

GOLD BOND® BRAND

H-STUD AREA SEPARATION WALL SYSTEM

MANUFACTURER

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DESCRIPTION

The H-Stud Area Separation Wall consists of 2" light-gauge steel H-Studs, which secure two layers of 1" Fire-Shield Shaftliner board between adjacent studs.

BASIC USES

Gold Bond H-Stud Area Separation Wall System is a lightweight, easily erected cavity drywall system designed to be a vertical fire barrier between adjacent wood frame dwelling units such as apartments, condominiums and townhouses. Its high STC ratings provide acoustical privacy as well as 2-hour fire endurance ratings.

Note: Gold Bond H-Stud Area Separation Wall Systems have been tested using Gold Bond metal and gypsum products exclusively. Substitution of components not sold by National Gypsum may adversely affect system performance and is not recommended. National Gypsum makes no warranties as to any such substituted component.

ADVANTAGES

- Provides continuous fire resistant membrane from foundation to roof, unbroken by floor or roof structural members.
- Both the Area Separation Wall and the structural framings can be erected quickly by carpenter tradesmen.
- Ease and speed of erection.

- As little as 3" wall thickness needed to provide 2-hour fire resistance ratings and equivalent or better sound ratings.
- The H-Stud System has unsupported wall height limitation of 12'. (Support is provided by clips near each floor line.)
- The H-Stud Area Separation Wall Systems may be built up to four stories high (three stories plus basement).
- Weighing as little as 9.4 psf, there is a considerable weight reduction when compared to concrete block.
- Materials supplied to the job site should be stored properly, supported off the ground and protected from inclement weather.
- Insulation in the Area Separation Wall must be protected from wetting and therefore shall not be installed until building is closed in.

MATERIALS AND SIZES

Metal Framing:

Gold Bond H-Stud 2" x length (up to 12') x 25 gauge nom.
Gold Bond U-Stud Track 2" x 10' x 25 gauge nom.

Gold Bond ASW clips:

The framing attachment ASW clips are made of 0.050" aluminum alloy that softens at about 1000°F (538°C). They are shaped at a 90° angle and are available 2" wide with legs either 1" x 2", 1" x 2.5" or 2" x 2.5".

Gypsum board:

Gold Bond Fire-Shield Shaftliner 1" x 24" x length (up to 12')
Gold Bond Wallboard (MR, Kal-Kore) 1/2" x 48" x length (up to 12')
Gold Bond Fire-Shield G Wallboard (MR, Kal-Kore) 1/2" x 48" x length (up to 12')

LIMITATIONS

- Area Separation Walls are nonload-bearing walls.
- They should not be used where exposed to constant dampness and/or water.
- Steel framing and Moisture Resistant (MR) gypsum board products permit temporary exposure to inclement weather during construction, but the constructed Area Separation Wall should be protected from inclement weather as soon as possible.

(Continued next page)

Job Name _____

Contractor _____ Date _____

Submittal Approvals: (Stamps or Signatures)

TECHNICAL DATA

FIRE RESISTANCE RATINGS (Test Method ASTM E 119)

Construction	Endurance	Reference	Approx. Weight	Thickness
2 layers of 1" (25.4 mm) Fire-Shield Shaftliner inserted in 2" (50.8 mm) H-Stud 24" (610 mm) o.c. H-Studs and U-Track covered by 1/2" (12.7 mm) Fire-Shield G Gypsum 6" (152 mm) wide strips.	2 hrs.	BOCA-ES Report 90-26 WHI 694-0200.6	9.4 psf	3"
2 layers of 1" (25.4 mm) Fire-Shield Shaftliner inserted in 2" (50.8 mm) H-Stud 24" (610 mm) o.c. One nominal 2 x 4 wood stud wall, one side. 1" (25.4 mm) air space between Shaftliner and wood studs. Wood studs 16" (406 mm) o.c. faced with one layer 1/2" (12.7 mm) regular gypsum wallboard.	2 hrs.	BOCA-ES Report 90-26 WHI 651-0508 *U347	12.0 psf	7"
2 layers of 1" (25.4 mm) Fire-Shield Shaftliner inserted in 2" (50.8 mm) H-Stud 24" (610 mm) o.c. One nominal 2 x 4 wood stud wall, each side. 1" (25.4 mm) air space between Shaftliner and wood studs. Wood studs 16" (406 mm) o.c. faced with one layer 1/2" (12.7 mm) regular gypsum wallboard.	2 hrs.	BOCA-ES Report 90-26 WHI 651-0508 *U347	16.0 psf	12"

*UL Design U347 requires a minimum 3/4" air space

SOUND CONTROL

Construction	Reference	STC
A: 2 layers of 1" (25.4 mm) Fire-Shield Shaftliner inserted in 2" (50.8 mm) H-Studs. H-Studs and U-Track covered by 1/2" (12.7 mm) Fire-Shield G 6" (152 mm) wide batten strips.	NGC 2827	35
B: 2 layers of 1" (25.4 mm) Fire-Shield Shaftliner inserted in 2" (50.8 mm) H-Studs with one flanking 2 x 4 wood stud wall. 1" (25.4 mm) air space between walls, with 1/2" (12.7 mm) regular gypsum wallboard screw attached to wood studs.	NGC 2826	50
C: Same as B with stud cavities insulated with 3 1/2" (88.9 mm) glass fiber or mineral wool.	NGC 2825	55
D: 2 layers of 1" (25.4 mm) Fire-Shield Shaftliner inserted in 2" (50.8 mm) H-Studs with 2 x 4 wood stud walls flanking both sides. 1" (25.4 mm) air space between walls, with 1/2" (12.7 mm) regular gypsum wallboard screw attached to wood studs. Stud cavities uninsulated.	NGC 2823	50
E: Same as D with one stud wall insulated with 3 1/2" (88.9 mm) glass fiber or mineral wool. One stud wall uninsulated.	NGC 2824	55
F: Same as D with both stud cavities insulated with 3 1/2" (88.9 mm) glass fiber or mineral wool.	NGC 2820	57

Gold Bond 1" Fire-Shield Shaftliner, H-Stud, U-Track and ASW Clips are stamped with the Gold Bond name.

ACCESSORIES

- ASTM C 665, Type I, mineral fiber (either glass or rockwool) insulation blankets without membrane facing.
- Gold Bond wallboard corner and casing beads.
- Joint treatment compound.
- Acoustical sealant: Nondrying, nonhardening, nonskinning, nonstaining, nonbleeding, gunnable type as recommended by the manufacturer.
- Gold Bond Resilient Furring Channels x 12' length.

APPLICABLE STANDARDS

ASTM C 442 – Fire-Shield Shaftliner
 ASTM C 36 – Wallboard and Fire-Shield G Wallboard
 ASTM C 645 – Metal Components
 ASTM C 630 – MR Wallboard
 ASTM C 588 – Kal-Kore Wallboard
 BOCA Evaluation Services, Inc. Research Report No. 90-26

Prior to installation, the specifier should determine that the local building code authority will allow the use of gypsum board area separation walls and the insuring bodies involved will not penalize its use.

INSTALLATION

APPLICABLE STANDARDS AND REFERENCES

ASTM C 840
 Gypsum Association GA-216
National Gypsum Co. Gypsum Construction Guide

RECOMMENDATIONS

Order H-Studs and 1" Fire-Shield Shaftliner according to the following outline:

Basement wall section – length equal to distance from foundation floor to approximately 3" above floor line of first floor.

Intermediate floors – length equal to distance between floor lines.

Topmost floor – length to extend to top of parapet wall or to roof intersection, depending on detail.

General: The H-Studs are secured at the foundation floor by the flanges of U-Track. The same track is used back-to-back at intermediate floors to provide a splicing means so that the system can be erected one floor at a time. U-Track is also used at the roof line or at the parapet and at wall ends.

H-Studs are separated from the flanking wood stud walls by a 1" air space or covered with one layer of 1/2" regular gypsum wallboard. As an alternate, 1/2" Fire-Shield G Gypsum Wallboard panels can be fastened to the H-Studs and joints covered with tape and joint compound to provide a finished wall. As another alternative, when a 1" air space cannot be maintained between the wood framing and the H-Studs, the H-Studs and U-Tracks are covered by screw-attached, 6"-wide battens fabricated from 1/2" Fire-Shield G Gypsum Wallboard. Mineral wool or glass fiber can be installed in the wood stud cavity to provide higher STC ratings.

At intermediate floors and at roof intersection, the steel framing members are attached on each side to adjacent structure framing with breakaway, heat-softenable aluminum ASW clips. Clips are attached to the wood framing at each vertical steel framing stud/wood framing intersection using one 3/8" Type S pan head screw into the steel and one 8d nail or 1 1/4" Type W drywall screw into the wood framing.

The recommended location of these clips is on the lower side of the structural wood framing. In that location, the clip provides the greatest assurance that the Area Separation Wall will remain in place and structurally sound should one of the adjacent structures fail.

Basement wall installation: Beginning at foundation floor, attach 2" U-Track to concrete with power-driven fasteners spaced 24" o.c. Apply acoustic sealant along edges of track at floor line.

Install U-Track on foundation walls where Area Separation Wall intersects, if applicable. Fasten with power-driven fasteners 24" o.c. Caulk edges as with floor track.

At intersection of foundation or exterior wall and Area Separation Wall, begin erecting by inserting first layer of 1" Shaftliner into floor and wall track. Insert second layer back-to-back with first, and seat into floor and wall track. Shaftliner and studs may be set into position from the basement floor or fed down through the space provided in the wood framing from the floor above.

Making sure that both pieces of Shaftliner are seated all the way into the floor and wall tracks and that their edges are flush, insert an H-Stud into the floor track and engage the H-Stud legs over the long edges of the Shaftliner panels. Seat the H-Stud fully so the panel edges contact the stud web.

Continue in this manner, erecting two thicknesses of Shaftliner, and installing the legs of the H-Stud over the Shaftliner edges until the wall is completed. Again, make sure all studs and panels are tightly pushed together. Screw studs to floor track with pan head 3/8" Type S screws.

If the Area Separation Wall terminates at a foundation wall, the last two Shaftliner panels will have to be inserted from the floor above. Panels are pushed down into the channel formed by the previous H-Stud's legs and the legs of the wall track.

If the Area Separation Wall terminates at or past a framed wall, insert the last panels conventionally and cap the end of the Area Separation Wall with 2" U-Track. Screw flanges of floor track to flanges of termination track.

The top edge of the erected wall is then capped off by placing 2" U-Track over studs and panels. Screw the track to each H-Stud with 3/8" Type S pan head screws. Locate track splices at a stud so both track ends can be screw-attached to the stud.

Attach studs to adjacent wood framing with ASW clips. Secure the clips to the studs with one 3/8" Type S pan head screw through the short leg of the clip. Secure clip to wood framing with one 8d nail or 1 1/4" Type W screw through the long leg of the clip. Clips are attached to wood framing

at each vertical steel-horizontal wood framing intersection. The ASW clips may be attached directly to the steel studs or through the wallboard batten face into the studs.

When a 1" air space cannot be maintained between the H-Studs and the wood framing, gypsum board batten strips are installed centered over H-Studs and U-Track on both sides of the wall. Battens are 6" and 3" wide, cut from sheets of 1/2" Fire-Shield G gypsum board. 3" battens are installed over U-Track at foundation and roof. 6" battens are screw-attached to H-Studs with 1" Type S screws spaced 12" o.c. screwed into alternate legs of H-Stud.

Installation at intermediate floors and at roof: Attach 2" U-Track to the already installed capping track of the lower floor's wall. This back-to-back track installation allows the Area Separation Wall to be erected one floor at a time. Secure the two tracks together with two 3/8" Type S pan head screws 24" o.c. Stagger back-to-back track joints a minimum of 12".

Erect Shaftliner and H-Studs in the same manner as for the basement wall, except that starting and ending procedures vary depending on the exterior wall intersection detail. See drawing details.

At roof intersection, the walls are capped off with U-Track. Track is fastened to each stud with 3/8" Type S pan head screws. H-Studs are fastened to wood framing with ASW clips. The specific framing procedure varies according to roof junction details as illustrated in drawings.

Moisture-Resistant (MR) Gypsum Board or gypsum sheathing should be used on the faces of stud framing of Area Separation Walls which project beyond roof or side walls.

Fire blocking must be provided to completely fill the wall cavity at the intermediate floor construction as shown in drawings. Mineral wool or gypsum board filler may be used.

Interior facings: 2" H-Stud Area Separation Wall can be finished in a variety of ways depending on wall installation. For load-bearing applications, wood stud walls meeting required codes must be erected flanking

the Area Separation Wall. Stud walls are then finished in whatever method is specified.

For nonload-bearing applications, finished wall may be of any type meeting local codes including exposed Shaftliner and battens, if needed, where appearance is not critical.

Basement wall section: length equal to distance from foundation floor to approximately 3" above floor line of first floor. Intermediate floors: length equal to distance between floor lines.

Topmost floor: length to extend to top of parapet wall or to roof intersection, depending on detail.

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Excellence Across The Board 