

CITY OF NEW YORK
DEPARTMENT OF BUILDINGS

Pursuant to Administrative Code Section 27-131, the following equipment or material has been found acceptable for use in accordance with the Report of the Material and Equipment Acceptance (MEA) Division.

Patricia J. Lancaster, F.A.I.A., Commissioner

MEA 474-04-M

Report of Material and Equipment Acceptance Division

Manufacturer- Dietrich Industries, Inc. 500 Grant Street Suite 2226,
Pittsburgh, Pennsylvania 15219.

Trade Name- Dietrich.

Product- Fire Protection for pre-fabricated floor/ceiling assemblies.

Pertinent Code Section(s)- 27-323, 27-324.

Prescribed Test(s)- RS 5-2 (ASTM E119).

Laboratory- Underwriters Laboratories Inc.

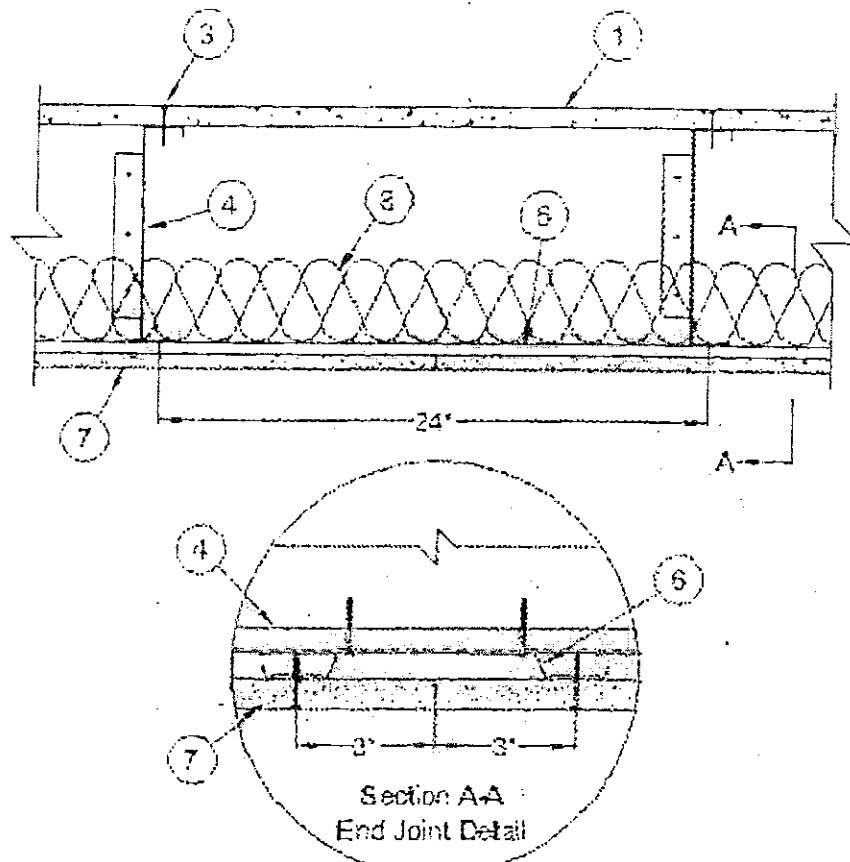
Test Report- File R21191 Project 02NK52507 dated May 16, 2003.

Description- Pre-fabricated floor/ceiling assembly fire protection utilizing the TradeReady System has premanufactured holes that allows for mechanical, electrical and HVAC service. The system's rimtrack is manufactured with integral tabs that automatically space the joist and reinforce the connections. The system shall be constructed in achieving the fire resistance ratings listed below, in accordance with the thickness and installation requirement in Underwriters Laboratories Inc., File R21191, UL Design No. L56 and G551.

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September 30, 2004

Unrestrained Assembly Rating - 1 Hr.



1. Flooring — Structural Cement-Fiber Units* — 3/4 in. (19 mm) thick, with long edges tongue and grooved

VIROC/PORTUGAL**INDUSTRIAS DE MADEIRA E CIMENTO S A**

2. Adhesive — (Not Shown) - "Enerbond" 45 spray foam adhesive applied to butt joints and to tongue and grooved edges of flooring

3. Flooring Fasteners — The Structural Cement-Fiber Units* — The structural cement-fiber units* - (Item 1) are to be fastened to the steel joists with self-drilling, self-countersinking No 8 by 1-5/16 in. (33 mm) long steel screws spaced 12 in. (305 mm) OC in both the field and perimeter and 1 in. (25 mm) from the side edges of the board.

4. Structural Steel Members* — The proprietary joists are channel-shaped, 9-1/4 in. (235 mm) min depth Joists are fabricated from min No. 16 MSG galv steel. Joists spaced max 24 in. (610 mm) OC. Joists attached to joist rim with three No. 10-16 by 3/4 in. (19 mm) long self-drilling steel 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. (305 mm) long splice plate (a joist piece), with 4, four No 10-16 by 3/4 in. (19 mm) long self-drilling steel TEK screws to each rim piece

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

5. **Joist Bridging** — Not Shown — Installed at the center of the joist span immediately after joists are erected and before construction loads are applied. The bridging (2-1/2 TDSB18) consists of No. 18 MSG galv steel channels, 2-1/2 in. (64 mm) wide by 1-1/4 in. (32 mm) deep by 21-3/4 in. (552 mm) long with 2-1/8 in. (54 mm) long web extensions at each end for screw-attachment to the bottom flange of the steel joists with a No. 10-16 by 3/4 in. (19 mm) long self-drilling steel TEK screw. Solid bridging consisting of cut-to-length joist sections placed between the outermost joists and between the centermost joists with a max spacing of 8 ft. (2.4 m) OC. Solid bridging are screw-attached at joist web using a 1-1/2 by 1-1/2 by 7 in. (38 by 38 by 178 mm) long, No. 16 MSG, min 50 ksi steel support clip (EasyClip S-Series S547) with two No. 10-16 by 3/4 in. (19 mm) long self-drilling, steel TEK screws per leg on one side and on the other side with a 4 by 1-1/2 by 7 in. (102 by 38 by 178 mm) long No. 16 MSG, min 50 ksi steel support clip (EasyClip E-Series E547) with two No. 10-16 by 3/4 in. (19 mm) long self-drilling, steel TEK screws per leg.

6. **Resilient Channels** — 1/2 in. (13 mm) deep, formed of No. 25 MSG galv steel, spaced max 12 in. (305 mm) OC perpendicular to joists. Channels overlapped 4 in. (102 mm) beneath steel joists at splices. Channels secured to each joist with 1/2 in. (13 mm) long Type S-12 low profile steel screw. Channels located 3 in. (76 mm) from each side of butted gypsum board end joints.

6A. **Steel Framing Members*** — (Not Shown) — When it is desired to drop the ceiling below the bottom plane of the structural steel members, steel framing members may be used in addition to the resilient channels (Item 6) which must be retained to support the mineral wool or glass fiber insulation (Item 8). Nom 12 ft (3.66 m) long main runners installed perpendicular to structural steel members and spaced 48 in. (1.22 m) OC. Main runners suspended from structural steel members with No. 12 SWG galv steel hanger wires reliably secured to the bottom flange of the structural steel members with screw-attached steel clips and spaced max 48 in. (1.22 m) OC. Nom 4 ft (1.22 m) long cross tees with 1-1/2 in. (38 mm) wide face installed perpendicular to main runners and spaced max 12 in. (305 mm) OC. Cross tees located 4 in. (102 mm) from each side of butted gypsum board end joints. Ends of steel framing members at walls to be supported by galv or painted steel angles or channels with min 1 in. (25 mm) horizontal leg.

ARMSTRONG WORLD INDUSTRIES INC — Type DFR-8000

7. **Gypsum Board*** — One layer of 5/8 in. (16 mm) thick by 48 in. (1.22 m) wide sheets installed with long dimension perpendicular to resilient channels and with side joints located midway between the structural steel members. Attached to the resilient channels or to the steel framing member cross tees using 1 in. (25 mm) long Type S bugle head drywall screws spaced 1-1/2 in. (38 mm) and 4 in. (102 mm) from the side edges of the board and 8 in. (203 mm) OC in the field of the board.

CANADIAN GYPSUM COMPANY — Type C

UNITED STATES GYPSUM CO — Type C

8 Batts and Blankets* — Mineral wool or glass fiber insulation, min 3-5/8 in. (92 mm) thick, bearing the UL Classification Marking for Surface Burning Characteristics, having a flame spread value of 25 or less and a smoke value of 50 or less. Insulation friction-fit between structural steel members, and supported by the resilient channels (Item 6)

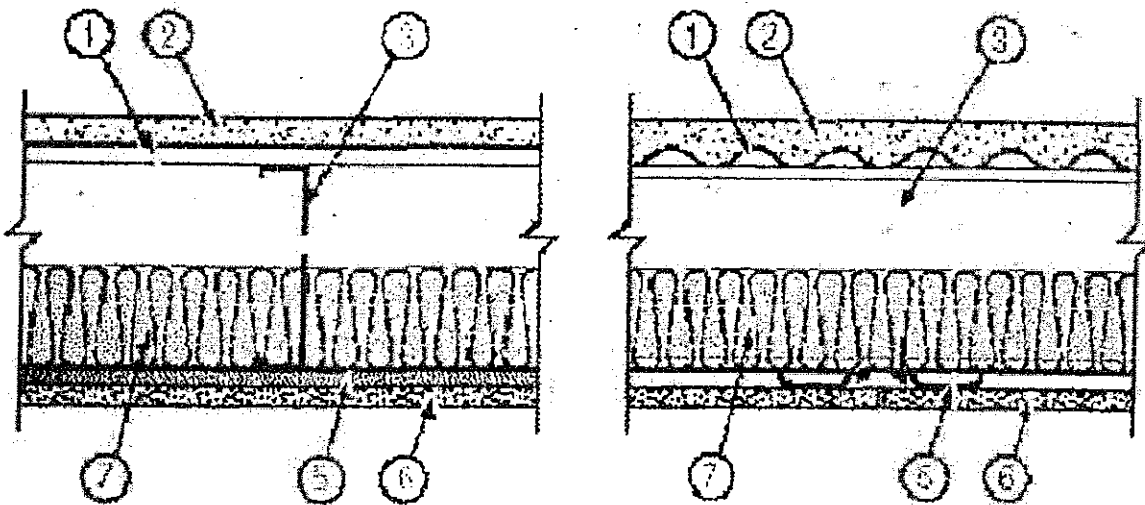
9 Joint System — (Not Shown) — Vinyl, dry or premixed joint compound, applied in two coats to joints and screw heads. Paper tape, 2 in. (51 mm) wide, embedded in first layer of compound over all joints

*Bearing the UL Classification Mark

Design No. G551

November 16, 2004

Unrestrained Assembly Rating - 1 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 12-3/8 in. OC between sides. (description taken from G534, Item 6).

2. Floor Topping Mixture* — Compressive strength to be 2500 psi min. Thickness to be 3/4 in. min as measured from the top plane of the deck. Refer to manufacturer's instructions accompanying the material for specific mix design.

UNITED STATES GYPSUM CO — LEVELROCK™ CSD or LEVELROCK™

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, 2x-TDSB18, 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.

6. **Gypsum Board*** — One layer of 5/8 in. thick by 48 in. wide sheets installed with long dimension perpendicular to resilient channels. Attached to the resilient channels using 1 in. Type S bugle-head drywall screws spaced 8 in. OC in both the field and the perimeter, and 1-1/2 in. from side edges of the board.

CANADIAN GYPSUM COMPANY — Type C

UNITED STATES GYPSUM CO — Type C

USG MEXICO S A DE CV — 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, having a flame spread value of 25 or less and a smoke developed value of 50 or less. Insulation fitted in the concealed space, draped over the resilient channel/gypsum board 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

Last Updated on 20041110

Recommendation – That the above described prefabricated floor/ceiling assembly be accepted as having the fire resistance ratings listed above. All shipments and deliveries of this assembly shall be accompanied by a certificate or label certifying that the assembly shipped or delivered are equivalent to that tested and acceptable for use, as provided for in Section 27-131 of the Building Code.

Final Acceptance 3/30/05

Examined By S. Derphutan