



Report of Materials and Equipment Acceptance Division

NYC Department of Buildings
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Pursuant to Administrative Code Section 27-131, the following equipment or material has been found acceptable for use subject to the terms and conditions contained herein.

MEA 133-05-M Vol. II

Manufacturer: United States Gypsum Company, 125 S. Franklin Street, Chicago, ILL. 60606-4678

Trade Name(s): LEVELROCK® Brand Floor Underlayment CSD (Corrugated Steel Deck)
LEVELROCK® Brand Floor Underlayment CSD (Corrugated Steel Deck) RH (Radiant Heat)

Product: Gypsum based floor topping products for fire rated floor assemblies.

Pertinent Code Section(s): 27-323

Prescribed Test(s): RS 5-6 (ASTM E119)

Laboratory: Underwriters Laboratories Inc.

Test Report(s): Underwriters Laboratories Inc. Engineering Evaluation, Dated April 8, 2005, Project 05NK10227, Test Report 05NK09543 dated July 28, 2005

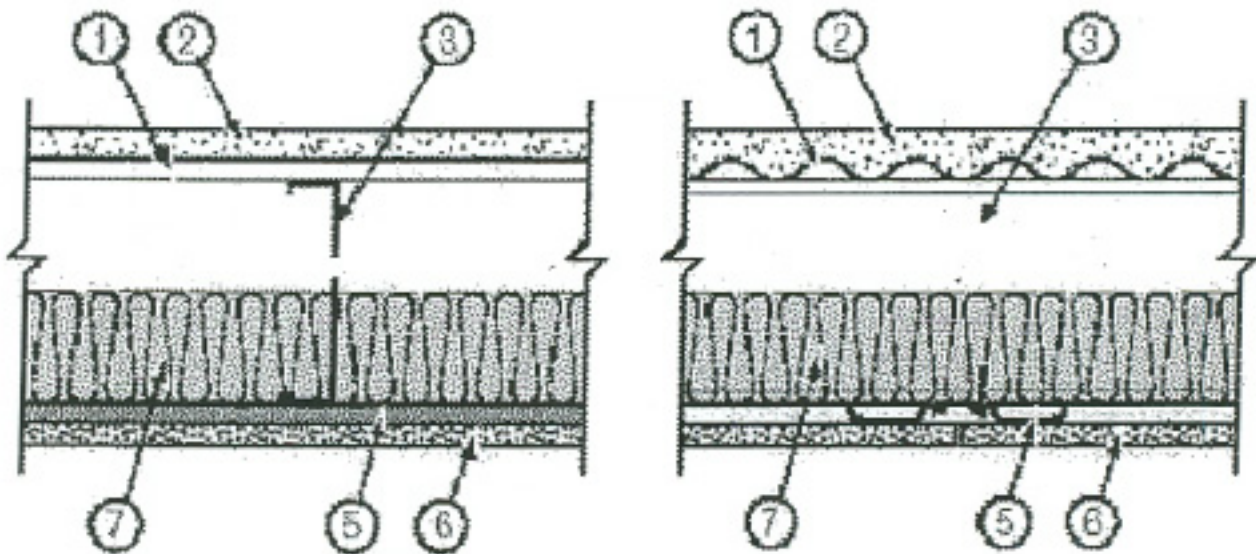
Description: LEVELROCK® Brand Floor Underlayment CSD and LEVELROCK® Brand Floor Underlayment CSD RH products are designed for use over corrugated steel decks. The products are mixed with sand and water at the jobsite to yield a lightweight floor topping slurry. LEVELROCK® Brand Floor Underlayment CSD RH is specifically designed for radiant heat floor installations. Typical poured thickness is minimum 1 inch per manufacturer's installation instructions.

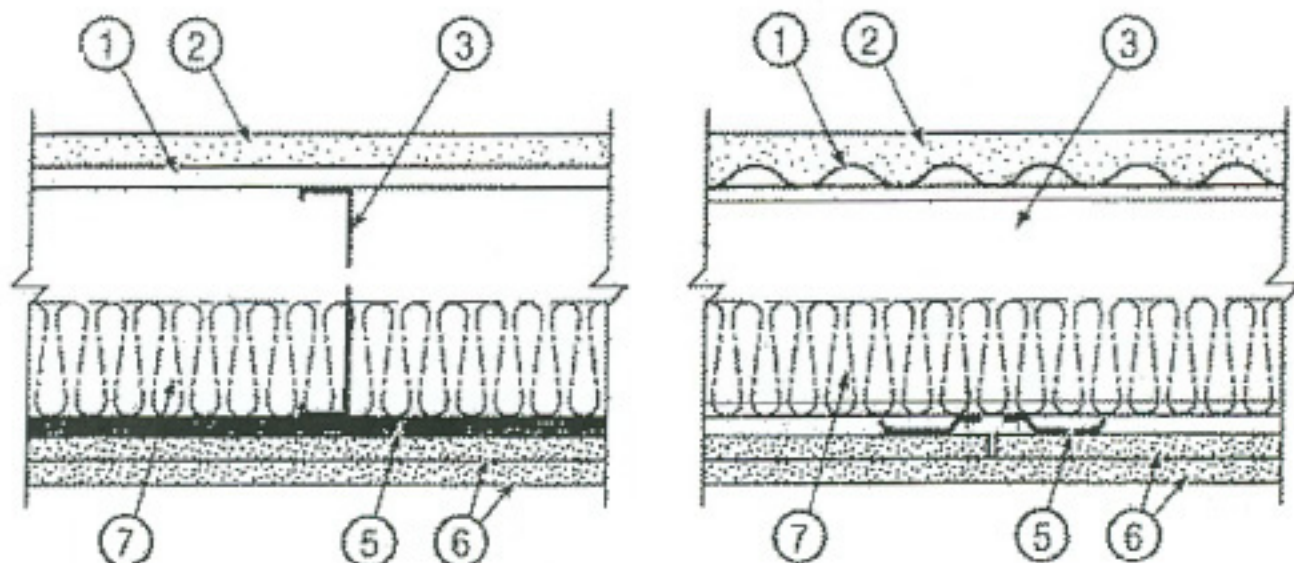
LEVELROCK® Brand Floor Underlayment CSD and LEVELROCK® Brand Floor Underlayment CSD RH are approved for use in UL Fire Resistant Designs G551 (1 hour and 2 hour fire resistance ratings).

Design No. G551

July 27, 2005

Unrestrained Assembly Rating - 1 or 2 Hr.





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

2. **Floor Topping Mixture*** — Compressive strength to be 2500 psi min. Minimum thickness to be 1 in. as measured from the top plane of the deck. 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 maximum application rate of 0.025 lbs./ft².

UNITED STATES GYPSUM CO — LEVELROCK® Brand™ CSD or LEVELROCK™ CSD RH

3. **Structural Steel Members*** — The proprietary joists are channel-shaped, 9-1/4 in. min depth. Joists are fabricated from min No. 16 MSG galv steel. Joists spaced max 24 in. OC. Joists attached to joist rim with three 3/4 in. long self-drilling #10-16 TEK screws through 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 3/4 in. long self-drilling #10-16 TEK screws to each rim piece.

DIETRICH INDUSTRIES INC — Type TDJ or TDW floor joists, TD24 rim joist

4. **Joist Bridging** — Not shown — Installed immediately after joists are erected and before construction loads are applied. The bridging, 2½TDSB18, consisting of No. 18 MSG galv steel, 2-1/2 in. wide by 21-3/4 in. long structural bridging staggered between the steel joists attached to the bottom joist flange with one 3/4 in. long self-drilling #10-16 TEK screw at each end tab of bridging. Solid bridging consisting of cut to length joist sections placed between outer joists and at center joist with 8 ft OC max spacing. Solid bridging are screw-attached at joist web using EasyClip™ S-Series S547 (which is a 1-1/2 in. by 1-1/2 in. by 7 in. long, 16 MSG, min 50 ksi

support clip) with two 3/4 in. long self-drilling #10-16 TEK screws per leg on one side and the other side with an EasyClip™ E-Series E547 (which is a 4 in. by 1-1/2 in. by 7 in. long, 16 MSG, min 50 ksi support clip) with two 3/4 in. long self-drilling #10-16 TEK screws per leg.

5. Resilient Channels — 1/2 in. deep, formed of 25 MSG galv steel, spaced 12 in. OC perpendicular to joists. Channels oriented opposite at wallboard butt-joints. Channel splices overlapped 4 in. beneath steel joists. Channels secured to each joist with 1/2 in. Type S-12 low profile screws. Channels oriented opposite at wallboard butt joints (spaced 6 in. OC) as shown in the above illustration.

5A. Alternate Steel Framing Members — For the 1 Hour Rating - (Not Shown) - As an alternate to Item 5, main runners, cross tees, cross channels and wall angle as listed below:

a. **Main Runners** — Nom 10 or 12 ft long, 15/16 in. or 1-1/2 in. wide face, spaced 4 ft. OC. Main runners suspended by min 12 SWG galv steel hanger wires spaced 48 in. OC. Hanger wires to be located adjacent to main runner/cross tee intersections. Hanger wires inserted through holes drilled through web of joists and twist-tied.

b. **Cross Tees** — Nom 4 ft long, 1-1/2 in. wide face, installed perpendicular to the main runners, spaced 16 in. OC. Additional cross tees or cross channels used at 8 in. from each side of butted gypsum panel end joints. The cross tees or cross channels may be riveted or screw attached to the wall angle or channel to facilitate the ceiling installation.

c. **Cross Channels** — Nom 4 or 12 ft long, installed perpendicular to main runners, spaced 16 in. OC.

d. **Wall Angle or Channel** — Painted or galv steel angle with 1 in. legs or channel with 1 in. legs, 1-9/16 in. deep attached to walls at perimeter of ceiling with fasteners 16 in. OC. To support steel framing member ends and for screw-attachment of the gypsum panel.

CGC INC — Type DGL or RX.

USG INTERIORS INC — Type DGL or RX.

6. Gypsum Board* — For the 1 Hour Rating - Nom 5/8 in. thick, 48 in. wide gypsum panels. When resilient channels (Item 5) are used, gypsum panels installed with long dimension perpendicular to resilient channels. Gypsum panels secured with 1 in. long Type S bugle-head screws spaced 8 in. OC in both the field and the perimeter, and 1-1/2 in. from side edges of the board. When Steel Framing Members (Item 5A) are used, gypsum panels installed with long dimension perpendicular to

cross tees with side joints centered along main runners and end joints centered along cross tees. Panels fastened to cross tees with 1 in. long Type S bugle-head screws spaced 8 in. OC in the field and along end joints. Panels fastened to main runners with 1 in. long Type S bugle-head screws spaced midway between cross tees. Screws along sides and ends of panels spaced 3/8 to 1/2 in. from panel edge. End joints of panels shall be staggered with spacing between joints on adjacent panels not less than 2 ft OC. For the 2 Hour Rating - Nom 5/8 in. thick, 48 in. wide gypsum panels. Base layer installed with long dimension perpendicular to resilient channels. Gypsum panels secured with 1-1/4 in. long Type S bugle-head screws spaced 12 in. OC in both the field and the perimeter, and 1-1/2 in. from side edges of the board. Face layer installed with long dimension perpendicular to resilient channels with joints offset 24 in. from base layer. Gypsum panels secured with 1-5/8 in. long Type S bugle-head screws spaced 8 in. OC in both the field and the perimeter, and 1-1/2 in. from side edges of the board. At the butt joint 1-1/2 in. long Type G screws to be installed to attach face layer to base layer. Type G screws spaced 8 in. OC and 1-1/2 in. from side edges of the board.

CANADIAN GYPSUM COMPANY — Types C, IP-X2, IPC-AR

UNITED STATES GYPSUM CO — Types C, IP-X2, IPC-AR

USG MEXICO S A DE C V — Types C, IP-X2, IPC-AR

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.

*Bearing the UL Classification Mark

Terms and Conditions: That the LEVELROCK® Brand Floor Underlayment CSD and LEVELROCK® Brand Floor Underlayment CSD RH products be accepted for use for fire resistant construction in accordance with UL design G551. This acceptance does not include structural adequacy of floor ceiling designs, which must be checked for particular structures for compliance with the building codes. All shipments and deliveries of such materials shall be provided with a certificate or label certifying that the material shipped or delivered is equivalent to that tested and acceptable for use, as provided for in Section 27-131 of the Building Code.

Final Acceptance October 21, 2005

Examined By Sim Derkholan