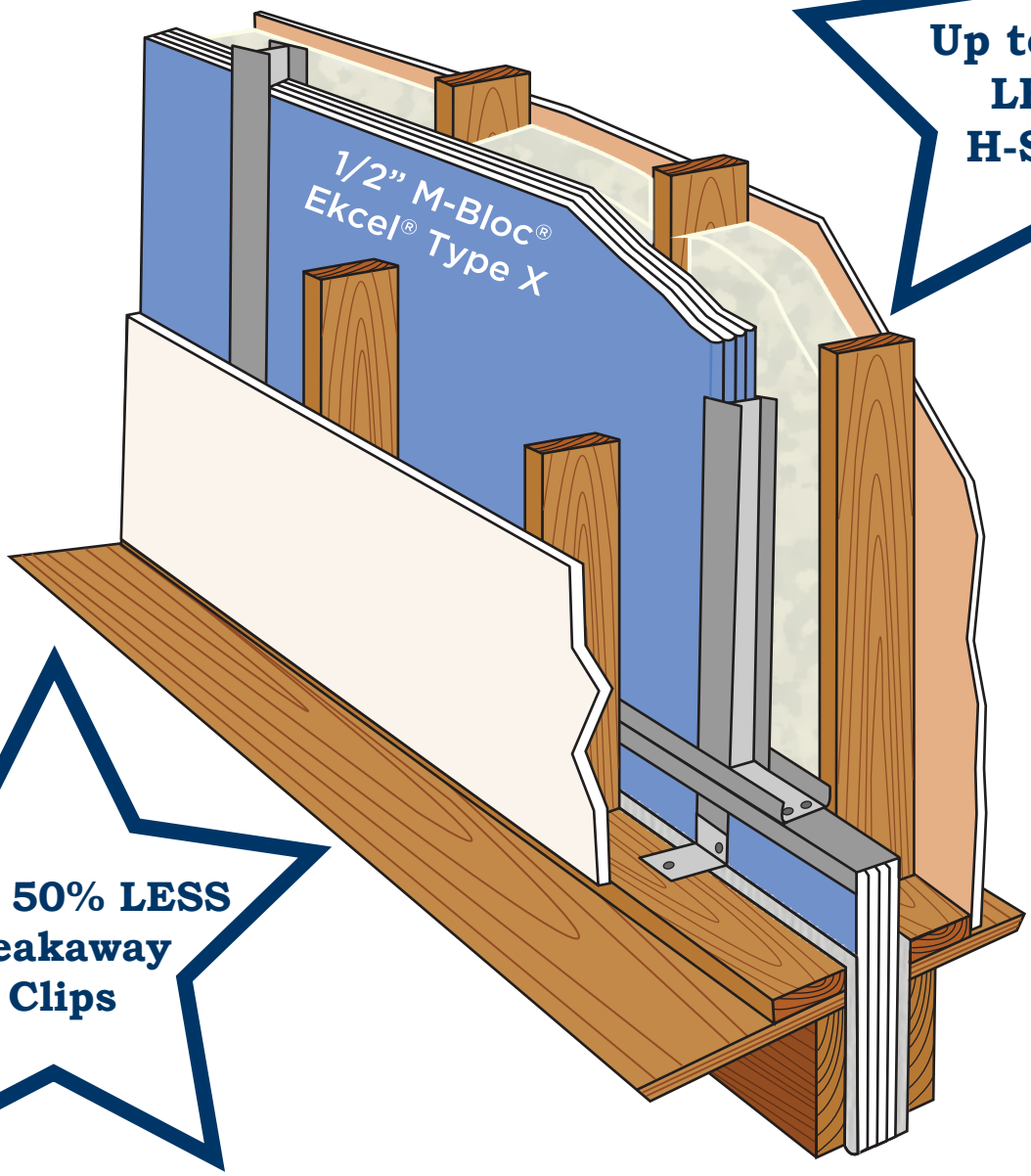
Area Separation Firewall

(Patent Pending)

the Multi-Family Housing Solution

Up to 50% LESS H-Studs



Up to 50% LESS Breakaway Clips

Fire rated for 2-1/2 hours (UL Design V344)
Sound Test STC 60-64 (NOAL 21-0802)

AMERICAN GYPSUM

DESCRIPTION

When compared to traditional gypsum area separation wall systems, the patent pending ME Area Separation Firewall (ASF) uses up to 50% fewer H-Stud framing members and aluminum breakaway clips, yet offers 2-1/2 hours of fire protection (UL assembly V344) and extraordinary sound reduction between neighboring units in multi-family housing projects. This innovative lightweight system was developed to provide vertical fire protection up to 66' in height, using four (4) pieces of American Gypsum's patent pending 4' wide, square edged 1/2" M-Bloc® Ekcel® Type X Wallboard with Mold & Moisture Resistance, inserted into traditional metal H-Stud and C-Runner framing members.

This revoluntionary 2-1/2 hour fire rated system between living spaces allows for collapse of framing on the fire-exposed side without failure of the entire wall. To accomplish this, the aluminum breakaway clips that secure the ME Area Separation Firewall (ME ASF) system to the flanking wood or metal stud framing, will soften or melt at 1000˚F (537˚C) during a fire, allowing that framing to fall or give way - while the opposite side of the system remains in place.

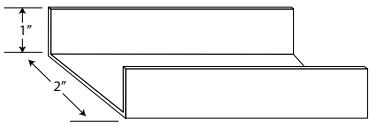
American Gypsum's patent pending ME Area Separation Firewall system meets the requirements of International Building Code Section 706. (Firewalls)

BASIC USES

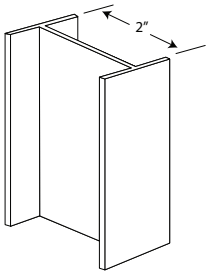
This system consists of four (4) pieces of 1/2" M-Bloc® Ekcel® Type X Wallboard with Mold and Moisture Resistance, nestled vertically into light gauge metal H-Studs, allowing for progressive installation and then stacked floor to floor.

Materials Needed:

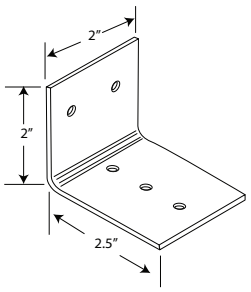
- 1/2" M-Bloc® Ekcel® Type X Wallboard with Mold and Moisture Resistance (4' wide, square edged)
- Metal H-Studs
- Metal 2" C-Runner Tracks
- Aluminum Breakaway Clips - 0.050" or 0.063" thick
- #8, 3/4" panhead screws
- 1-1/2" Type G drywall laminating screws



C-Runner Track



H-Stud



ASW Clip

#8, 3/4" Pan Head Screw

1-1/2" Type G drywall Laminating Screw

MOLD & MILDEW RESISTANCE

The 1/2" M-Bloc® Ekcel® Type X Wallboard with Mold and Moisture Resistance offers extra protection against mold and mildew to protect the owner, builder and design professional during construction. In independent laboratory tests per ASTM D3273, this panel consistently scores a 10, the best results possible - which means the risk of mold and mildew growth is minimized. 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

The ME Area Separation Firewall (ASF) is a non-load bearing partition, with the flanking walls on each side normally being load-bearing. The builder will often place electrical, mechanical and or plumbing systems in the wood or metal flanking walls, which does not detract from the fire rating.

Unsupported wall height between floors should not exceed 10 feet, and the system may be built to a height of 66'.

The 1/2" M-Bloc® Ekcel® Type X Wallboard with Mold and Moisture Resistance 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 the ME Area Separation Firewall are not part of the tested assembly.

GOOD BUILDING PRACTICES

The installation of 1/2" M-Bloc® Ekcel® Type X Wallboard panels shall be consistent with instructions found in this guide and UL design V344. The assembly must be erected in the proper manner and with all approved components used in a successfully completed fire endurance test.

The 1/2" M-Bloc® Ekcel® Type X Wallboard with Mold and Moisture Resistance 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 fire 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).

GOOD BUILDING PRACTICES CONT.

The 1/2" M-Bloc® Ekcel® Type X Wallboard 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).

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

As the ME Area Separation Firewall 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 ME ASF 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. Attach the 2" C-Runner track with fasteners spaced 24" o/c at foundation, and positioned a minimum of 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 vertical walls, where ME ASF intersects and fasten 24" o/c. If specified, apply acoustical sealant along edges of track.

3. Vertical C-Runner tracks at each end of the wall should be attached in the corners to the horizontal sections of C-Runner track, using a minimum of one (1) 3/8" Pan Head Type S screw.

4. At intersection of foundation or exterior wall, begin erecting the ME ASF system by inserting a piece of 1/2" M-Bloc® Ekcel® Type X Wallboard panel into floor and wall track. Once the 1st panel is in place, insert the 2nd piece of 1/2" M-Bloc® Ekcel® Type X Wallboard, then the 3rd piece and finish off that section with a 4th and final panel (full length panels only).

5. Making sure that all pieces of 1/2" M-Bloc® Ekcel® Type X Wallboard are seated properly and that their edges are flush, insert an H-Stud into the floor track and engage the H-Stud legs over the exposed long edges of the panels. Seat the H-Stud fully so the board edges contact the stud web.

6. Continue in this manner, inserting 4 pieces of the 1/2" M-Bloc® Ekcel® Type X Wallboard, and installing the legs of the H-Stud over the panel edges until wall is completed. Make sure all H-Studs and boards are pressed tightly together.

7. If the ME ASF terminates at a foundation wall, the last section of panels may have to be inserted from the floor above, with the end of the wall capped off with a vertical piece of 2" C-Runner track.

8. The top edge of the erected wall is then finished or capped off by placing a 2" C-Runner track (legs down) over studs and 1/2" M-Bloc® Ekcel® panels.

9. To start the next floor, attach a piece of 2" C-Runner track to the already installed top track of the lower floor wall - with its legs pointing up. This back-to-back track installation allows for the progressive erection of the ME ASF one floor at a time. Stagger back-to-back C-Runner track joints a minimum of 12", and secure both together with two 3/8" (min) panhead screws, spaced a maximum of 24" o/c. (NOTE: H-STUDS ARE NOT TO BE INSTALLED HORIZONTALLY).

10. Erect the ME Area Separation Firewall and 1/2" M-Bloc® Ekcel® Type X Wallboard with Mold and Moisture Resistance panels in the same manner as for the first section of wall.

11. The aluminum breakaway clips span the minimum 3/4" air space and provides a fusible link between the H-Studs and the adjacent wall framing. Starting at the roof line and work down the wall, secure the clips to both the H-Studs and flanking wall framing with a minimum #8, 3/4" panhead screw. The short leg of the clip is attached to the H-Stud, with the long leg secured to the wood or metal flanking wall framing. When vertical H-Studs do not align with the flanking wall framing, insert horizontal blocking between the framing members to assure proper attachment.

12. At roof, the ME ASF may extend to top of parapet wall or to roof intersection, but the wall is always capped off with the 2" C-Runner track. If required by code when terminating at the underside of the roof deck, the decking material for 4' on either side of the ME ASF 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.

13. Laminating Screws (see illustrations) - Once erected, the 4 pieces of 1/2" M-Bloc® Ekcel® Type X Wallboard are secured to each other between H-Studs, with 1-1/2" long drywall laminating screws - from both sides of the wall.
    - Side A - 12" down from top of the wall and 12" inset from both long vertical edge of the panels, insert 1 laminating screw, repeating every 24" o/c vertically.
    - Side B - 12" down from top of the wall, and 16" inset from both long vertical edge of the panels, insert 1 laminating screw, repeating every 24" o/c vertically.

ALUMINUM BREAKAWAY CLIPS

Start installation of the aluminum breakaway clips at the roof line and work down, securing the clips to both H-Studs and flanking wall framing with a minimum #8, 3/4" panhead screw. The short leg of the clip is attached to the H-Stud, with the long leg secured to the wood or metal flanking wall framing.

1. For walls up to 23' in height, space clips a maximum of 10' o/c vertically between flanking walls and the metal H-Studs.

2. For walls up to 44' in height, space clips as described in #1 for the upper 24', with the remaining wall area below requiring the clips to be spaced a maximum of 5' o/c vertically between flanking walls and the H-Studs.

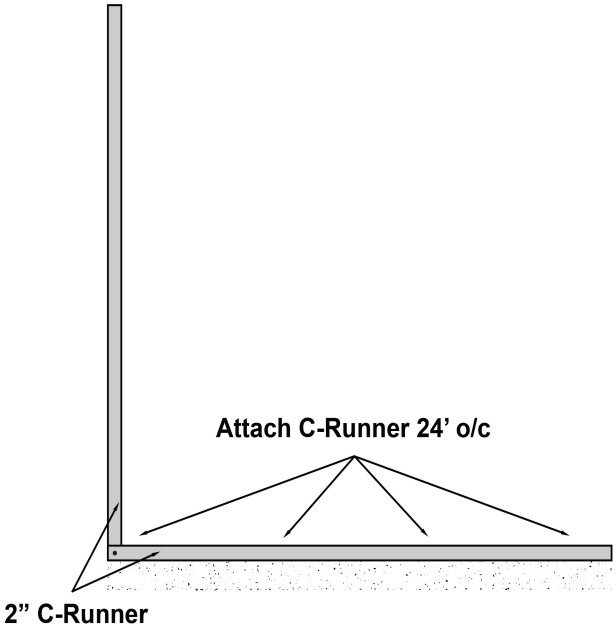
3. For walls up to 66' in height, space clips as described in #1 for the upper 24' and then space clips as described in #2 for the next 20' in height. The remaining wall area below requires clips to be spaced a maximum of 40"o/c vertically between the flanking walls and the H-Studs.

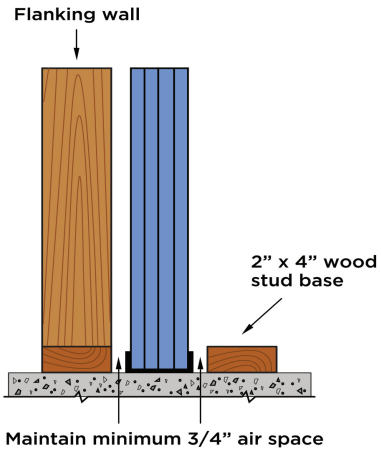
UNIQUE CONDITIONS

- The 2" x 4" wood framed flanking wall, parallel to the ME Area Separation Firewall system may be oriented with nominal 2" face of the stud perpendicular to the four pieces of 4' wide, 1/2" M-Bloc® Ekcel® Type X Wallboard with Mold & Moisture Resistance panels (e.g. - roof truss).
- When vertical H-Studs do not align with the adjacent flanking wall framing, insert horizontal blocking between the framing members to assure proper attachment.
- When flanking wall framing is spaced greater than 1" away from the ME ASF system, aluminum clips with longer legs are permitted. Contact clip manufacturer for customized clips.
- While the ME ASF system is non-load bearing, the flanking framed walls normally are designed as load bearing walls.

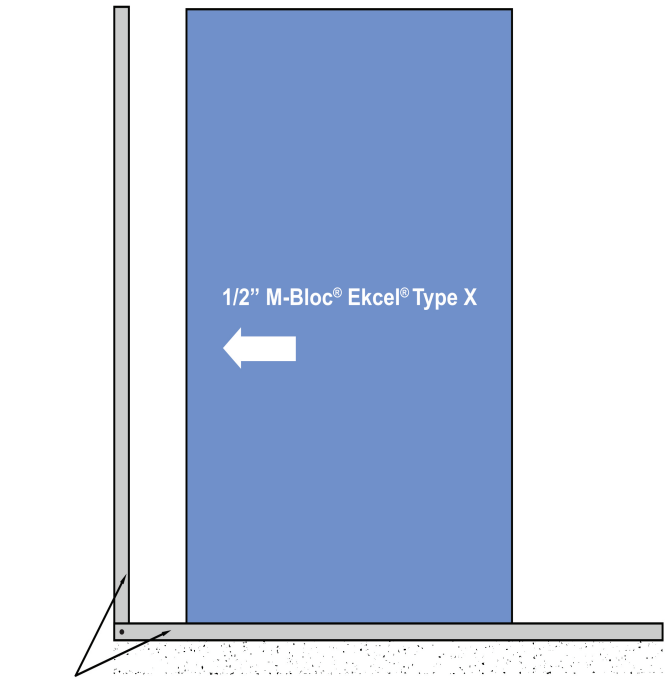
INSTALLATION ILLUSTRATIONS

The installation instructions in this manual are to be thoroughly reviewed before installation of the ME Area Separation Firewall system begins. Details that follow are simplistic and may not match the exact conditions found on multi-family housing projects.

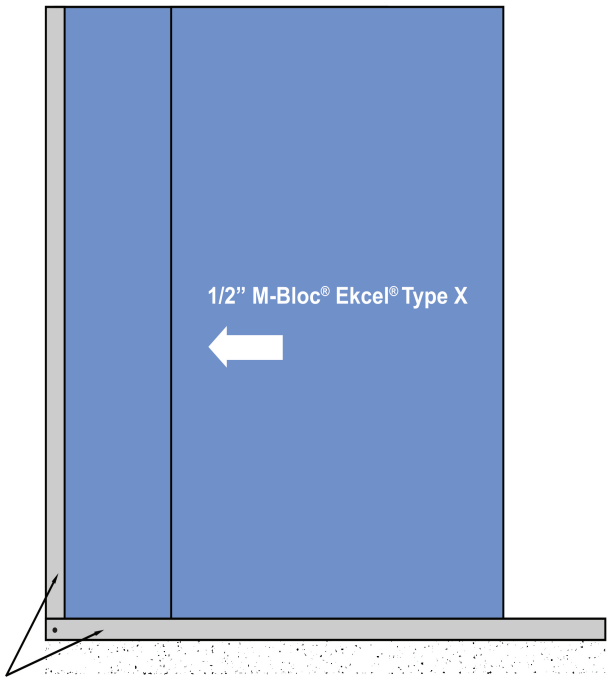




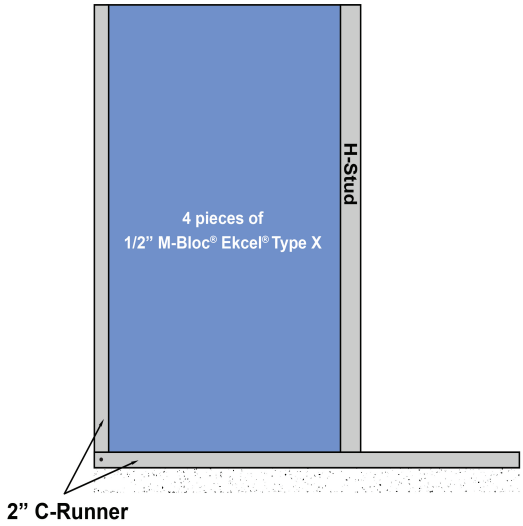
At the base, attach the 2" C-Runner track with proper fasteners spaced 24" o/c while always maintaining a 3/4" minimum distance from the framed wall of the adjacent unit.



Insert a piece of 1/2" M-Bloc® Ekcel® Type X Wallboard into the 2" C-Runner track.



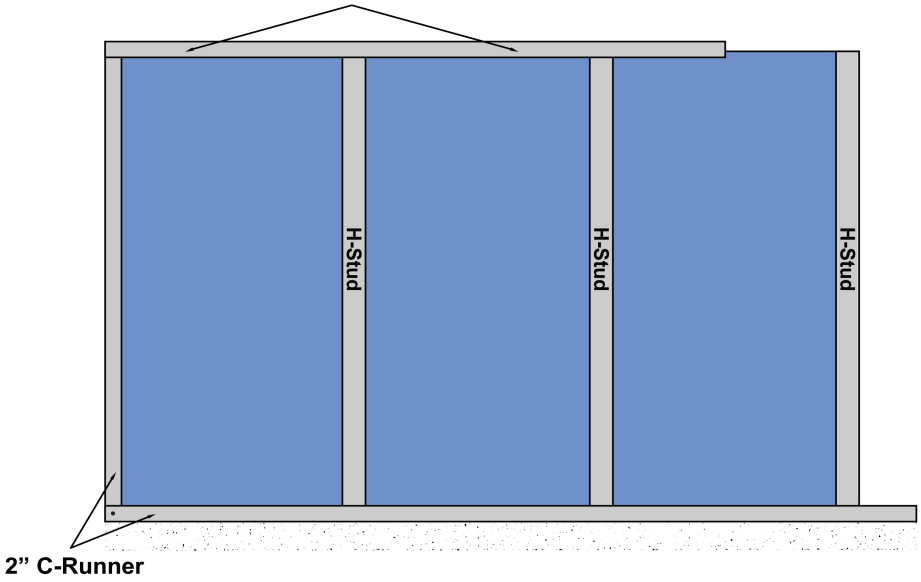
Once the 1st panel is in place, insert the 2nd piece of 1/2" M-Bloc® Ekcel® Type X Wallboard, then the 3rd panel.



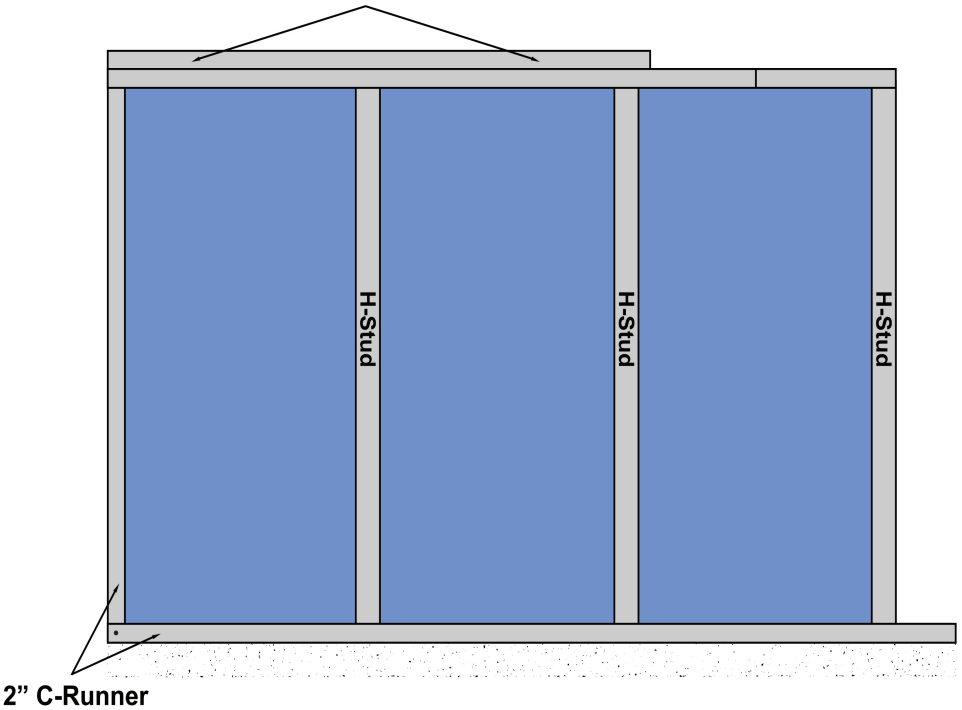
Finish off that section with a 4th and final panel, making sure only full-length panels are used. Ensure that all pieces of 1/2" M-Bloc® Ekcel® Type X Wallboard are seated properly and that their edges are flush. Then insert a vertical H-Stud into the 2" C-Runner track and engage the H-Stud legs over the exposed long edges of the M-Bloc® Ekcel® panels. Seat the H-Stud fully so the wallboard edges contact the stud web.

Once this wall section is completed, the top edge of the erected wall is finished or capped off by placing a 2" C-Runner track (with its legs down) over the H-Studs and 1/2" M-Bloc® Ekcel® Type X Panels.

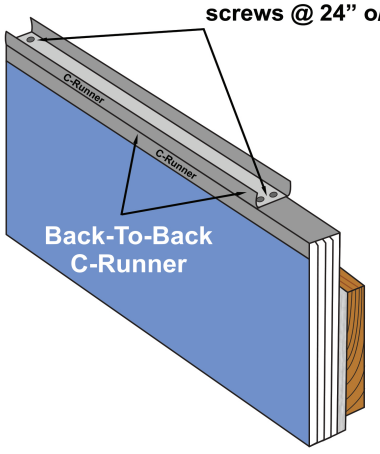
Cap wall section with 2" C-Runner, with legs down



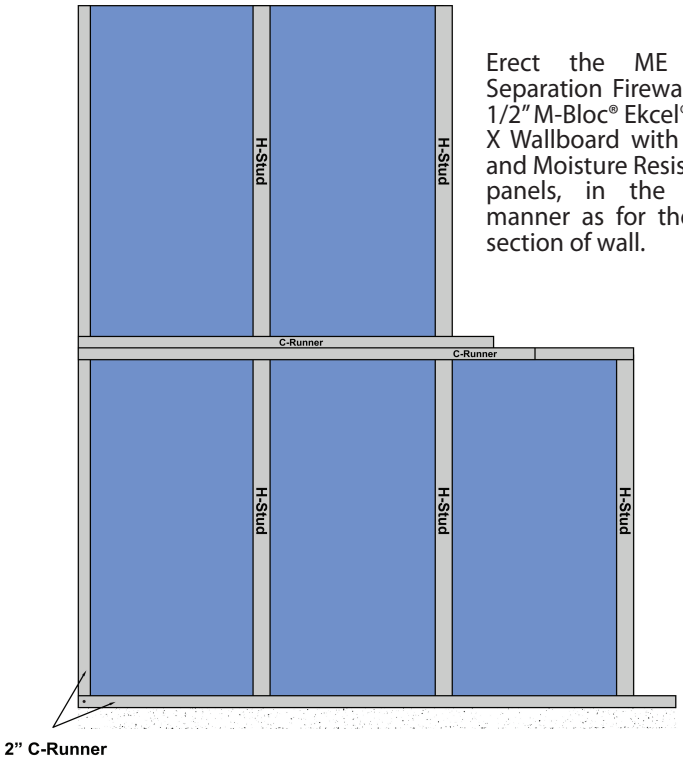
2" C-Runner with legs up, is secured to C-Runner below with two 3/8" (min) panhead screws @ 24" o/c



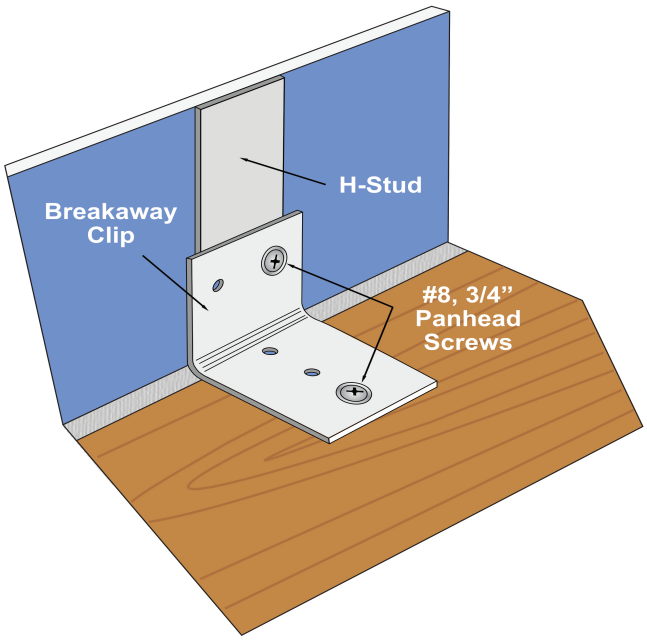
Two, 3/8" panhead screws @ 24" o/c



To start the next floor, attach a piece of 2" C-Runner track to the already installed top track of the lower floor wall - with its legs pointing up. This back-to-back track installation allows for the progressive erection of the ME ASF one floor at a time. Stagger back-to-back C-Runner track joints a minimum of 12", and secure both together with two 3/8" (min) panhead screws, spaced a maximum of 24" o/c. (NOTE: H-STUDS ARE NOT TO BE INSTALLED HORIZONTALLY.)

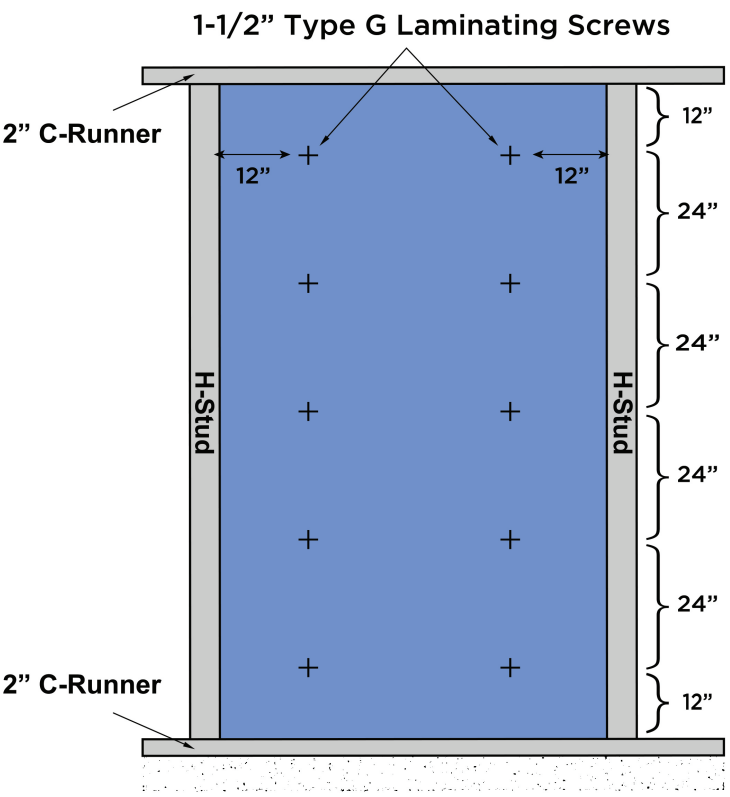


Erect the ME Area Separation Firewall and 1/2" M-Bloc® Ekcel® Type X Wallboard with Mold and Moisture Resistance panels, in the same manner as for the first section of wall.

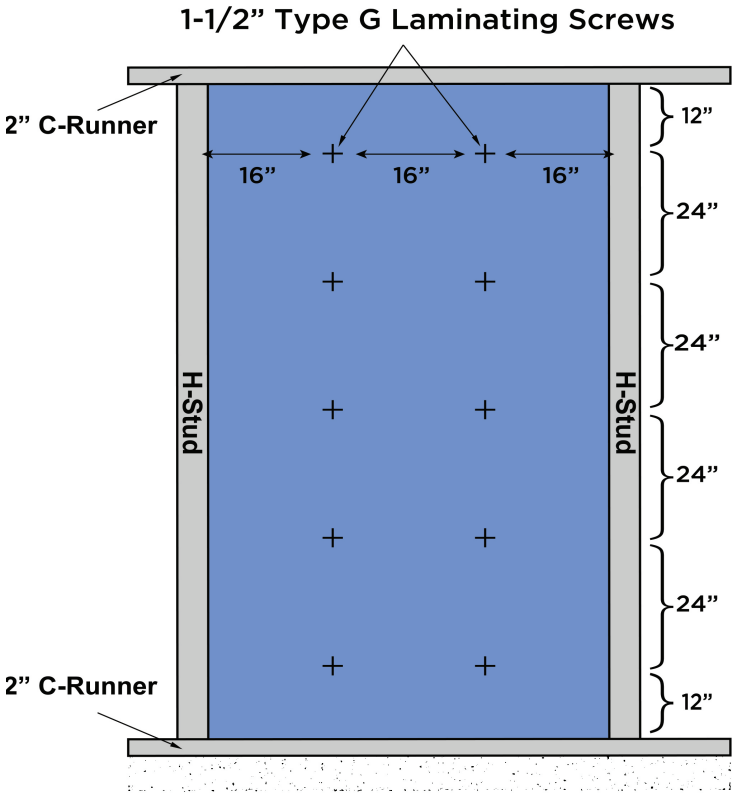


Start installation of the aluminum breakaway clips at the roof line and work down, securing the clips to both H-Studs and flanking wall framing with a minimum #8, 3/4" panhead screw. The short leg of the clip is attached to the H-Stud, with the long leg secured to the wood or metal flanking wall framing. (See spacing requirements on page #3)

Side A



Side B



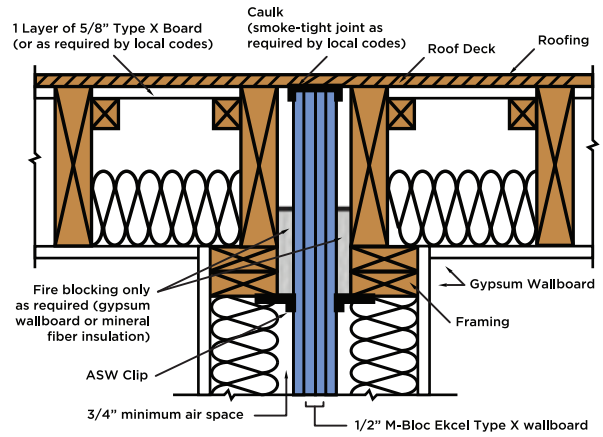
Laminating Screws - Once erected, the 4 pieces of 1/2" M-Bloc® Ekcel® Type X Wallboard are secured to each other between H-Studs, with 1-1/2" long drywall laminating screws - from both sides of the wall.

Side A - 12" down from top of the wall and 12" inset from both long vertical edges of the panels, insert 1 laminating screw, repeating every 24" o/c vertically.

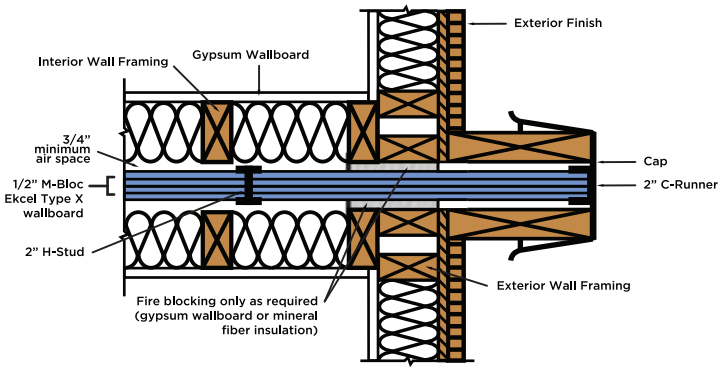
Side B - 12" down from top of the wall and 16" inset from both long vertical edges of the panels, insert 1 laminating screw, repeating every 24" o/c vertically.

Detail Drawings

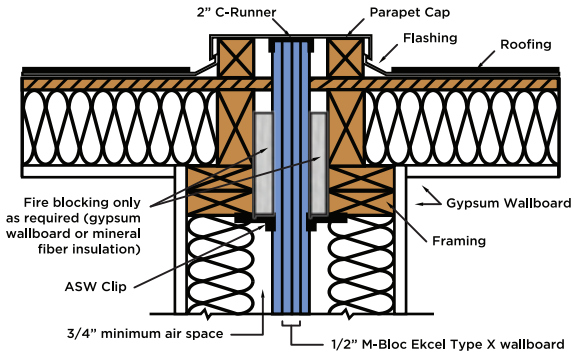
Typical Roof Junction Detail



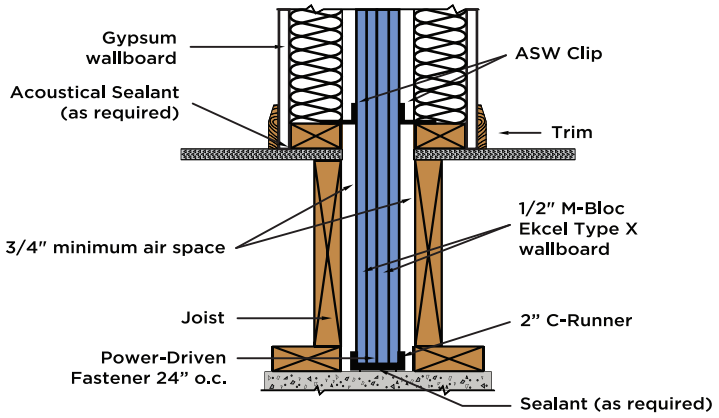
Protruding Exterior Wall



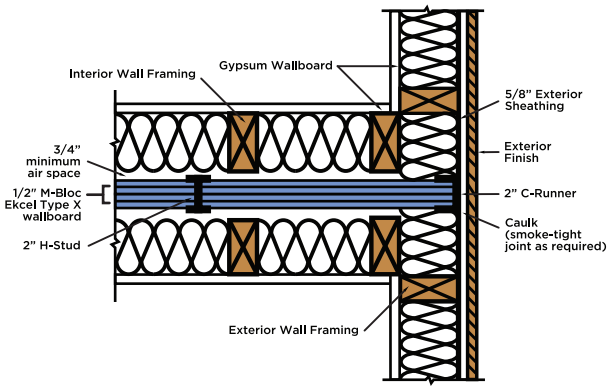
Typical Roof Parapet Detail



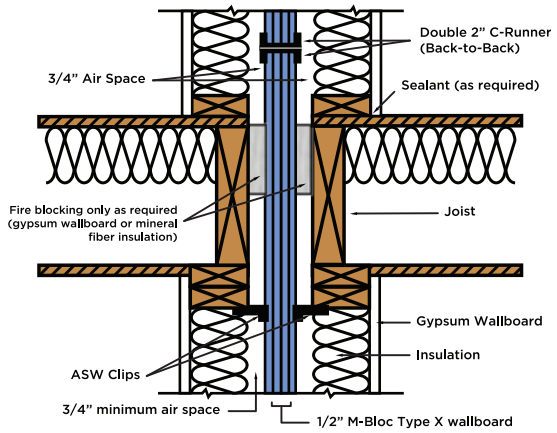
Foundation



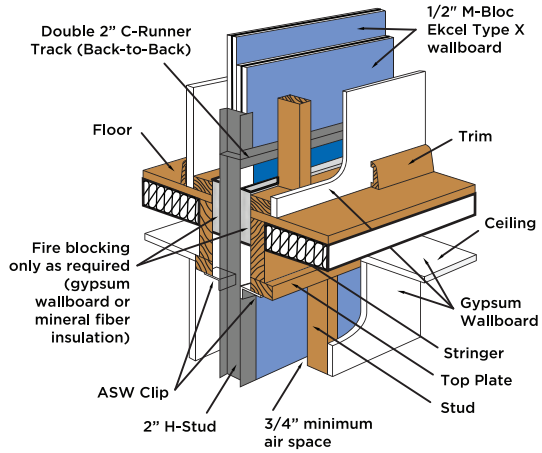
Exterior Wall Intersection



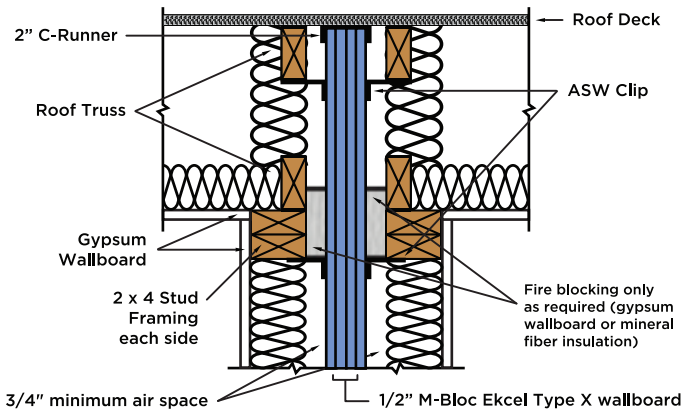
Intermediate Floor Intersection



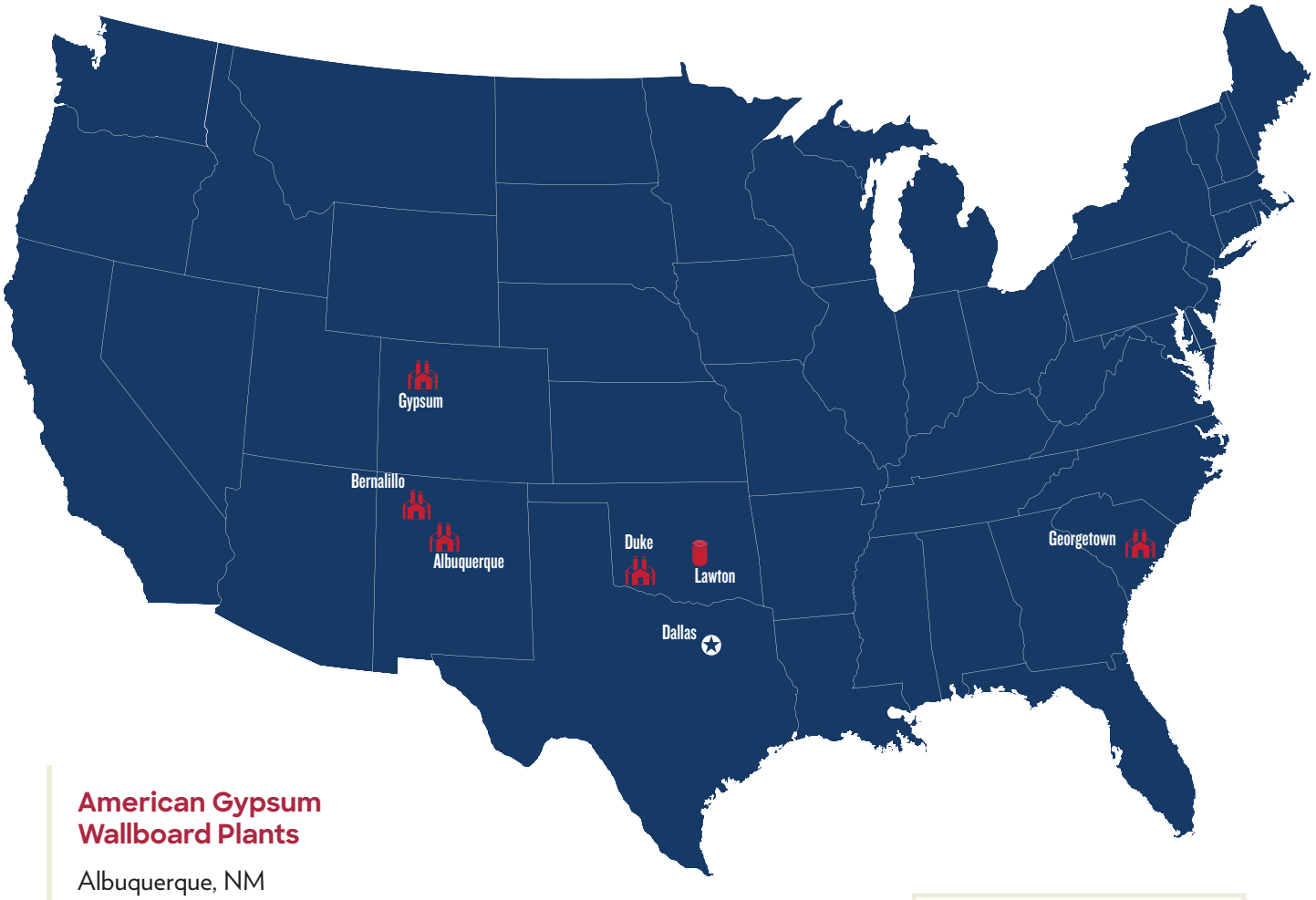
Typical Floor Ceiling Juncture in ASW



Intersection at Roof



AMERICAN GYPSUM



American Gypsum Wallboard Plants

Albuquerque, NM
Bernalillo, NM
Duke, OK
Georgetown, SC
Gypsum, CO

Paperboard Plant

Republic Paperboard Company - Lawton, OK

WALLBOARD PLANTS

PAPERBOARD MILL

CORPORATE HEADQUARTERS

5960 Berkshire Ln / Suite 800 / Dallas, TX 75225 / 1.800.545.6302 / americangypsum.com

Eagle Materials Company
NYSE: EXP

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