528, L529, L534, L542, L546, L550, L558, L563, L574, L576, L577, L579, L583, L585, L592, M500, M503, M508

SUBMITTAL FORM

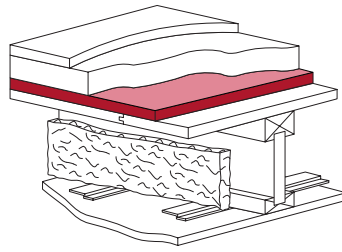


Firm-Fill SCM-250® – Nominal Wood										
Subfloor Topping	Sound Mat	Subfloor	Insulation	Truss	Ceiling Isolation	Ceiling	Finish	Sound Rating		Report #
								STC	IIC	
1" (25 mm) FIRM-FILL® Brand Gypsum Concrete	1/4" (6 mm) FIRM-FILL® SCM-250 Sound Control Mat	3/4" (19 mm) oriented strand board	3-1/2" (89 mm) R-13 fiberglass insulation	9-1/4" (235 mm) 2x10	Clark Dietrich RCSD Resilient Channel	5/8" (16 mm) type C gypsum board	Bare	59	--	E3146.01
							2 mm Vinyl Plank	59	50	E3146.02
							3 mm Vinyl Tile	60	50	E3146.03
							2 mm Vinyl Sheet	59	51	E3146.04
							7 mm Sheet Vinyl with Rubber Backing	58	56	E3146.05
							13 mm	60	54	E3146.06
							8 mm Ceramic Tile	60	51	E3146.07
							Wood Laminate ¹	59	--	5013115
							Wood Laminate ¹	--	56	7013170
							Carpet and Pad ²	51	--	5013113
Wood Laminate ²	58	--	5013114							
Wood Laminate ²	--	50	7013168							

¹Assembly varies from above in the following: Subfloor: 5/8" (16 mm) oriented strand board
²Assembly varies from above in the following: Subfloor: 5/8" (16 mm) oriented strand board; ceiling isolation: Cemco RC channel

UL Fire Rated Designs	
Nominal Wood	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, L519, L520, L522, L523, L525, L526, L532, L533, L535, L536, L537, L540, L541, L545, L557, L569, L588, L590, L593, L598, M504, M517, M519, M530, M531, M517

SUBMITTAL FORM



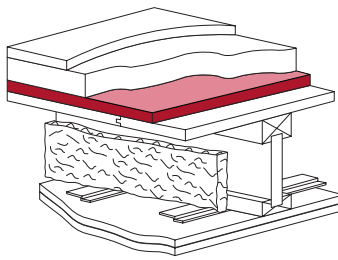
Firm-Fill SCM-250® – I-Joist										
Subfloor Topping	Sound Mat	Subfloor	Insulation	Truss	Ceiling Isolation	Ceiling	Finish	Sound Rating		Report #
								STC	IIC	
1" (25 mm) FIRM-FILL® 2010+ Gypsum Concrete	1/4" (6 mm) FIRM-FILL® SCM-250 Sound Control Mat	3/4" (19 mm) oriented strand board	3-1/2" (89 mm) R-11 fiberglass insulation	12" (302 mm)	Clark Dietrich RCSD Resilient Channel	1 layer 5/8" (16 mm) type C gypsum board	Bare	58	--	E7891.01
							2 mm Vinyl Plank	61	52	E7891.02
							3 mm Vinyl Tile	62	52	E7891.03
							2 mm Vinyl Sheet	59	54	E7891.04
							7 mm Sheet Vinyl with Rubber Backing	60	57	E7891.05

Note: Preceding I-Joist with layer gypsum board tests were conducted with increasing compressive strength and density, which may affect sound performance.

Firm-Fill SCM-250® – I-Joist 2										
Subfloor Topping	Sound Mat	Subfloor	Insulation	Truss	Ceiling Isolation	Ceiling	Finish	Sound Rating		Report #
								STC	IIC	
1" (25 mm) FIRM-FILL® Brand Gypsum Concrete	1/4" (6 mm) FIRM-FILL® SCM-250 Sound Control Mat	3/4" (19 mm) oriented strand board	3-1/2" (89 mm) R-11 fiberglass insulation	12" (302 mm)	Clark Dietrich RCSD Resilient Channel	2 layers 5/8" (16 mm) type C gypsum board	2 mm Vinyl Sheet	--	55	E7891.11
							7 mm Sheet Vinyl with Rubber Backing	--	58	E7891.12
							13 mm	59	57	E7891.13
							8 mm Ceramic Tile	61	53	E7891.14

UL Fire Rated Designs	
I-Joist	L518, L530, L538, L547, L556, L570, L581, L589, M502, M506, M512

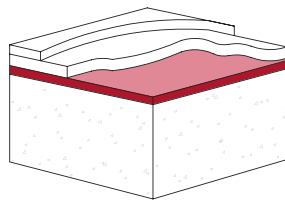
SUBMITTAL FORM



Firm-Fill® SCM-250 – I-Joist 3										
Subfloor Topping	Sound Mat	Subfloor	Insulation	Truss	Ceiling Isolation	Ceiling	Finish	Sound Rating		Report #
								STC	IIC	
1" (25 mm) FIRM-FILL® Brand Gypsum Concrete	1/4" (6 mm) FIRM-FILL® SCM-250 Sound Control Mat	3/4" (19 mm) oriented strand board	3-1/2" (89 mm) R-13 fiberglass insulation	12" (302 mm)	PAC	2 layers 5/8" (16 mm) type C gypsum board	Bare	62	52	F4543.01
							2 mm Vinyl Plank	63	57	F4543.02
							3 mm Vinyl Tile	63	56	F4543.03
							2 mm Vinyl Sheet	62	57	F4543.04
							13 mm Engineered Wood	62	61	F4543.05
							8 mm Ceramic Tile	63	61	F4543.06

Note: Preceding I-Joist tests were conducted with increasing compressive strength and density, which may affect sound performance.

UL Fire Rated Designs	
I-Joist	L518, L530, L538, L547, L556, L570, L581, L589, M502, M506, M512



Firm-Fill® SCM-250 – Concrete Assembly										
Subfloor Topping	Sound Mat	Subfloor	Insulation	Truss	Ceiling Isolation	Ceiling	Finish	Sound Rating		Report #
								STC	IIC	
1" (25 mm) FIRM-FILL® Brand Gypsum Concrete	1/4" (6 mm) FIRM-FILL® SCM-250 Sound Control Mat	6" (152 mm) concrete	None	None	None	None	Bare	51	--	5014075
							Bare	--	Δ 20*	7014143

UL Fire Rated Designs	
Concrete	J917, J919, J920, J924, J927, J931, J957, J991, J994

*Tested in accordance with ASTM E2179 - Standard Test Method for Laboratory Measurement of Effectiveness of Floor Coverings in Reducing Impact Sound Transmission Through Concrete Floors.

SUBMITTAL FORM



Warranty

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

Submittal Approvals

Project Name

Contractor/Architect

Signature

Date

PRODUCT INFORMATION

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

FIRM-FILL® SCM-250, 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.

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 INSTRUCTION OR FOR OTHER THAN THE INTENDED USE. HACKER'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.

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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