



ICC-ES Listing Report ESL-1452

Reissued August 2024

This listing is subject to renewal August 2025.

CSI: DIVISION: 03 00 00—CONCRETE
Section: 03 54 00—Cementitious Underlayment

Product Certification System:

The ICC-ES product-certification system includes evaluating reports of tests of standard manufactured product, prepared by accredited testing laboratories and provided by the listee, to verify compliance with applicable codes and standards. The system also involves factory inspections, and assessment and surveillance of the listee's quality system.

Products: GYPSUM CONCRETE: FIRM-FILL® Gypsum Concrete, FIRM-FILL® 2010+, FIRM-FILL® 3310+, FIRM-FILL® 4010, AND GYP-SPAN® RADIANT.

MATS: FIRM-FILL SCM-125, FIRM-FILL SCM-250, FIRM-FILL SCM-400, AND FIRM-FILL SCM-750.

Listee: HACKER INDUSTRIES, INC.

Evaluation: The FIRM-FILL® Gypsum Concrete products are dry mixes consisting of gypsum and Portland cement provided in bags or containers of various sizes. The Firm-Fill mat products have an entangled plastic net core with a non-woven fabric backing. These products were evaluated as components of a full scale floor/ceiling assembly described below and tested in accordance with the following standards:

- ASTM E119 (-2012A and 2008A), Standard Test Methods for Fire Tests of Building Construction and Materials, ASTM International.
- UL 263 (-11 and -03 with revisions through October 2007), Standard for Fire Tests of Building Construction and Materials, Underwriters Laboratories Inc.

Assembly: The floor/ceiling assembly consists of the following components as shown in Figure 1.

Findings: The FIRM-FILL® Gypsum Concrete and FIRM-FILL mat products, as components of the floor/ceiling assembly described in the Assembly section above, meets the one-hour fire-resistance-rated requirements, based on testing in accordance with ASTM E119 / UL 263. The applicable section of the following code editions is as follows:

- 2015 and 2012 *International Building Code*®
Applicable Section: 703.2
- 2015 and 2012 *International Residential Code*®
Applicable Section: R302

Identification:

1. The bags of gypsum concrete dry mix are identified with the Hacker Industries, Inc. name, product name, the date of manufacture, the evaluation report number ([ESR-3386](#)) and / or listing report number (ESL-1452) and when applicable, the ICC-ES listing mark.

The rolls of mats are identified with the Hacker Industries, Inc. name, product name, the date of manufacture, the evaluation report number ([ESR-3386](#)) and / or the listing report number (ESL-1452), and when applicable, the ICC-ES Listing Mark.

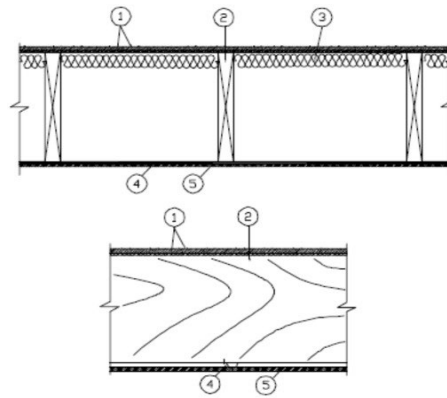
2. The report holder's contact information is the following:

HACKER INDUSTRIES, INC.
1401 DOVE STREET, SUITE 640
NEWPORT BEACH, CALIFORNIA 92660
(949) 729-3101
www.hackerindustries.com

Installation: The product must be installed in accordance with the Hacker Industries, Inc.'s published installation instructions and applicable codes.

Conditions of Listing:

1. Additional attributes and their applications can be found in the ICC-ES evaluation report [ESR-3386](#).
2. The listing report addresses only conformance with the standard noted above.
3. Approval of the product's use is the sole responsibility of the local code official.
4. The listing report applies only to the products tested and as submitted for review by ICC-ES.
5. The FIRM-FILL® Gypsum Concrete and FIRM-FILL mat products are manufactured under a quality control program with inspections by ICC-ES.
6. The Assembly Section, when the floor/ceiling assembly uses the FIRM-FILL® Gypsum Concrete and FIRM-FILL mat products as components, does meet the requirements for the one-hour fire-resistance-rated test, based on testing as described in the Findings.



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 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.
- Vapor Barrier — (Optional) - Nominal 0.030 in. thick commercial asphalt saturated felt.
- Alternate Floor Mat Materials* — Floor mat material nom 1/8 in. (3mm) thick loose laid over the subfloor. Floor topping thickness shall be a minimum of 3/4 in.

HACKER INDUSTRIES INC.:

- FIRM-FILL SCM 125

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

HACKER INDUSTRIES INC.:

- FIRM-FILL SCM 400

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

HACKER INDUSTRIES INC.:

- FIRM-FILL SCM 400

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

HACKER INDUSTRIES INC.:

- FIRM-FILL SCM 750

- Metal Lath (Optional) — For use with 3/8 in. floor mat materials, 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 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 1/2 in. thick and shall be secured against the underside of the subflooring with staples at 12 in. OC.

4. Resilient Channels — Nominal 1/2 in. deep by 2 3/8 in. wide at the base and 1 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 1/4 in. long Type S screws.

5. Gypsum Board* — Nominal 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 1/2 in. from side and end joints. Butted end joints shall be staggered minimum 9 ft 4 in. within the assembly.

CERTAINTED GYPSUM INC.:

- Type 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—FIRE-RESISTANCE-RATED FLOOR/CEILING ASSEMBLY – 1 HOUR
Fire Resistance Ratings - ANSI/UL 263 and ASTM E119
Unrestrained Assembly Rating — 1 Hr
FLOOR/CEILING Assembly Incorporating Wood Joints