

# H-Stud Area Separation Wall System

*Fire and sound protection for apartments and townhouses that share a common wall.*



*Fire Rated Designs U375 and GA File # ASW 1004.1*

*Sound Test NOAL 20-0209 (STC 65)*



## DESCRIPTION

The H-Stud Area Separation Wall (ASW) system from American Gypsum offers the advantages of constructing common walls with fire resistive protection and noise reduction between neighboring housing units. This lightweight, non-load bearing 2-hour fire rated drywall assembly was developed as a vertical fire protection that provides remarkable sound reduction between common wall units in wood framed townhouses and apartment complexes up to 66' in height. Area Separation Walls can be built higher, are easier and faster to construct, lighter in weight, and take up less space than masonry wall systems.

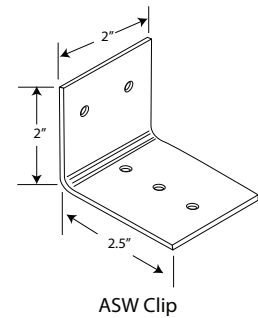
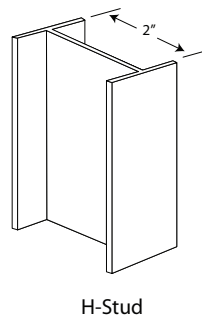
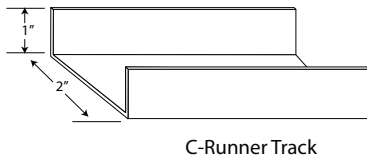
This system was designed as a fire barrier between adjacent dwelling units allowing for the falling away of construction on the fire-exposed side without collapse of the entire wall. This is accomplished with the aluminum breakaway clips that attach the ASW to adjacent wood framing. When one side of the system is exposed to fire, the clips soften, break away and allow the wall on the fire side to give way. The aluminum breakaway clips on the non-fire side will remain intact, holding the ASW in place as a barrier to protect neighboring spaces. Additionally, American Gypsum's Area Separation Wall assembly meets the requirements of the International Building Code (IBC) Section 706. (Firewalls)

## BASIC USES

The system consists of 2" wide light gauge metal H-Studs which secure two layers of 1" M-Bloc® Shaft Liner or 1" M-Glass® Shaft Liner Panels vertically between adjacent stud walls. The system is stacked, floor to floor, allowing progressive construction using the break-away aluminum clips.

Materials Needed:

- 1" M-Bloc® Shaft Liner or 1" M-Glass® Shaft Liner panels
- Metal H-Studs - 2" x up to 12'
- Metal C-Runner Tracks - 2" x 10'
- ASW Aluminum Angle Clips - 0.050" or 0.063" thick



## MOLD & MILDEW RESISTANCE

American Gypsum offers extra protection against mold and mildew with our M-Bloc or M-Glass Shaft Liner panels to protect the owner, builder and architect during construction. In independent laboratory tests per ASTM D3273, both panels scored a 10 - highest level of performance for this test method, which means the risk of mold and mildew growth is minimized. And while no material can or should be considered mold proof, the use of good design and construction practices is the most effective strategy to manage the growth of mold and mildew.

## LIMITATIONS

H-Stud Area Separation Walls are non-load bearing partitions. Unsupported wall height between floors should not exceed 12 feet, and the system may be built to a height of 66'.

M-Bloc and M-Glass Shaft Liner panels should not be exposed to excessive, continuous or elevated levels of moisture for an extended period of time. Sources of moisture such as standing water, snow, water leaks, etc., are to be removed or eliminated immediately.

Do not install insulation in the wall system until the building has been properly closed or dried in.

Penetrations in or through H-Stud Area Separation Walls are not part of the tested assembly.

## GOOD BUILDING PRACTICES

The installation of 1" M-Bloc or M-Glass Shaft Liner panels shall be consistent with instructions found in this guide, UL designs U375 or Gypsum Association design ASW 0811 (found in GA-600). The assembly must be erected in the proper manner and with all approved components used in a successfully completed fire endurance test.

M-Bloc or M-Glass Shaft Liner panels may experience limited intermittent exposure to moisture from a variety of sources, such as rain, snow, improper storage, design defects, water leaks, etc. The general recommendations for drying out gypsum wallboard once exposed to moisture is to provide adequate ventilation and air circulation, and fans may be used to increase air movement.

**CAUTION:** When replacing gypsum board in a fire resistance or sound rated systems, care must be taken to ensure that all repairs are consistent with the specific fire or sound rated design initially constructed (gypsum board type, fasteners and their spacing, and staggered joints).

M-Bloc or M-Glass Shaft Liner panels must be stored off the ground with sufficient risers to assure support for the entire length of the wallboard to prevent sagging, and under protective cover in accordance with the Gypsum Association's technical bulletin, Handling and Storage of Gypsum Panel Products (GA-801).

Wallboard is to be delivered to the job site as near to the time it will be used as possible.

As the Area Separation Wall system tops out, it may create a parapet wall or terminate at the underside of the roof deck. If required by code, when terminating at the underside of the roof deck, the decking material for 4' on either side of the ASW system may be fire resistant wood structural panels or 5/8" Type X Exterior Gypsum Sheathing installed directly beneath the underside of the roof sheathing.

## INSTALLATION

1. Beginning at foundation floor, attach 2" C-Runner Track to concrete with power-driven fasteners spaced 24" o/c. positioned a minimum 3/4" from the framed wall of the adjacent unit. If specified, apply acoustical sealant along edges of track at floor line.
2. Install C-Runner Track to foundation walls where ASW intersects, if applicable, and fasten with power-driven fasteners 24" o/c. If specified, apply acoustical sealant along edges of track.
3. Vertical C-Tracks at each end of the wall should be attached in the corners to the horizontal sections of C-Track using a minimum of one 3/8" Pan Head Type S screw.
4. At intersection of foundation or exterior wall and ASW, begin erecting by inserting first layer of 1" M-Bloc or M-Glass Shaft Liner panels into floor and wall track. Insert second layer, back-to-back with first panel, and seat into floor and wall track (full length panels only). Liner panels and studs may be set into position from the basement floor or fed through the space provided in the wood framing from the floor above.
5. Making sure that both pieces of liner panels 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 liner panels. Seat the H-Stud fully so the board edges contact the stud web.
6. Continue in this manner, erecting two thicknesses of liner panels, and installing the legs of the H-Stud over the panel edges until wall is completed. Again, make sure all studs and boards are pressed tightly together.
7. If the ASW terminates at a foundation wall, the last two liner panels will have to be inserted from the floor above. Boards are pushed down into the channel formed by the previous H-Stud's legs and the legs of the wall track.
8. The top edge of the erected wall is then capped off by placing a 2" C-Runner Track (legs down) over studs and liner panels.
9. The ASW aluminum angle clips span the minimum 3/4" air space and provide a fusible link between the H-Studs and the adjacent wall framing. Secure the ASW clips to the H-Studs with one 3/8" Type S Pan Head screw through the short leg of the clip and secure the other side of ASW clip to wood framing with one 1 1/4" Type W screw through the long leg of the clip.
10. The recommended location of these clips when possible is on the lower side of the wood framing. In that location, the clip provides the utmost assurances that the ASW will remain in place and structurally sound should one of the adjoining units fail. When vertical H-Studs do not align with the adjacent wood framing, insert horizontal blocking between wood framing members and attach ASW Clips.
11. At the next floor, attach 2" C-Runner Track (with legs up) to the already installed top track of the lower floors wall. This back-to-back track installation allows for the progressive erection of the ASW 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".
12. Erect Shaft Liner and H-Studs in the same manner as for the first section of wall, except that starting and ending procedures vary depending on the exterior wall intersection detail.
13. At roof intersection the walls are capped-off with C-Runner Track.
14. Fire blocking must be installed on both sides of the ASW at each floor to completely fill the wall cavity, by using mineral wool insulation or gypsum wallboard.
15. At top floor, the ASW may extend to top of parapet wall or to roof intersection, depending on design professional and detail.

## ASW CLIP PLACEMENT

Secure the ASW clips to each H-Stud with one 3/8" Type S Pan Head screw through the short leg of the clip and secure the other side of ASW clip to the wood (or steel) framing with one 1 1/4" Type W screw.

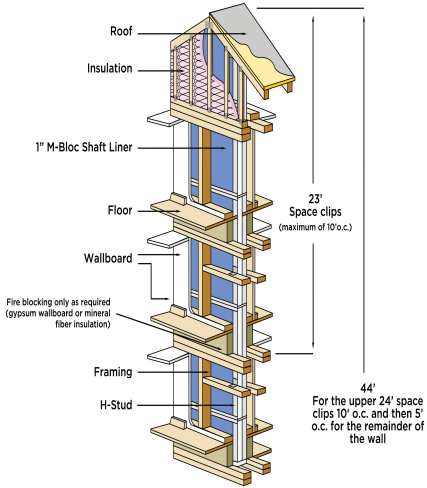
1. For walls up to 24' in height, space clips a maximum of 10'o/c vertically between the wood framing (or steel) and the "H" studs.
2. For walls up to 44' in height, space clips as described in #1 for the upper 24'. Remaining wall area below requires clips spaced a maximum of 5'o/c vertically between the wood framing (or steel) and the "H" studs.
3. For walls up to 66' in height, space clips as described in #1 for the upper 24' and then space clips as described in #2 for the next 20' in height. Remaining wall area below requires clips to be spaced a maximum of 40"o/c vertically between the wood framing (or steel) and the "H" studs.

## UNIQUE CONDITIONS

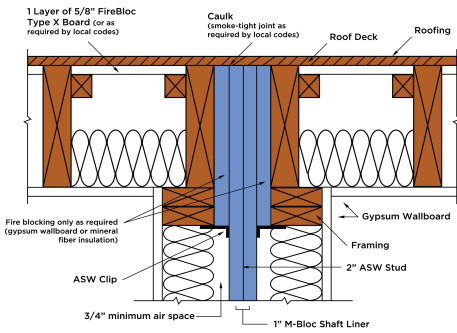
- The 2" x 4" wood framed wall installed parallel to the H-Stud Area Separation Wall System may be oriented with 2" face of the stud, perpendicular to the 1" gypsum liner panels (i.g. - roof truss).
- When vertical H-Studs do not align with the adjacent wood framing, insert horizontal blocking between wood framing members and attach ASW Clips.
- When wall framing is spaced greater than 1" away from the ASW, aluminum clips with longer legs are permitted. Contact clip manufacturer for customized clips.
- While the ASW system is non-load bearing, the adjoining framed walls can be designed as load bearing walls.
- The walls adjacent to the ASW system can be erected of wood or steel framing. When using steel framing, use a minimum of one 3/8" pan head screw to attach the aluminum breakaway clip.

# Detail Drawings

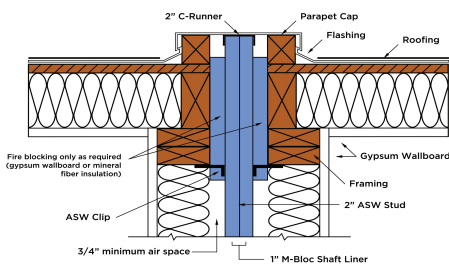
**TRUSS WITH INSULATION**



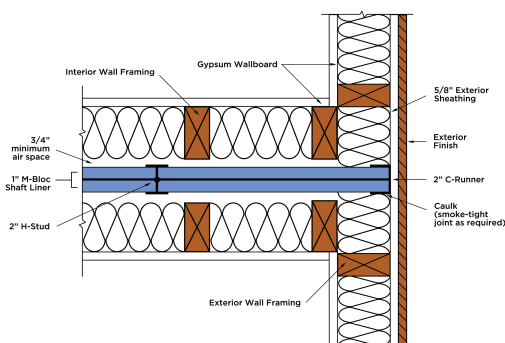
**Typical Roof Junction Detail**



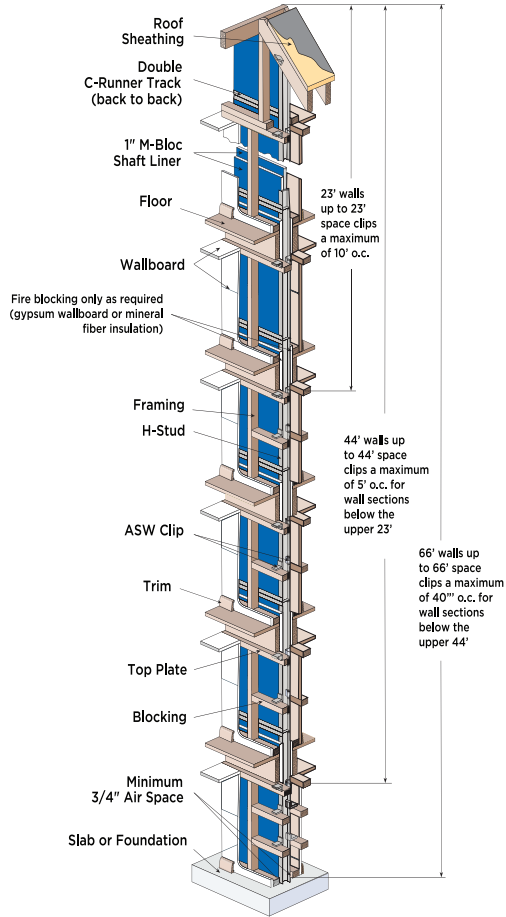
**Typical Roof Parapet Detail**



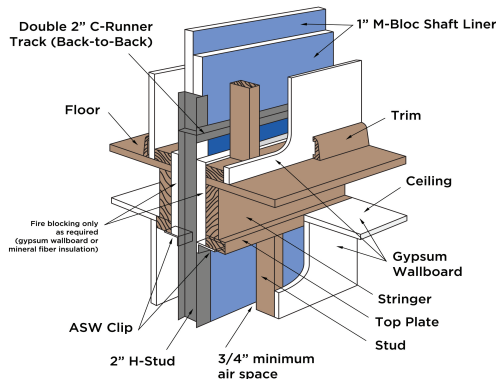
**Exterior Wall Intersection**



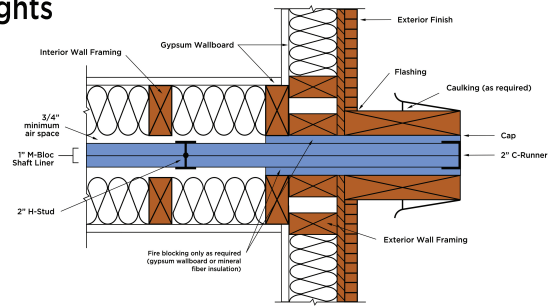
**Area Separation Wall Limiting Heights**



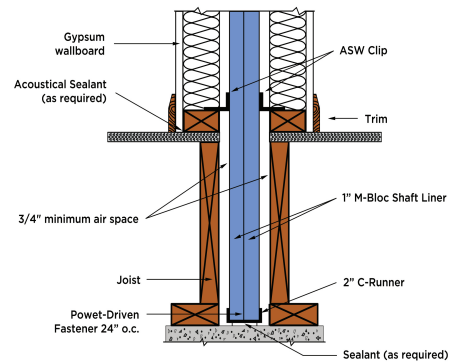
**Typical Floor Ceiling Juncture in ASW**



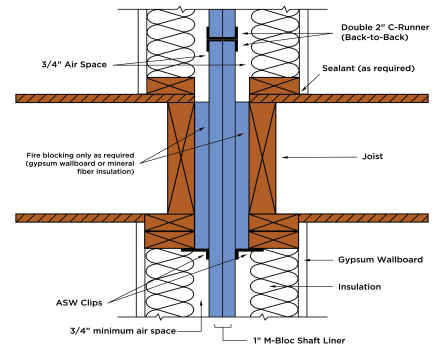
**Protruding Exterior Wall**



**Foundation**



**Intermediate Floor Intersection**



**Intersection at Roof**

