

# ICC-ES Evaluation Report

**ESR-3386**

Reissued November 2023

This report also contains:


- CBC Supplement

Subject to renewal November 2024

- FBC Supplement

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<b>DIVISION: 03 00 00—</b> <b>CONCRETE</b>  <b>Section: 03 54 00—</b> <b>Cementitious</b> <b>Underlayment</b>  <b>DIVISION: 09 00 00—</b> <b>FINISHES</b>  <b>Section: 09 60 13 –</b> <b>Acoustical</b> <b>Underlayment</b>	<b>REPORT HOLDER:</b> <b>HACKER INDUSTRIES,</b> <b>INC</b>	<b>EVALUATION SUBJECT:</b> <b>GYPSUM CONCRETE;</b> <b>FIRM-FILL® Gypsum</b> <b>Concrete,</b>  <b>FIRM-FILL® 2010+,</b> <b>FIRM-FILL® 3310+,</b> <b>FIRM-FILL® 4010,</b> <b>GYP-SPAN® RADIANT.</b> <b>MATS;</b>  <b>FIRM-FILL SCM-125,</b> <b>FIRM-FILL SCM-250,</b> <b>FIRM-FILL SCM-400,</b> <b>FIRM-FILL SCM-750.</b>	
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## 1.0 EVALUATION SCOPE

Compliance with the following codes:

- 2021, 2018, 2015, and 2012 [International Building Code® \(IBC\)](#)
- 2021, 2018, 2015, and 2012 [International Residential Code® \(IRC\)](#)

Properties evaluated:

- Fire-resistance-rated construction
- Compressive Strength
- Sound Transmission

## 2.0 USES

The gypsum concrete and mats may be used in fire-resistance-rated floor/ceiling assemblies in accordance with IBC Sections 703 and 711 and IRC Section R302.3 when installed in accordance with Sections 4.0 and 4.1 and Figure 1 through 4, as applicable. The gypsum concrete and mats floor/ceiling assemblies are also used to provide both airborne and impact sound insulation when installed as described in Section 4.2 and [Tables 1](#) through [4](#) in accordance with 2021 and 2018 IBC Section 1206 (2015 and 2012 IBC Section 1207) and 2021 IRC Appendix AK (2018, 2015 and 2012 IRC Appendix K).

## 3.0 DESCRIPTION

### 3.1 Gypsum Concrete:

The FIRM-FILL® Gypsum Concrete, FIRM-FILL® 2010+, FIRM-FILL® 3310+, FIRM-FILL® 4010, and GYP-SPAN® RADIANT are dry mixes consisting of gypsum and Portland cement provided in bags or containers of various sizes. The shelf-life of the dry mixes is specified in the report holder's published installation instructions.

Each of the gypsum concretes, when mixed in accordance with the manufacturer's specifications at various densities between 110 pcf and 130 pcf (1760-2.080 kg/m<sup>3</sup>), have the following minimum compressive strengths when based on testing in accordance with ASTM C472:

- FIRM-FILL<sup>®</sup> Gypsum Concrete, 1500 psi
- FIRM-FILL<sup>®</sup> 2010+, 2000 psi
- FIRM-FILL<sup>®</sup> 3310+, 3000 psi
- FIRM-FILL<sup>®</sup> 4010, 4000 psi
- GYP-SPAN<sup>®</sup> RADIANT, 2500 psi

When installed in accordance with Section 4.1 and [Figures 1](#) through [3](#), the gypsum concretes may be used in fire-resistance-rated floor/ceiling assemblies. When installed in accordance with Section 4.2 and [Tables 1](#) through [4](#), the FIRM-FILL<sup>®</sup> Gypsum Concrete, FIRM-FILL<sup>®</sup> 2010+ and FIRM-FILL<sup>®</sup> 3310+ may be used for sound transmission.

### 3.2 Mats:

The Firm-Fill mat products have an entangled plastic net core with a non-woven fabric backing. Firm-Fill SCM-125, SCM-250, SCM-400, and SCM-750 have an overall nominal thickness of 0.125-inch, 0.250-inch, 0.375-inch, and 0.750-inch (3.2 mm, 6.4 mm, 9.5 mm and 19.1 mm), respectively.

When installed in accordance with Section 4.1 and [Figures 1](#) through [4](#), the mats may be used in fire-resistance-rated floor/ceiling assemblies. When installed in accordance with Section 4.2 and [Tables 1](#) through [4](#), Firm-Fill SCM-125, SCM-250 and SCM-400 may be used for sound transmission.

## 4.0 DESIGN AND INSTALLATION

Hacker Industries, Inc.'s gypsum concrete products are mixed with sand and water on the jobsite and pumped into place by Hacker Industries, Inc. approved installers. Mixing and installation must be in accordance with the report holder's published installation instructions. The report holder's published installation instructions and this report must be strictly adhered to and a copy of the instructions and this evaluation report must be available on the jobsite during installation.

### 4.1 Fire-resistance-rated Floor/Ceiling Assemblies:

The fire-resistance-rated floor/ceiling assemblies shown in [Figures 1](#) through [4](#) are based on a specific UL Design No. When using one of these assemblies, all details must be in accordance with the specifications contained in the UL *BXUV GuideInfo*.

### 4.2 Sound Transmission and Impact Insulation Classified Assemblies:

When installed as described in [Tables 1](#) through [4](#), the sound assemblies provide a minimum Sound Transmission Class (STC) rating of 50 and/or a minimum Impact Insulation Class (IIC) rating of 50, as required under Section 1206 of the 2021 and 2018 IBC (Section 1207 of the 2015 and 2012 IBC) or a minimum Sound Transmission Class (STC) rating of 45 and/or a minimum Impact Insulation Class (IIC) rating of 45 under IRC Sections AK 102 and AK103, respectively.

## 5.0 CONDITIONS OF USE:

The products described in this report comply with, or are suitable alternatives to what is specified in, those codes listed in Section 1.0 of this report, subject to the following conditions:

- 5.1 Installation must comply with this report, the report holder's published instructions and the applicable code. In the event of a conflict between the report holder's published installation instructions and this report, this report governs.
- 5.2 Application must be by installers approved by Hacker Industries, Inc.
- 5.3 Use of the products as components of fire-classified roof coverings or roof/ceiling assemblies is outside the scope of this report.
- 5.4 The gypsum concrete products are produced under a quality control program with inspections by ICC-ES at the following locations: Blue Rapids, Kansas; Camden, New Jersey; and North Las Vegas, Nevada.
- 5.5 The mats are produced under a quality control program with inspections by ICC-ES at Burlington, Washington.

## 6.0 EVIDENCE SUBMITTED

- 6.1 Report of fire-resistance testing and analysis.
- 6.2 Reports of density and compressive strength testing.
- 6.3 Reports of sound transmission testing in accordance with ASTM E90 and ASTM E492.
- 6.4 Product literature and quality documentation.

## 7.0 IDENTIFICATION

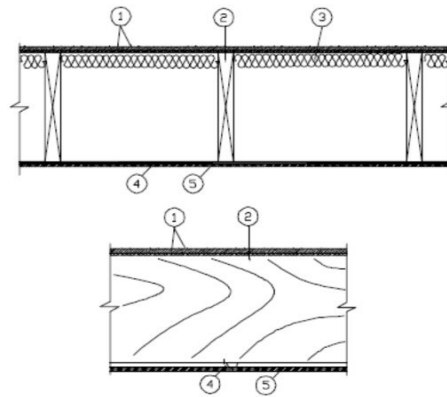
- 7.1 The bags of gypsum concrete dry mix are identified with the Hacker Industries, Inc. name, product name, the date of manufacture, and the evaluation report number (ESR-3386).

The rolls of mats are identified with the Hacker Industries, Inc. name, product name, the date of manufacture, and the evaluation report number (ESR-3386).

- 7.2 The report holder's contact information is the following:

**HACKER INDUSTRIES, INC.**  
**1401 DOVE STREET, SUITE 640**  
**NEWPORT BEACH, CALIFORNIA 92660**  
**(949) 729-3101**  
[www.hackerindustries.com](http://www.hackerindustries.com)

**ANSI/UL 263 (ASTM E119) Rating: One-Hour Unrestrained Assembly**  
**FLOOR/CEILING Assembly Incorporating Wood Joints**



Where noted with an “\*\*” in the description below, the product must bear the UL Classification Mark.

For SI Units: 1 inch = 25.4 mm, 1 foot = 0.3048 m, 1 pound = 4.45 N

**1. Flooring System** — The flooring system shall consist of the following:

- Subflooring — Nominal  $\frac{5}{8}$  in. thick wood structural panels installed perpendicular to the joists with end joints staggered. Panels secured to joists with construction adhesive and No. 10d ringed shank nails, spaced 10 in. OC along each joist and 6 in. OC at the end joints.

▪ .

- Alternate Floor Mat Materials\* — Floor mat material nom  $\frac{1}{8}$  in. thick loose laid over the subfloor. Floor topping thickness shall be a minimum of  $\frac{3}{4}$  in.

HACKER INDUSTRIES INC.:

- FIRM-FILL SCM 125

- Alternate Floor Mat Materials\* — Floor mat material nom  $\frac{1}{4}$  in. thick loose laid over the subfloor. Floor topping thickness shall be a minimum of 1 in.

HACKER INDUSTRIES INC.:

- Type FIRM-FILL SCM 250

- Alternate Floor Mat Materials\* — Floor mat material nominal  $\frac{3}{8}$ -in. thick loose laid over the subfloor. Floor topping thickness shall be a minimum of  $1\frac{1}{4}$  in.

HACKER INDUSTRIES INC.:

- FIRM-FILL SCM 400

Alternate Floor Mat Materials\* — Floor mat material nominal  $\frac{3}{4}$  in. thick loose laid over the subfloor. Floor topping thickness shall be a minimum of  $1\frac{1}{2}$  in.

HACKER INDUSTRIES INC.:

- FIRM-FILL SCM 750

- Metal Lath (Optional) — For use with  $\frac{3}{8}$  in. floor mat materials,  $\frac{3}{8}$  in. expanded steel diamond mesh, 3.4 lbs/sq yd placed over the floor mat material. Hacker Floor Primer to be applied prior to the placement of the metal lath. When metal lath is used, floor topping thickness a nominal 1 in. over the floor mat.

- Finish Flooring - Floor Topping Mixture\* — Minimum  $\frac{3}{4}$  in. thickness of floor topping mixture having a minimum

compressive strength of 1100 psi. Mixture shall consist of 6.8 gal of water to 80 lbs of floor topping mixture to 1.9 cu ft of sand.

HACKER INDUSTRIES INC.:

- Firm-Fill Gypsum Concrete.
- Firm-Fill 2010+.
- Firm-Fill 3310+.
- Firm-Fill 4010, or
- Gyp-Span Radiant

**2. Wood Joists** — 2 by 10 in., spaced 16 in. OC.

**3. Batts and Blankets\*** — Glass fiber or mineral wool insulation bearing the UL Classification Marking as to Surface Burning Characteristics and/or Fire Resistance. Insulation shall be a maximum of  $3\frac{1}{2}$  in. thick and shall be secured against the underside of the subflooring with staples at 12 in. OC.

**4. Resilient Channels** — Nominal  $\frac{1}{2}$  in. deep by  $2\frac{3}{8}$  in. wide at the base and  $1\frac{3}{8}$  in. wide at the face, formed from 0.020 in. thick galv. steel. Installed perpendicular to the wood joists, spaced a max of 16 in. OC. Channel splices overlapped 4 in. Channels secured to each truss with  $1\frac{1}{4}$  in. long Type S screws.

**5. Gypsum Board\*** — Nominal  $\frac{5}{8}$  in. thick, 48 in. wide gypsum panels installed with long dimension perpendicular to resilient channels. Gypsum panels secured with 1 in. long Type S bugle head steel screws spaced 12 in. OC in the field and 6 in. OC along the butt joints. Screws located a minimum of  $\frac{1}{2}$  in. from side and end joints. Butted end joints shall be staggered minimum 9 ft 4 in. within the assembly.

AMERICAN GYPSUM CO.:

- Type AG-C

CERTAINTED GYPSUM INC.:

- Type C

GEORGIA-PACIFIC GYPSUM LLC:

- Types DAPC, TG-C

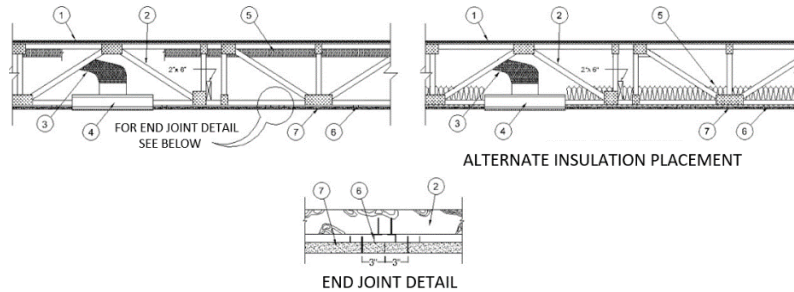
PABCO BUILDING PRODUCTS LLC DBA PABCO GYPSUM:

- Type C

**6. Finishing System** — (Not shown) - Vinyl, dry or premixed joint compound, applied in two coats to joints and screw-heads. Nom 2 in. wide paper tape embedded in first layer of compound over all joints.

**FIGURE 1— ONE- HOUR FIRE-RESISTANCE-RATED FLOOR/CEILING ASSEMBLY**

**ANSI/UL 263 (ASTM E119) Rating: One-Hour Unrestrained Assembly  
FLOOR/CEILING Assembly Incorporating Trusses**



Where noted with an “\*\*” in the description below, the product must bear the UL Classification Mark.

For SI Units: 1 inch = 25.4 mm, 1 foot = 0.3048 m, 1 pound = 4.45 N

**1. Flooring System** —The flooring system shall consist of the following:

- **Subflooring**— Nominal  $\frac{3}{4}$  in. plywood with T & G edges along the 8 ft sides and exterior glue or nonveneer APA Sturd-I-Floor T & G panels per APA specifications PRP 108. Face grain of plywood or strength axis of panel to be perpendicular to trusses with joints staggered 4 ft. Plywood or panels secured to trusses with construction adhesive and No. 6d ring shank nails spaced 12 in. o.c. along each truss. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails.
- **Alternate Floor Mat Materials\***— Floor mat material nom  $\frac{1}{8}$  in. thick loose laid over the subfloor. Floor topping thickness shall be a minimum of  $\frac{3}{4}$  in.

HACKER INDUSTRIES INC.:

- FIRM-FILL SCM 125

- **Alternate Floor Mat Materials\***— Floor mat material nom  $\frac{1}{4}$  in. thick loose laid over the subfloor. Floor topping thickness shall be a minimum of 1 in.

HACKER INDUSTRIES INC.:

- Type FIRM-FILL SCM 250

- **Alternate Floor Mat Materials\***— Floor mat material nominal  $\frac{3}{8}$ -in. thick loose laid over the subfloor. Floor topping thickness shall be a minimum of  $1\frac{1}{4}$  in.

HACKER INDUSTRIES INC.:

- FIRM-FILL SCM 400

- **Alternate Floor Mat Materials\***— Floor mat material nominal  $\frac{3}{4}$  in. thick loose laid over the subfloor. Floor topping thickness shall be a minimum of  $1\frac{1}{2}$  in.

HACKER INDUSTRIES INC.:

- FIRM-FILL SCM 750

- **Metal Lath (Optional)**— For use with  $\frac{3}{8}$  in. floor mat materials,  $\frac{3}{8}$  in. expanded steel diamond mesh, 3.4 lbs/sq yd placed over the floor mat material. Hacker Floor Primer to be applied prior to the placement of the metal lath. When metal lath is used, floor topping thickness a nominal 1 in. over the floor mat.

- **Finish Flooring - Floor Topping Mixture\*** — Minimum  $\frac{3}{4}$  in. thickness of floor topping mixture having a minimum compressive strength of 1100 psi. Mixture shall consist of 6.8 gal of water to 80 lbs of floor topping mixture to 1.9 cu ft of sand.

HACKER INDUSTRIES INC.:

- Firm-Fill Gypsum Concrete.
- Firm-Fill 2010+.
- Firm-Fill 3310+.
- Firm-Fill 4010, or
- Gyp-Span Radiant

**2. Trusses** — Parallel chord trusses, spaced a max of 24 in. o.c., fabricated from nom. 2 by 4 lumber, with lumber oriented vertically or horizontally. Min truss depth is 12 in. Truss members secured together with min 0.0356 in. thick galvanized steel plates. Plates have  $\frac{5}{16}$  in. long teeth projecting perpendicular to the plane of the plate.

The teeth are in pairs facing each other (made by the same punch), forming a split tooth type plate. Each tool has a chisel point on its outside edge. These points are diagonally opposite each other for each pair. The top half of each tooth has a twist for stiffness. The pairs are repeated on approx.  $\frac{7}{8}$  in. centers with four rows of teeth per inch of plate width.

**3. Air Duct\*** — Any UL Class 0 or Class 1 flexible air duct installed in accordance with the instructions provided by the damper manufacturer.

**4. Damper\*** — For use with min 18 in. deep trusses. Max nom. 20 in. long by 18 in. wide by  $2\frac{1}{8}$  in. high, fabricated from galvanized steel. Plenum box max size nom 21 in. long by 18 in. wide by 16 in. high fabricated from either galvanized steel or Classified Air Duct Materials bearing the UL Classification Marking for Class 0 or Class 1 rigid air duct material. Installed in accordance with the instructions provided by the manufacturer. Max damper openings not to exceed 180 sq in. per 100 sq ft of ceiling area.

NAILOR INDUSTRIES INC.:

- Types 755, 0755A, 0756, 0756D, 0757, 0757D, 0757FP, 0757DFP, 0758, 0759, 0760, 0761, 0762, 0763, CRD5, CRD5D, CRD6, CRD6D, CRD6FP, CRD6DFP

SAFE AIR DOWCO:

- Types 0455, 0455A, 0456, 0456D, 0457, 0457D, 0457-DB, 0457-CB, 0463-FB, 0457-EB, 0463-GB, 0463

**5. Batts and Blankets\* (Optional)** — Glass fiber or mineral wool insulation bearing the UL Classification Marking as to Surface Burning Characteristics and/or Fire Resistance. When no insulation is installed in the concealed space the resilient channels are spaced 24 in. o.c. When the resilient channels are spaced 16 in. o.c., the insulation shall be a max of  $3\frac{1}{2}$  in. thick, and shall be secured against the subflooring with staples at 12 in. o.c. or held suspended in the concealed space with 0.090 in. diam galv. steel wires attached to the wood trusses at 12 in. o.c.

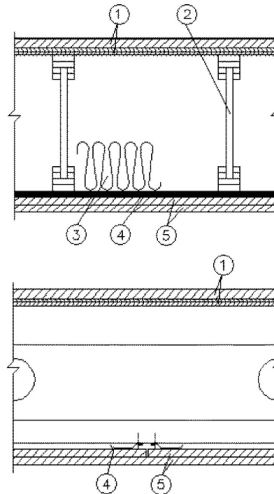
**6. Resilient Channels** — Formed from min 25 MSG galv. steel installed perpendicular to trusses. When no insulation is installed in the concealed space resilient channels are spaced 24 in. The resilient channels are spaced 16 in. o.c. Channels secured to each truss with  $1\frac{1}{4}$  in. long Type S bugle head steel screws. Channels overlapped 4 in. at splices. Two channels, spaced 6 in. o.c., oriented opposite each gypsum panel end joint as shown in the above illustration. Additional channels shall extend min. 6 in. beyond each side edge of panel.

**7. Gypsum Board\*** — Nom  $\frac{5}{8}$  in. thick, 48 in. wide, gypsum panels. Gypsum panels installed with long dimension perpendicular to resilient channels. Gypsum panels secured with 1 in. long Type S bugle head steel screws spaced 12 in. OC and located a min of  $\frac{1}{2}$  in. from side joints and 3 in. from end joints. When insulation is applied over the resilient channel/gypsum panel ceiling membrane the screw spacing shall be reduced to 8 in. o.c. End joints secured to both resilient channels as shown in end joint detail.

**8. Finishing System** — (Not Shown) — Vinyl, dry or premixed joint compound, applied in two coats to joints and screw-heads. Nom. 2 in. wide paper tape embedded in first layer of compound over all joints. As an alternate, nom.  $\frac{3}{32}$  in. thick veneer plaster may be applied to the entire surface of gypsum board.

**FIGURE 2—ONE-HOUR FIRE RESISTANCE ASSEMBLY**

**ANSI/UL 263 (ASTM E119) Rating: One-Hour Unrestrained Assembly  
FLOOR/CEILING Assembly Incorporating Structural Wood Members**



Where noted with an “\*\*” in the description below, the product must bear the UL Classification Mark.

For SI Units: 1 inch = 25.4 mm, 1 foot = 0.3048 m, 1 pound = 4.45 N

**1. Flooring System** — The flooring system shall consist of the following:

- Subflooring — Nom.  $1\frac{9}{32}$  in. thick wood structural panels installed perpendicular to the joists with end joints staggered. Plywood or panels secured to joists with construction adhesive and No. 6d ringed shank nails, spaced 12 in. o.c. along each joist. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails.

- Finish Flooring - Floor Topping Mixture\* — Min  $\frac{3}{4}$  in. thickness of floor topping mixture having a min compressive strength of 1100 psi. Mixture shall consist of 6.8 gal of water to 80 lbs of floor topping mixture to 1.9 cu ft of sand.

HACKER INDUSTRIES INC.:

- Firm-Fill Gypsum Concrete.
- Firm-Fill 2010+.
- Firm-Fill 3310+.
- Firm-Fill 4010, or
- Gyp-Span Radiant

- Metal Lath — (Optional) — For use with  $\frac{3}{8}$  in. floor mat materials,  $\frac{3}{8}$  in. expanded steel diamond mesh, 3.4 lbs/sq yd placed over the floor mat material. Hacker Floor Primer to be applied prior to the placement of the metal lath. When metal lath is used, floor topping thickness a nom.  $1\frac{1}{4}$  in. over the floor mat.

- Alternate Floor Mat Materials — Floor mat material nom  $\frac{1}{8}$  in. thick loose laid over the subfloor. Floor topping thickness shall be a min. of  $\frac{3}{4}$  in.

HACKER INDUSTRIES INC.:

- SCM-125

- Alternate Floor Mat Materials — Floor mat material nom  $\frac{1}{4}$  in. thick loose laid over the subfloor. Floor topping thickness shall be a min. of 1 in.

HACKER INDUSTRIES INC.:

- SCM-250

- Alternate Floor Mat Materials — Floor mat material nom  $\frac{3}{8}$  in. thick loose laid over the subfloor. Floor topping thickness shall be a min. of  $1\frac{1}{4}$  in.

HACKER INDUSTRIES INC.:

- SCM-400

- Alternate Floor Mat Materials — Floor mat material nom  $\frac{3}{4}$  in. thick loose laid over the subfloor. Floor topping thickness shall be a min. of  $1\frac{1}{2}$  in.

HACKER INDUSTRIES INC.:

- SCM-750

**2. Structural Wood Members\*** — Min  $9\frac{1}{2}$  in. deep "I" shaped wood joists spaced at a max of 19.2 in. o.c. Joists shall conform to ICC-ES [ESR-1153](#) Report. Joist top and bottom chords minimum  $1\frac{3}{8}$  in. deep by 2.3 in. wide and constructed of either Microllam laminated veneer lumber (LVL) or TimberStrand laminated strand lumber (LSL). Webs constructed of minimum  $\frac{3}{8}$  in. thick Performance Plus OSB, PS2, Exposure 1. Installation shall be in accordance with manufacturers published literature.

**3. Insulation — Batts and Blankets\* — (Optional)** — Glass fiber insulation, secured to the subflooring with staples, or to the wood joists with 0.090 in. diam galv. steel wires, or draped over the resilient channel/gypsum panel ceiling membrane. Any thickness of glass fiber insulation bearing the UL Classification Marking as to Surface Burning Characteristics and/or Fire Resistance.

**4. Resilient Channels** — Formed from 25 MSG galv. steel installed perpendicular to the joists. When no insulation is installed in the concealed space the resilient channels are spaced 24 in. o.c. When insulation is installed to the underside of the subfloor the resilient channels are spaced 16 in. o.c.

**5. Gypsum Board\*** — Two layers of  $\frac{1}{2}$  in. or  $\frac{5}{8}$  in. thick by 4 ft wide gypsum panels, installed perpendicular to resilient channels. The base layer of panels screw-attached to the resilient channels with 1 in. long Type S screws spaced 8 in.o.c.at the butt joints and 16 in. o.c. in the field of the panel. The face layer screw-attached to the resilient channels with  $1\frac{5}{8}$  in. Type S screws spaced 8 in. o.c. and  $1\frac{1}{2}$  in. Type G screws spaced 8 in. OC at the butt joints located mid-span between resilient channels.

CGC Inc.:

- $\frac{1}{2}$  in. Type C, IP-X2, IPC-AR;  $\frac{5}{8}$  in. Type C, IP-X2, ULIX. When there is no insulation in the cavity, or when insulation is secured to the underside of the subfloor  $\frac{5}{8}$  in. Type SCX or IP-X1 may be used

UNITED STATES GYPSUM COMPANY:

- $\frac{1}{2}$  in. Type C, IP-X2, IPC-AR;  $\frac{5}{8}$  in. Type C, IP-X2, ULIX. When there is no insulation in the cavity, or when insulation is secured to the underside of the subfloor  $\frac{5}{8}$  in. Type SCX, or IP-X1 may be used

USG BORAL DRYWALL SFZ LLC:

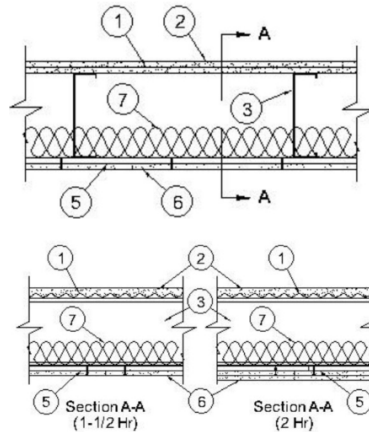
- $\frac{1}{2}$  in. Type C;  $\frac{5}{8}$  in. Type C. When there is no insulation in the cavity, or when insulation is secured to the underside of the subfloor  $\frac{5}{8}$  in. Type SCX may be used

**6. Finishing System** — Fiber tape embedded in compound over joints and exposed nail heads, covered with compound with edges of compound feathered out. As an alternate, nom.  $\frac{3}{32}$  in. thick gypsum veneer plaster may be applied to the entire surface of classified veneer baseboard. Joints reinforced.

**FIGURE 3— ONE-HOUR FIRE RATED ASSEMBLY**



**ANSI/UL 263 (ASTM E119) Rating: 1½ and 2-Hour Unrestrained Assembly  
FLOOR/CEILING Assembly Incorporating Structural Steel Members**



Where noted with an “\*” in the description below, the product must bear the UL Classification Mark.

For SI Units: 1 inch = 25.4 mm, 1 foot = 0.3048 m, 1 pound = 4.45 N

**1. Steel Deck** — Min.  $\frac{9}{16}$  in. deep, 22 MSG galv. corrugated fluted steel deck. Overlapped one corrugation at each side and attached to each joist with  $\frac{5}{8}$  in. long #10-16 TEK screws at each side joint and no more than 12 in. o.c. between sides.

**2. Floor Topping Mixture\*** — Compressive strength to be min. 3500 psi. Min. thickness to be 1 in. as measured from the top plane of the deck or the top plane of the Floor Mat Material\*. Refer to manufacturer's instructions accompanying the material for specific mix design. An ethylene vinyl acetate adhesive may be applied to the steel deck prior to the installation of the floor topping mixture at a max. application rate of 0.025 lbs./ft<sup>2</sup>.

HACKER INDUSTRIES INC.:

➤ Firm-Fill CMD (formerly Firm-Fill CSD)

- Alternate Floor Mat Materials — Floor mat material nom  $\frac{1}{8}$  in. thick loose laid over the concrete slab. Floor topping thickness shall be a min of 1 in.

HACKER INDUSTRIES INC.:

➤ SCM-125

- Alternate Floor Mat Materials — Floor mat material nom  $\frac{1}{4}$  in. thick loose laid over the concrete slab. Floor topping thickness shall be a min of 1 in. .

HACKER INDUSTRIES INC.:

➤ SCM-250

- Alternate Floor Mat Materials — Floor mat material nom  $\frac{3}{8}$  in. thick loose laid over the concrete slab. Floor topping thickness shall be a min of  $\frac{1}{4}$  in.

HACKER INDUSTRIES INC.:

➤ SCM-400

- Alternate Floor Mat Materials — Floor mat material nom.  $\frac{3}{4}$  in. thick loose laid over the concrete slab. Floor topping thickness shall be a min of  $\frac{1}{2}$  in.

HACKER INDUSTRIES INC.:

➤ SCM-750

**3. Structural Steel Members** — Channel-shaped,  $\frac{9}{16}$  in. min. depth. Fabricated from min No. 16 MSG galv. steel. Joists spaced max 24 in. o.c. Joists attached to joist rim with three  $\frac{3}{4}$  in. long self-drilling #10 self drilling screws at the tab to the outside of the web. At joist rim splices bearing on supports, joists rims are connected using an overlapping section of a 12 in. long splice plate (a joist piece), with four  $\frac{3}{4}$  in. long self-drilling #10 screws to each rim piece.

**4. Joist Bridging (Not Shown)** — Installed immediately after joists are erected and before construction loads are applied. The bridging, consisting of No. 18 MSG galv. steel,  $2\frac{1}{2}$  in. wide by  $21\frac{3}{4}$  in. long structural bridging staggered between the steel joists attached to the bottom joist flange with one  $\frac{3}{4}$  in. long self-drilling #10 self-drilling screws at each end tab of bridging. The solid bridging consists of cut to length joist sections placed between outer joists and at center

joist with 8 ft o.c. max spacing. The solid bridging was attached to the joists with a  $\frac{1}{2}$  in. by  $\frac{1}{2}$  in. by 7 in. support clip and a 4 by  $\frac{1}{2}$  in. by 7 in. support clip with two, #10  $\frac{3}{4}$  in. long screws per leg per clip.

**5. Resilient Channels** —  $\frac{1}{2}$  in. deep, formed of 25 MSG galv. steel, spaced 12 in. o.c. perpendicular to joists. Channels oriented opposite at wallboard butt-joints. Channel splices overlapped 6 in. beneath steel joists. Channels secured to each joist with  $\frac{1}{2}$  in. wafer head screws. Channels oriented opposite at wallboard butt joints (spaced 6 in. o.c.) as shown in the above illustration.

**6. Gypsum Board\*** — **For the 1½ Hour Rating** — Nom  $\frac{5}{8}$  in. thick, 48 in. wide gypsum panels installed with long dimension perpendicular to resilient channels. Gypsum panels must be secured with 1 in. long Type S bugle-head screws spaced 8 inched o.c. in both the field and the perimeter, and 1 in. and 4 in. from side edges of the board with side joints staggered 4 in. from center of joist. **For the 2 Hour Rating** — Nom  $\frac{5}{8}$  in. thick, 48 in. wide gypsum panels. Base layer installed with long dimension perpendicular to resilient channels. Gypsum panels must be secured with 1 in. long Type S bugle-head screws spaced 8 inched o.c. in both the field and the perimeter, and 1 in. and 4 in. from side edges of the board with side joints staggered 4 in. from center of joist. Face layer installed with long dimension perpendicular to resilient channels with joints offset 24 in. from base layer. Gypsum panels secured with  $1\frac{5}{8}$  in. long Type S bugle-head screws spaced 8 in. o.c. in both the field and the perimeter, and 1 in. and 4 in. from side edges of the board. At the butt joint  $\frac{1}{2}$  in. long Type G screws spaced 8 in. o.c. and 1 in. and 4 in. from the side edges of the board.

AMERICAN GYPSUM CO.:

➤ Type AG-C

CGC INC.:

➤ Types C, IP-X2, IPC-AR, ULIX

CERTAINTED GYPSUM INC.:

➤ Type C, Type LGFC-C/A

GEORGIA-PACIFIC GYPSUM LLC.:

➤ Types DAPC, TG-C

UNITED STATES GYPSUM CO.:

➤ Types C, IP-X2, IPC-AR, ULIX

USG BORAL DRYWALL SFZ LLC.:

➤ Type C

**7. Batts and Blankets\*** — Mineral wool or glass fiber insulation, min 3-1/2 in. thick, bearing the UL Classification Marking for Surface Burning Characteristics. Insulation fitted in the concealed space, draped over the resilient channel/gypsum panel or Steel Framing Members/gypsum panel ceiling membrane.

**8. Joint System (Not Shown)** — Vinyl, dry or premixed joint compound, applied in two coats to joints and screw heads; paper tape, 2 in. wide, embedded in first layer of compound over all joints.

**FIGURE 4—1½ or 2-HOUR FIRE RATED FLOOR/CEILING ASSEMBLY f1**

TABLE 1—SOUND TRANSMISSION CLASS RATED ASSEMBLIES FOR OPEN WEB WOOD TRUSSES UNDER THE IBC AND IRC<sup>1</sup>

GYPSUM BOARD	RESILIENT CHANNEL	INSULATION	SUPPORTS	SUBFLOOR	MAT	GYPSUM CONCRETE		FLOOR TOPPING
CertainTeed <sup>5</sup> / <sub>8</sub> -inch-thick Type C gypsum board fastened to resilient channels 12-inches o.c.	ClarkDietrich RC Deluxe <sup>®</sup> Resilient Channel (RCSD) spaced 16 inches o.c. perpendicular to supports	John Mansville, Unfaced, 3 <sup>1</sup> / <sub>2</sub> -inch-thick R-13 fiberglass insulation installed between supports and flush with the subfloor	York PB Truss L/360 Nominal 4 inches by 18 inches open web wood truss spaced 24 inches o.c. using JUS414 brackets	<sup>3</sup> / <sub>4</sub> -inch-thick OSB adhered to the supports and attached with fasteners spaced 8 inches o.c. at the perimeters and 12 inches o.c. along supports	NONE	<sup>3</sup> / <sub>4</sub> inch	FIRM-FILL <sup>®</sup> Gypsum Concrete	None <sup>2</sup>
								11.5 mm thick carpet loose laid with 11.0 mm thick 6 lb carpet pad loose laid with seams taped
					SCM-125	<sup>3</sup> / <sub>4</sub> inch	FIRM-FILL <sup>®</sup> Gypsum Concrete FIRM-FILL <sup>®</sup> 2010+	None
								2.0 mm thick vinyl plank
								3.0 mm thick vinyl tile
								1.7 mm thick vinyl sheet
								7.0 mm thick vinyl sheet with rubber backing
								12.7 mm thick engineered wood floor
					SCM-250	1 inch	FIRM-FILL <sup>®</sup> Gypsum Concrete FIRM-FILL <sup>®</sup> 2010+	None
								2.0 mm thick vinyl plank
								3.0 mm thick vinyl tile
								1.7 mm thick vinyl sheet
								7.0 mm thick vinyl sheet with rubber backing
								12.7 mm thick engineered wood floor
					SCM-400	1 <sup>1</sup> / <sub>4</sub> inch	FIRM-FILL <sup>®</sup> Gypsum Concrete FIRM-FILL <sup>®</sup> 2010+	8.0 mm thick ceramic tile
								None
								2.0 mm thick vinyl plank
								3.0 mm thick vinyl tile
								1.7 mm thick vinyl sheet
								7.0 mm thick vinyl sheet with rubber backing
								12.7 mm thick engineered wood floor
								8.0 mm thick ceramic tile



TABLE 1—SOUND TRANSMISSION CLASS RATED ASSEMBLIES FOR OPEN WEB WOOD TRUSSES UNDER THE IBC AND IRC<sup>1</sup> (Continued)

GYPSUM BOARD	RESILIENT CHANNEL	INSULATION	SUPPORTS	SUBFLOOR	MAT	GYPSUM CONCRETE		FLOOR TOPPING
National Gypsum Gold Bond Fire-Shield <sup>5</sup> / <sub>8</sub> -inch-thick Type C gypsum board fastened to the furring channel 12 inches o.c with 1-inch long Type S screws	ClarkDietrich Furring Channel/Hat Channel spaced 24 inches o.c. attached to PAC International RSIC-1 <sup>®</sup> Resilient Sound Insulation Clip	Guardian Faced, 3 <sup>1</sup> / <sub>2</sub> -inch-thick R-13 fiberglass insulation installed between supports flush with the subfloor	York PB Truss L/360 Nominal 4 inch-by-18 inch open web wood truss spaced 24 inches o.c. using JUS414 brackets	<sup>3</sup> / <sub>4</sub> -inch-thick OSB adhered to the supports and at attached with fasteners 8 inches o.c. at the perimeters and 12 inches o.c. along supports	SCM-250	1 inch	FIRM-FILL <sup>®</sup> Gypsum Concrete	None
								3.0 mm thick vinyl planks
								3.0 mm thick resilient tile
								1.5 mm thick vinyl sheet
								12.1 mm thick hardwood
								7.8 mm thick ceramic floor tile

For **SI**: 1 inch = 25.4 mm

<sup>1</sup>Meets the sound transmission class (STC) of not less than 50 under 2021 and 2018 IBC Section 1206.2 (2015 and 2012 IBC Section 1207.2) and IRC Section AK102.1 and meets the impact insulation class (IIC) of not less than 50 under 2021 and 2018 IBC Section 1206.3 (2015 and 2012 IBC Section 1207.3) and IRC Section AK103.1, unless otherwise noted.

<sup>2</sup>Meets minimum rating requirements for sound transmission class (STC) for the IBC and IRC. The assembly does not meet the rating requirement for impact insulation class (IIC) under the IBC or IRC.

TABLE 2 – SOUND TRANSMISSION CLASS RATED ASSEMBLIES FOR WOOD I-JOIST UNDER THE IBC AND IRC<sup>1</sup>

GYPSUM	RESILIENT CHANNEL	INSULATION	SUPPORTS	SUBFLOOR	MATS	GYPSUM CONCRETE		FLOOR TOPPING
CertainTeed 5/8-inch-thick Type C gypsum board fastened to resilient channel 12 inches o.c. with 1-inch Type S screws	ClarkDietrich RC Deluxe® Resilient Channel (RCSD) spaced 16- inches o.c. perpendicular to supports and fastened at each support with 1-inch Type S screws	Knauf EcoBatt® 3 1/2-inch-thick R-13 fiberglass loose laid installed directly over resilient channels	Weyerhaeuser TrusJoist® 360 12-inch deep wood I-Joists spaced 24-inches o.c.	3/4-inch-thick OSB adhered to supports and attached with fasteners spaced 8-inches o.c. at perimeters and 12-inches o.c. along supports	SCM-125	3/4 inch	FIRM-FILL® Gypsum Concrete	None <sup>2</sup>
								2.0 mm thick vinyl plank flooring
								3.0 mm thick vinyl tile flooring
								1.7 mm thick vinyl sheet
								7.0 mm thick vinyl sheet with rubber backing
								12.7 mm thick engineer wood floor
								8.0 mm thick ceramic tile
					SCM-250	1 inch	FIRM-FILL® Gypsum Concrete	None <sup>2</sup>
								2.0 mm thick vinyl plank flooring
								3.0 mm thick vinyl tile flooring
								1.7 mm thick vinyl sheet
								7.0 mm thick vinyl sheet with rubber backing
								12.7 mm thick floating engineer wood floor
								8.0 mm thick ceramic tile
					SCM-400	1 1/4 inch	FIRM-FILL® Gypsum Concrete	None <sup>2</sup>
								2.0 mm thick vinyl plank flooring
								3.0 mm thick vinyl tile flooring
								1.7 mm thick vinyl sheet
								7.0 mm thick vinyl sheet with rubber backing
								12.7 mm thick floating engineer wood floor
								8.0 mm thick ceramic tile
Two layers CertainTeed 5/8-inch-thick gypsum board fastened to resilient channels 12 inches o.c. with 1-inch Type S screws. Perimeter of first layer must be sealed with acoustical caulk.	ClarkDietrich RC Deluxe® Resilient Channel (RCSD) spaced 16- inches o.c. perpendicular to supports and fastened at each support with 1-inch Type S screws.	Knauf EcoBatt® 3 1/2-inch-thick R-13 fiberglass loose laid installed directly over resilient channels	Weyerhaeuser TrusJoist® 360 12-inch deep wood I-Joists spaced 24-inches o.c.	3/4-inch-thick OSB adhered to the supports and attached with fasteners 8-inches o.c. at the perimeters and 12-inches o.c. along supports.	SCM-125	3/4 inch	FIRM-FILL® Gypsum Concrete	2.0 mm thick vinyl plank flooring
								3.0 mm thick vinyl tile flooring
								1.7 mm thick vinyl sheet
								7.0 mm thick vinyl sheet with rubber backing
					SCM-250	1 inch	FIRM-FILL® Gypsum Concrete	12.7 mm thick engineered wood floor
								1.7 mm thick vinyl sheet
								7.0 mm thick vinyl sheet with rubber backing
								12.7 mm thick engineered wood floor
								8.0 mm thick ceramic tile

TABLE 2 – SOUND TRANSMISSION CLASS RATED ASSEMBLIES FOR WOOD I-JOIST UNDER THE IBC AND IRC<sup>1</sup> (Continued)

GYPSUM	RESILIENT CHANNEL	INSULATION	SUPPORTS	SUBFLOOR	MATS	GYPSUM CONCRETE	FLOOR TOPPING
Two layers CertainTeed 5/8-inch-thick gypsum board fastened to resilient channels 12 inches o.c. with 1-inch Type S screws. Perimeter of first layer must be sealed with acoustical caulk	ClarkDietrich RC Deluxe <sup>®</sup> Resilient Channel (RCSD) spaced 16-inches o.c. perpendicular to supports and fastened at each support with 1-inch Type S screws.	Knauf EcoBatt <sup>®</sup> 3 1/2-inch-thick R-13 fiberglass loose laid installed directly over resilient channels	Weyerhaeuser TrusJoist <sup>®</sup> 360 12-inch deep wood I-Joists spaced 24-inches o.c.	3/4-inch-thick OSB adhered to the supports and attached with fasteners 8-inches o.c. at the perimeters and 12-inches o.c. along supports	SCM-400	1 1/4 inch FIRM-FILL <sup>®</sup> Gypsum Concrete	None
							2.0 mm thick vinyl plank flooring
							3.0 mm thick vinyl tile flooring
							1.7 mm thick vinyl sheet
							7.0 mm thick vinyl sheet with rubber backing
							12.7 mm thick engineered wood floor
							8.0 mm thick ceramic tile
Two layers CertainTeed 5/8-inch-thick gypsum board fastened to resilient channels 12 inches o.c. with 1-inch Type S screws. Perimeter of first layer must be sealed with acoustical caulk	ClarkDietrich Furring Channel/Hat Channel spaced 24 inches o.c. attached to PAC International RSIC-1 <sup>®</sup> Resilient Sound Insulation Clip installed into joists	John Mansville, Unfaced, 3 1/2-inch-thick R-13 fiberglass insulation installed between supports and flush with the subfloor	Weyerhaeuser TrusJoist <sup>®</sup> 360 12-inch Deep Wood I-Joists spaced 24-inches o.c.	3/4-inch-thick OSB adhered to the supports and attached with fasteners 8-inches o.c. at the perimeters and 12-inches o.c. along supports	SCM-250	1 inch FIRM-FILL <sup>®</sup> Gypsum Concrete	None
							3.0 mm thick vinyl planks
							3.0 mm thick resilient tile
							1.5 mm thick vinyl sheet
							12.1 mm thick hardwood floor
							7.8 mm thick ceramic floor tile

For **SI**: 1-inch = 25.4 mm

<sup>1</sup>Meets the sound transmission class (STC) of not less than 50 under 2021 and 2018 IBC Section 1206.2 (2015 and 2012 IBC Section 1207.2) and IRC Section AK102.1 and meets the impact insulation class (IIC) of not less than 50 under 2021 and 2018 IBC Section 1206.3 (2015 and 2012 IBC Section 1207.3) and IRC Section AK103.1, unless otherwise noted.

<sup>2</sup>Meets minimum rating requirements for STC for the IBC and IRC and the minimum rating requirements for IIC under the IRC. The assembly does not meet the minimum rating requirement for IIC under the IBC.

TABLE 3—SOUND TRANSMISSION CLASS RATED ASSEMBLIES FOR WOOD LUMBER UNDER THE IBC AND IRC<sup>1</sup>

GYPSUM	RESILIENT CHANNEL	INSULATION	SUPPORTS	SUBFLOOR	MATS	GYPSUM CONCRETE		FLOOR TOPPING
CertainTeed 5/8-inch-thick Type C gypsum board fastened to resilient channels 12-inches o.c.	ClarkDietrich RC Deluxe™ spaced 16-inches o.c. perpendicular to supports and fastened at each support.	Knauf EcoBatt 3 1/2-inch-thick R-13 fiberglass.	Nominal 2-inch by 10-inch wood lumber spaced 16-inches o.c.	3/4-inch-thick OSB adhered to the supports and attached with fasteners 8-inches o.c. at the perimeters and 12-inches o.c. along supports	NONE	3/4 inch	FIRM-FILL® 2010+	None <sup>3</sup>
					NONE	3/4 inch	FIRM-FILL® Gypsum Concrete	11.5 mm carpet with 11.0 mm 6lb carpet pad
					NONE	1 inch	FIRM-FILL® 3310+	11.5 mm thick carpet with 11.00 mm 6lb carpet pad
CertainTeed 5/8-inch-thick Type C gypsum board fastened to resilient channels 12-inches o.c.	ClarkDietrich RC Deluxe™ spaced 16-inches o.c. perpendicular to supports and fastened at each support.	Knauf EcoBatt 3 1/2-inch-thick R-13 fiberglass.	Nominal 2-inch by 10-inch wood lumber spaced 16-inches o.c.	3/4-inch-thick OSB adhered to the supports and attached with fasteners 8-inches o.c. at the perimeters and 12-inches o.c. along supports.	SCM-125	3/4 inch	FIRM-FILL® Gypsum Concrete	None <sup>2</sup>
								2.0 mm thick vinyl plank flooring
								3.0 mm thick vinyl tile flooring
								1.7 mm thick vinyl sheet
								7.0 mm vinyl sheet with rubber backing
								12.7 mm thick floating engineered wood floor
								8.0 mm thick ceramic tile

**TABLE 3—SOUND TRANSMISSION CLASS RATED ASSEMBLIES FOR WOOD LUMBER UNDER THE IBC AND IRC<sup>1</sup> (Continued)**

GYPSUM	RESILIENT CHANNEL	INSULATION	SUPPORTS	SUBFLOOR	MATS	GYPSUM CONCRETE		FLOOR TOPPING
CertainTeed <sup>5/8</sup> -inch-thick Type C gypsum board fastened to resilient channels 12-inches o.c.	ClarkDietrich RC Deluxe™ spaced 16-inches o.c. perpendicular to supports and fastened at each support.	Knauf EcoBatt 3½-inch-thick R-13 fiberglass.	Nominal 2-inch by 10-inch wood lumber spaced 16-inches o.c.	¾-inch-thick OSB adhered to the supports and attached with fasteners 8-inches o.c. at the perimeters and 12-inches o.c. along supports.	SCM-250	1 inch	FIRM-FILL® Gypsum Concrete	None <sup>2</sup>
								2.0 mm thick vinyl plank flooring
								3.0 mm thick vinyl tile flooring
								1.7 mm thick vinyl sheet
								7.0 mm thick vinyl sheet with rubber backing
								12.7 mm thick floating engineered wood floor
								8.0 mm thick ceramic tile.
					SCM-400	1¼-inch	FIRM-FILL® Gypsum Concrete FIRM-FILL® 2010+	None <sup>2</sup>
								2.0 mm thick vinyl plank flooring
								3.0 mm thick vinyl tile flooring
								1.7 mm thick vinyl sheet
								7.0 mm thick vinyl sheet with rubber backing
								12.7 mm thick floating engineered wood floor
								8.0 mm thick ceramic tile

For SI: 1 inch = 25.4 mm

<sup>1</sup>Meets the sound transmission class (STC) of not less than 50 under 2021 and 2018 IBC Section 1206.2 (2015 and 2012 IBC Section 1207.2) and IRC Section AK102.1 and meets the impact insulation class (IIC) of not less than 50 under 2021 and 2018 IBC Section 1206.3 (2015 and 2012 IBC Section 1207.3) and IRC Section AK103.1, unless otherwise noted.<sup>2</sup>Meets minimum rating requirements for STC for the IBC and IRC and the minimum rating requirements for IIC under the IRC. The assembly does not meet the minimum rating requirement for IIC under the IBC.<sup>3</sup>Meets minimum rating requirements for sound transmission class (STC) for the IBC and IRC. The assembly does not meet the rating requirement for impact insulation class (IIC) under the IBC or IRC.**TABLE 4—SOUND TRANSMISSION CLASS RATED ASSEMBLIES FOR CONCRETE UNDER THE IBC AND IRC<sup>1</sup>**

CONCRETE	MATS	GYPSUM CONCRETE		FLOOR TOPPING
6-inch-thick reinforced concrete slab	SCM-400	0.415-inch	FIRM-FILL® Gypsum Concrete	None
				1.47 mm thick vinyl flooring

For SI: 1 inch = 25.4 mm

<sup>1</sup>Meets the requirements the minimum rating requirements for STC under 2021 and 2018 IBC Section 1206.2 (2015 and 2012 IBC Section 1207.2) and IRC Section AK102.1 and meet the minimum rating requirement for IIC for use under 2021 and 2018 IBC Section 1206.3 (2015 and 2012 IBC Section 1207.3) and IRC Section AK103.1.

# ICC-ES Evaluation Report

# ESR-3386 CBC and CRC Supplement

Reissued November 2023

This report is subject to renewal November 2024.

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**DIVISION: 03 00 00—CONCRETE**

**Section: 03 54 00—Cementitious Underlayment**

**DIVISION: 09 00 00—FINISHES**

**Section: 09 60 13—Acoustical Underlayment**

## REPORT HOLDER:

HACKER INDUSTRIES, INC.

## EVALUATION SUBJECT:

**GYPSUM CONCRETE: FIRM-FILL® GYPSUM CONCRETE, FIRM-FILL® 2010+, FIRM-FILL® 3310+, FIRM-FILL® 4010, GYP-SPAN® RADIANT**

**MATS: FIRM-FILL SCM-125, FIRM-FILL SCM-250, FIRM-FILL SCM-400, FIRM-FILL SCM-750**

## 1.0 REPORT PURPOSE AND SCOPE

### Purpose:

The purpose of this evaluation report supplement is to indicate that the Gypsum Concrete and Mats, described in ICC-ES evaluation report ESR-3386, have also been evaluated for compliance with the codes noted below.

### Applicable code editions:

- 2022 and 2019 *California Building Code (CBC)*

For evaluation of applicable chapters adopted by the California Office of Statewide Health Planning and Development (OSHPD) AKA: California Department of Health Care Access and Information (HCAI) and the Division of State Architect (DSA), see sections 2.1.1 and 2.1.2 below.

- 2022 and 2019 *California Residential Code (CRC)*

## 2.0 CONCLUSIONS

### 2.1 CBC:

The Gypsum Concrete and Mats and floor/ceiling assemblies, as described in Sections 2.0 through 7.0 of the evaluation report ESR-3386, comply with CBC Sections 703, 711 and 1206, provided the design and installation are in accordance with the 2021 and 2018 *International Building Code®* (IBC) provisions noted in the evaluation report and the additional requirements of CBC Chapter 7 and 12, as applicable.

#### 2.1.1 OSHPD:

The applicable OSHPD Sections and Chapters of the CBC are beyond the scope of this supplement.

#### 2.1.2 DSA:

The applicable DSA Sections and Chapters of the CBC are beyond the scope of this supplement.

### 2.2 CRC:

The Gypsum Concrete and Mats and floor/ceiling assemblies, described in Sections 2.0 through 7.0 of the evaluation report ESR-3386, comply with CRC Sections R302.3 and AK103, provided the design and installation are in accordance with the 2021 and 2018 *International Residential Code®* (IRC) provisions noted in the evaluation report and the additional requirements of CRC Section R302 and AK103, as applicable.

This supplement expires concurrently with the evaluation report, reissued November 2023.



# ICC-ES Evaluation Report

# ESR-3386 FBC Supplement

Reissued November 2023

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**Section: 09 60 13—Acoustical Underlayment**

## REPORT HOLDER:

HACKER INDUSTRIES, INC.

## EVALUATION SUBJECT:

**GYPSUM CONCRETE: FIRM-FILL® GYPSUM CONCRETE, FIRM-FILL® 2010+, FIRM-FILL® 3310+, FIRM-FILL® 4010, GYP-SPAN® RADIANT**

**MATS: FIRM-FILL SCM-125, FIRM-FILL SCM-250, FIRM-FILL SCM-400, FIRM-FILL SCM-750**

## 1.0 REPORT PURPOSE AND SCOPE

### Purpose:

The purpose of this evaluation report supplement is to indicate that the Gypsum Concrete and Mats, described in ICC-ES evaluation report ESR-3386, have also been evaluated for compliance with the codes noted below.

### Applicable code editions:

- 2020 *Florida Building Code—Building*
- 2020 *Florida Building Code—Residential*

## 2.0 CONCLUSIONS

The Gypsum Concrete and Mats and floor/ceiling assemblies, described in Sections 2.0 through 7.0 of ICC-ES evaluation report ESR-3386, comply with the *Florida Building Code—Building* and *Florida Building Code—Residential*. The design requirements shall be determined in accordance with the *Florida Building Code—Building* or the *Florida Building Code—Residential*, as applicable. The installation requirements noted in ICC-ES evaluation report ESR-3386 for the 2018 *International Building Code®* meet the requirements of the *Florida Building Code—Building* or the *Florida Building Code—Residential*, as applicable.

Use of the Gypsum Concrete and Mats and floor/ceiling assemblies for compliance with the High-Velocity Hurricane Zone provisions of the *Florida Building Code—Building* or the *Florida Building Code—Residential* has not been evaluated, and is outside the scope of this supplemental report.

For products falling under Florida Rule 61G20-3, verification that the report holder's quality assurance program is audited by a quality assurance entity approved by the Florida Building Commission for the type of inspections being conducted is the responsibility of an approved validation entity (or the code official when the report holder does not possess an approval by the Commission).

This supplement expires concurrently with the evaluation report, reissued November 2023.