



[BOCA International, Inc.](http://www.bocai.org)

4051 West Flossmoor Road • Country Club Hills, IL 60478-5795

telephone (708) 799-2305 • fax (708) 799-0310

e-mail: boca-es@bocai.org • <http://www.bocai.org>

EVALUATION REPORT

92•19

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[DIVISION 09 – FINISHES](#)

[Section 09260 – Gypsum Board Assemblies](#)

MANUFACTURER:

DIETRICH INDUSTRIES, INC.
500 GRANT STREET, SUITE 2226
PITTSBURGH, PENNSYLVANIA 15219
Phone: (412) 281-2805
e-mail: bkutchma@dietrichindustries.com
www.dietrichindustries.com

EVALUATION SUBJECT:

H-STUD AREA SEPARATION WALL

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Compliance with the following code:

BOCA National Building Code/1999

FIRERESISTANCE TESTS

- Section 704.1.1 Fireresistance ratings
- Section 704.4.1.1 Elementary materials

FIRE WALLS AND PARTY WALLS

- Section 707.1 General

FIRE SEPARATION ASSEMBLIES

- Section 709.1 General

FIRE PARTITIONS

- Section 711.1 General

LIVE LOADS

- Section 1606.9 Interior walls and partitions

GYPSUM BOARD MATERIALS

- Section 106.4 Alternative materials and methods
- Section 2503.2 Standards

description

Dietrich Industries H-Stud Area Separation Wall is a nonloadbearing, vertical wall assembly for use as a fire wall and party wall, fire separation assembly or fire partition with a maximum fireresistance rating of 2 hours. The wall assembly consists of [Dietrich Industries U-Tracks](#), [Dietrich Industries H-Studs](#), [Type X gypsum shaftliner panels](#), [aluminum angle clips](#) and [accessories](#) (see [Figures 1](#) and [2](#)).

■ System Components

Steel Framing

- **Dietrich Industries U-Track** is fabricated from cold-formed steel complying with ASTM C645. The tracks are 'U'-shaped, 2 in. (51 mm) wide, and have a nominal base metal thickness of 0.021 in. (0.533 mm) (25 gage).
- **Dietrich Industries H-Stud** is fabricated from cold-formed steel complying with ASTM C645. The studs are 'H'-shaped, 2 in. (51 mm) wide, and have a nominal base metal thickness of 0.021 in. (0.533 mm) (25 gage).

■ Gypsum Panels

- **Type X shaftliner gypsum panel**, complying with ASTM C442 as manufactured by United States Gypsum Company, National Gypsum Gold Bond or Lafarge Gypsum, is 2 ft. (610 mm) wide by 1 in. (25.4 mm) thick.

■ Aluminum Clips

- **An aluminum angle clip** is 2 in. (51 mm) wide, 0.060 in. (1.5 mm) thick and has a melting point of 1,220 degrees F (668 degrees C). The angle clip has two legs. One 2 in. (51 mm) leg fastens to the shaft wall system. The other 2 1/2 in. (64 mm) leg fastens to the supporting construction.

■ Accessories

- **Powder-actuated fasteners** to secure the U-Track to the concrete.
- 3/8 in. (9.5 mm) #6 pan head Type S drywall screws to secure the U-tracks together.
- 2 in. (51 mm) Type S drywall screws to secure the shaftliner panels and the H-Studs together with the U-Tracks.
- 1 in. (25.4 mm) bugle head Type S screws to secure the aluminum clips to the H-Stud Separation Wall and supporting construction.
- Minimum 3/4 in. (19.1 mm) airspace on each side of the wall.

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This report is limited to the applications and products as stated herein. BOCA intends that the report is to be used by the code official to determine that the report subject complies with the code requirements specifically addressed, provided the report subject is installed in accordance with the following conditions:

- Where used as interior walls and partitions which are subject to a maximum 5 psf (239 Pa) lateral load, the total wall height shall not exceed 50 ft. (15 240 mm) with studs spaced 24 in. (610 mm) on center. The aluminum clips shall be secured vertically every 10 ft. (3050 mm) to the floor/ceiling and roof/ceiling assemblies. Where the total height of the H-Stud Area Separation Wall exceeds 40 ft. (12 200 mm), aluminum clips shall also be installed every 4 ft. 6 in. (1370 mm) vertically for the lower 10 ft. (3050 mm) of the wall assembly.
- Installation shall be in accordance with the manufacturer's published installation instructions, subject to the conditions of this report.
- The evaluation is limited to the use of the H-Stud Area Separation Wall in interior, nonloadbearing applications only. Where used as a fire or party wall, the assembly shall be continuous to the underside of the roof sheathing, deck or slab and shall comply with Section 707.6.1, 707.6.2 or 707.6.3 of the *BOCA National Building Code/1999*.
- Evaluation of Dietrich Industries H-Stud Area Separation Wall for in-plane and lateral loads, such as wind or seismic, for use as an exterior wall or for use as a loadbearing wall is outside the scope of this report.
- Evaluation of Dietrich Industries H-Stud Area Separation Wall for a fire resistance rating in either a horizontal application or in an offset fire wall application is outside the scope of this report.

items requiring verification

The following items are related to the installation of the report subject, but are not within the scope of this evaluation. However, these items are related to the determination of code compliance:

- ✓ Fire and party wall continuity shall comply with the provisions of Sections 707.1 and 707.6 of the *BOCA National Building Code/1999*.
- ✓ Vertical fire separation assembly continuity shall comply with the provisions of Section 709.4 of the *BOCA National Building Code/1999*.
- ✓ Fire partition continuity shall comply with the provisions of Section 711.4 of the *BOCA National Building Code/1999*.
- ✓ The gypsum shaftliner panels used in this assembly shall be marked in accordance with the requirements of ASTM C442.

application for permit

To aid in the determination of code compliance, the following represents the minimum level of information to accompany the application for permit:

- The language "See BOCA International, Inc. Research Report No. 92-19" or a copy of this report.
- Specifications indicating whether a fire and party wall, fire separation assembly or fire partition design is being used.
- Detail section indicating all system components, including the minimum dimension of the air gap, and continuity requirements.
- Detail section specifying the methods of attachment to the floor slab or foundation and floor/ceiling assembly or roof sheathing, roof slab or roof deck.
- Details of openings and penetrations including sizing, fire protection ratings of the openings and fire resistance ratings of penetrations.
- Copy of the certification indicating the shaftliner complies with ASTM C442.

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- Dietrich Industries published installation instructions with publication identification code HS 3000.
- Engineering calculations and analysis signed and sealed by John P. Matsen, P.E., establishing Dietrich Industries H-Stud Area Separation Wall has adequate strength to resist a horizontal load of not less than 5 psf (239 Pa).
- Engineering calculations and analysis signed and sealed by John P. Matsen, P.E., establishing equivalence between ASTM C442 and ASTM C36.
- Intertek Testing Services, Report No. WHI-495-1396/1398, dated June 26, 1998, containing results of a fire endurance and hose stream test on a nonloadbearing wall assembly simulating the dead load of a 50 ft. (15 240 mm) high section of wall.
- Commercial Testing Company, Report No. 71738, Test No. 2107-318, dated February 9, 1990, and Report No. 72828, Test No. 2137-2583, dated April 20, 1990, containing results of fire endurance and hose stream tests on non-loadbearing wall assemblies.

product identification

All Dietrich Industries H-Stud Area Separation Wall components or their packaging manufactured in accordance with this research report shall be marked at the plant with the identifying language.

- "See BOCA International, Inc. Research Report No. 92-19."

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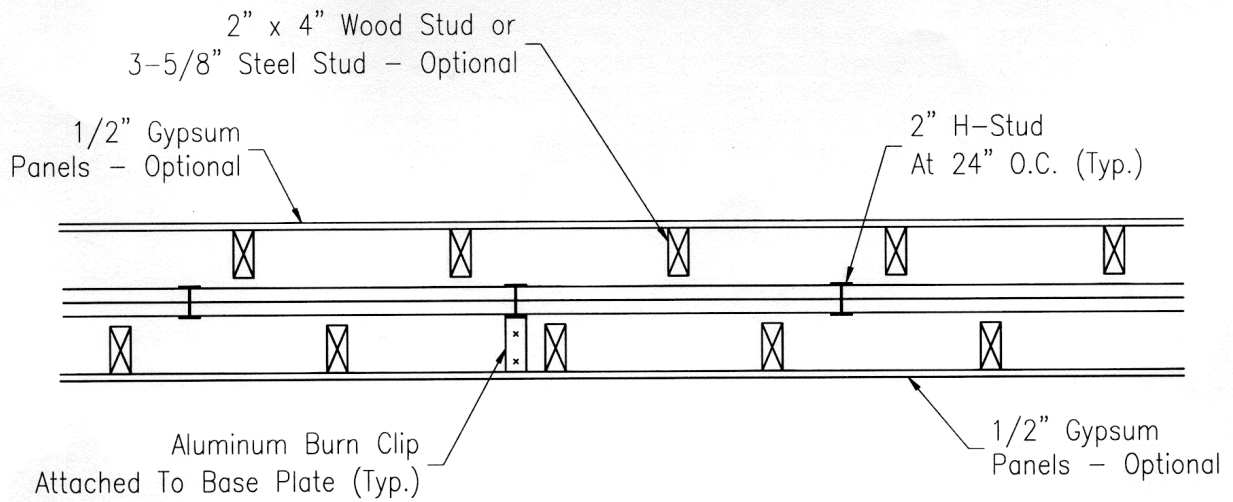


FIGURE 1*
2-HOUR AREA SEPARATION WALL

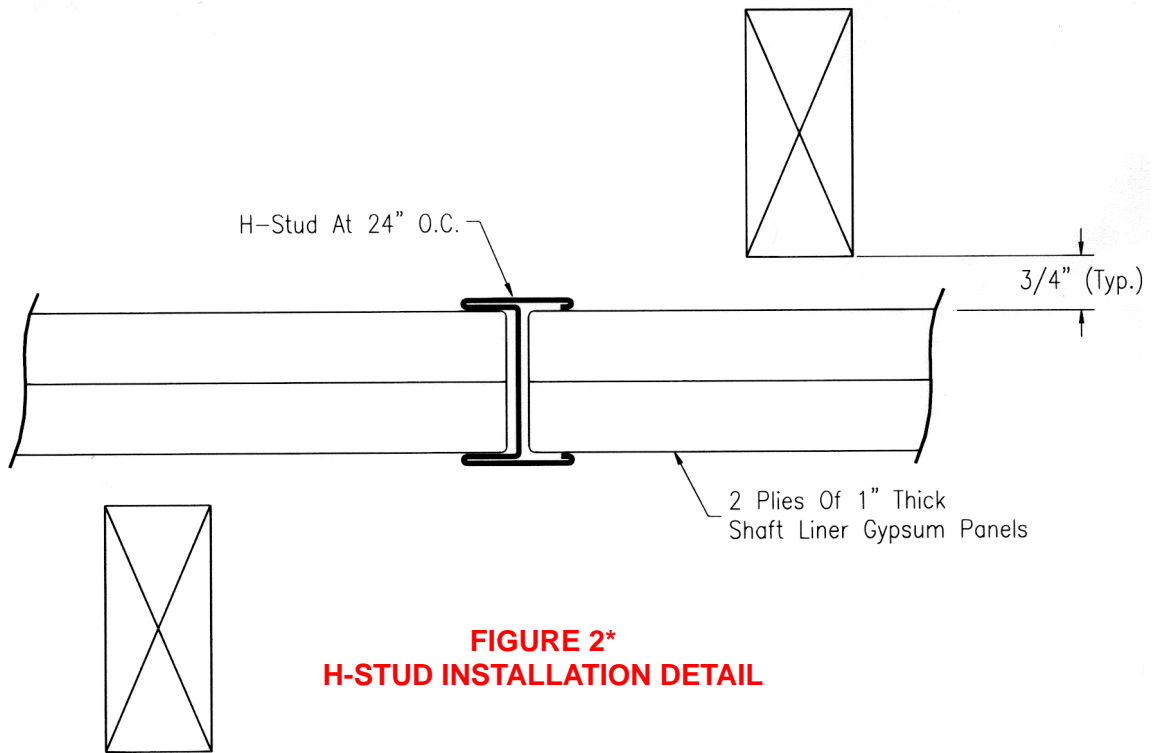


FIGURE 2*
H-STUD INSTALLATION DETAIL

*THESE DRAWINGS ARE FOR ILLUSTRATION PURPOSES ONLY. THEY ARE NOT INTENDED FOR USE AS CONSTRUCTION DOCUMENTS FOR THE PURPOSE OF DESIGN, FABRICATION OR ERECTION.

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