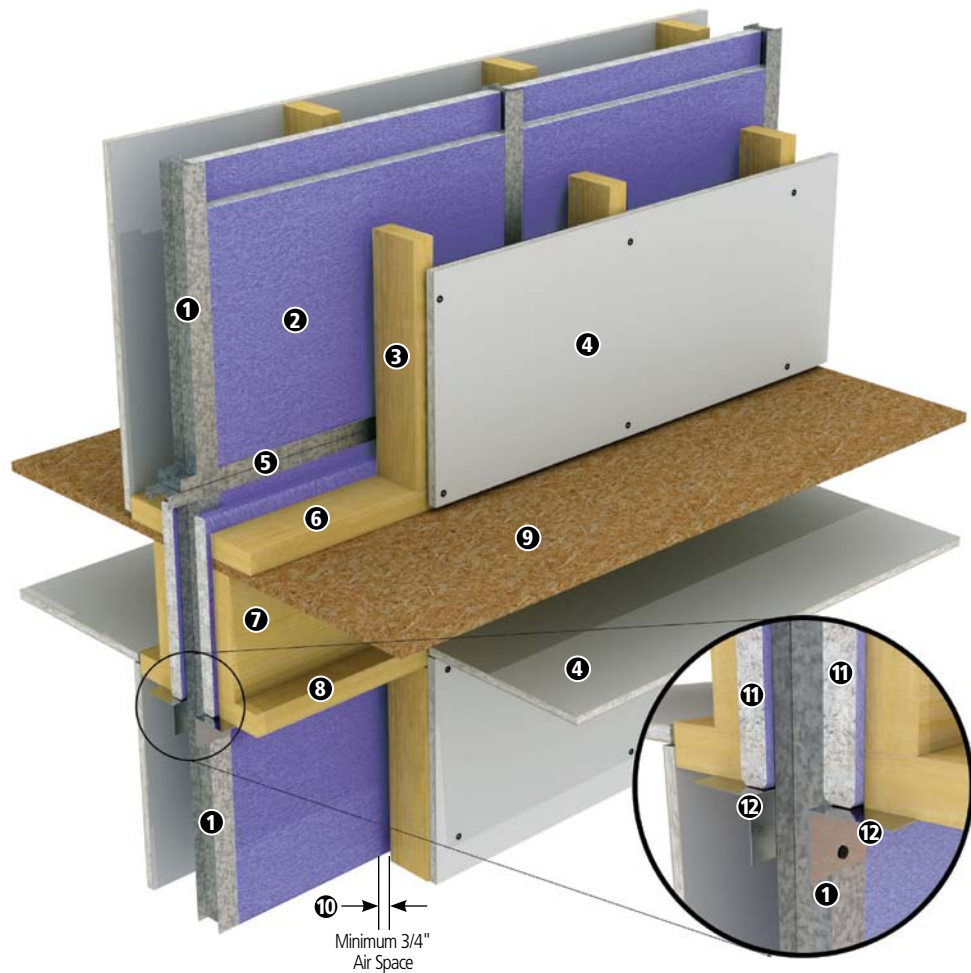


2-Hour Area Separation Wall System

The 2-Hour Area Separation Wall System is a 2-hour fire wall consisting of 2 in. (50.8 mm) light-gauge steel H-Studs that secure two layers of 1 in. (25.4 mm) shaftliner panels friction-fit between studs and a minimum 3/4 in. (19.1 mm) air space on each side.

TYPICAL FLOOR/CEILING JUNCTURE

1. H-Stud
2. Two Layers 1" Shaftliner XP®
3. Stud
4. Gypsum Board
5. Double C-Track (Back to Back)
6. Bottom Plate
7. Rim Joist
8. Top Plate
9. Subfloor
10. Minimum 3/4" Air Space
11. Fire Blocking
1" Fire-Shield® Shaftliner
or Mineral Wool
12. ASW Clip



Area Separation Wall System



2-Hour Area Separation Wall System

Description

National Gypsum Company produces three shaftliner products for use in the Area Separation Wall System:

Gold Bond® BRAND Fire-Shield® Shaftliner consists of a fire-resistant Type X gypsum core encased in a heavy, moisture-resistant and green paper that is made from 100-percent recycled content.

Gold Bond® BRAND XP® Shaftliner consists of a mold-, mildew-, moisture- and fire-resistant Type X gypsum core with a specially designed PURPLE® paper that offers superior resistance to mold and mildew.

Gold Bond® BRAND EXP® Shaftliner consists of a fire-resistant Type X gypsum core encased in a coated, specially designed PURPLE® fiberglass mat facer for superior mold, mildew and moisture resistance.

The steel H-Studs are attached on each side to adjacent framing with aluminum ASW break-away clips. The clips melt when exposed to heat and allow the collapse of the fire-exposed unit without failure of the area separation wall.

The H-Studs are secured at the foundation by the flanges of the C-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. C-Tracks are also used at the roof line or at the parapet and at the ends of walls.

For a 2-hour, fire-rated assembly without the need for battens, maintain a minimum 3/4 in. (19.1 mm) air space between the H-Stud assembly and any adjacent framing members. When you cannot maintain a minimum 3/4 in. (19.1 mm) air space, cover the H-Studs and C-Tracks by gypsum board battens. In lieu of battens, fasten gypsum board to the H-Studs, and treat joints with tape and joint compound to provide a finished wall surface.

Wood- or steel-stud flanking walls on each side of the area separation wall system can be load-bearing and can accommodate mechanical, electrical and plumbing systems. Install mineral wool or glass fiber insulation to provide higher STC ratings.

Technical Data

The Area Separation Wall System has a non-bearing wall rating of 2 hours and is listed in the UL Fire Resistance Directory as Design No. U347 and in the GA-600 Fire Resistance Manual as file numbers ASW 0800, ASW 0981 and ASW 0998.

The Area Separation Wall System has been evaluated for code compliance in UL Evaluation Report UL ER R3501-01.

The Area Separation Wall System may be built up to a maximum of 66 ft. (20.1 m) high.

Do not use the Area Separation Wall System where exposure to constant dampness and/or water may occur.

Although steel framing and Gold Bond® BRAND EXP® Gypsum Panels can withstand temporary exposure to moisture during construction, protect the finished wall as soon as possible.

Protect insulation in the Area Separation Wall from getting wet. Do not install until the building is enclosed.

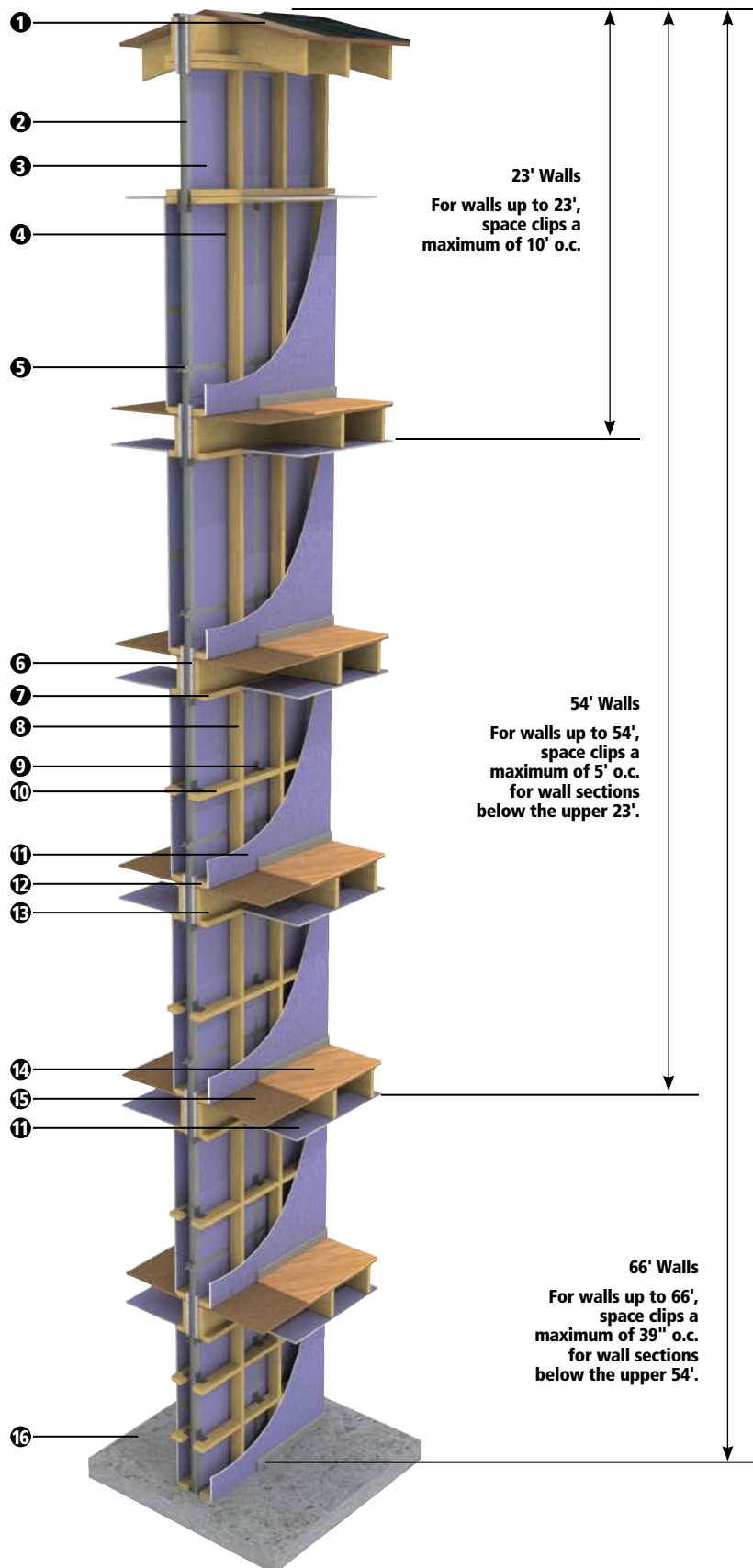
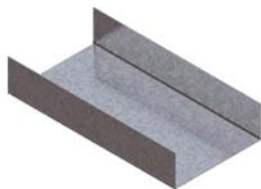
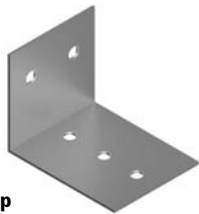
Properly store materials supplied to the jobsite, support off the ground, and protect from inclement weather.

Installation

1. Attach 2 in. (50.8 mm) C-Tracks to the top of the foundation 3/4 in. (19.1 mm) from the adjacent framed wall with fasteners spaced 24 in. (610 mm) o.c. Apply acoustical sealant along edges of track to minimize sound transmission.
2. Install C-Track on the ends of stepped foundation walls aligned with the Area Separation Wall and, if applicable, with fasteners 24 in. (610 mm) o.c. Caulk edges as with the floor track.
3. At the intersection of foundation and the exterior wall, begin erecting Area Separation Wall by inserting first layer of 1 in. (25.4 mm) shaftliner into C-Track. Insert second layer back-to-back with first layer and seat into C-Track. Shaftliner and studs may be set into position from the basement floor or fed down through the space provided between the wood framing from the floor above. Cap the terminating edge of the shaftliner panels with a vertical C-Track at the end of the foundation and fasten to the floor track with 3/8 in. (9.5 mm) Type S pan-head screws.

AREA SEPARATION WALL LIMITING HEIGHTS

1. Roof
2. H-Stud
3. Two Layers 1" Shaftliner XP®
4. Minimum 3/4" Air Space
5. Double C-Track (Back-to-Back)
6. Fire Blocking
1" Shaftliner XP® or Mineral Wool
7. Top Plate
8. Stud
9. ASW Clip
10. Blocking
11. XP® Gypsum Board
12. Bottom Plate
13. Rim Joist
14. Finish Floor
15. Subfloor
16. Concrete Slab



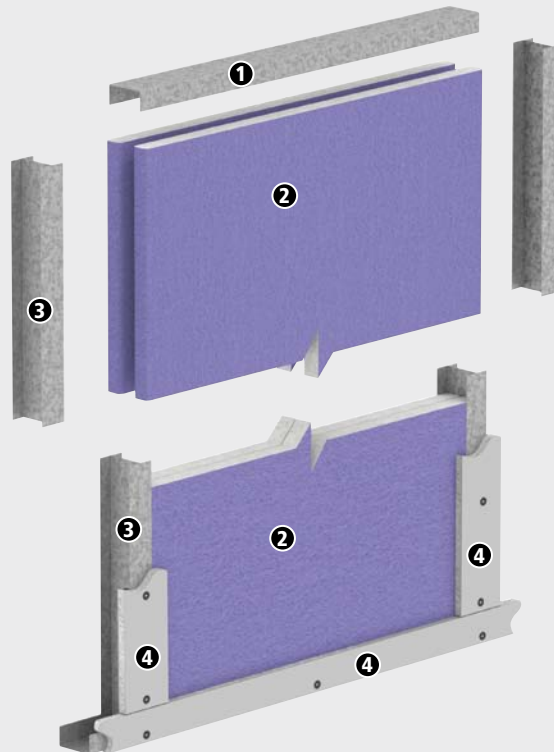
Area Separation
Wall System

2-Hour Area Separation Wall System

4. Insert an H-Stud into the C-Track and engage the H-Stud flanges over the long edges of the shaftliner panels, making sure that both pieces of shaftliner are seated all the way into the C-Tracks and that their edges are flush. Seat the H-Stud fully so the board edges contact the stud web.
5. Continue in this manner, alternating two layers of shaftliner and H-Studs with the flanges of the H-Studs engaging the shaftliner edges until the wall is completed. Again, make sure all studs and boards are tightly pushed together. H-Studs may be fastened to C-Track with 3/8 in. (9.5 mm) Type S pan-head screws to assist with installation.
6. Where the Area Separation Wall forms a corner, cap the ends of the shaftliner panels with a vertical C-Track and fasten to the floor track with 3/8 in. (9.5 mm) pan-head screws. Fasten a C-Track to the foundation or floor at a right angle to the installed Area Separation Wall with fasteners 24 in. (610 mm). Fasten the web of another vertical C-Track to the flange of the installed vertical C-Track capping the edges of the shaftliner panels with 3/8 in. (9.5 mm) pan-head screws 24 in. o.c. to create the corner. Continue installing shaftliner panels and H-Studs in the same manner.
7. If the Area Separation Wall terminates at a foundation wall, insert the last two shaftliner panels from the floor above. Boards are pushed down into the channel formed by the flanges of the previous H-Stud and the flanges of the wall track.
8. If the Area Separation Wall terminates at or past a framed wall, insert the last shaftliner panels and cap the end of the Area Separation Wall with 2 in. (50.8 mm) C-Track. Fasten C-Track flanges at all corners on both sides with 3/8 in. (9.5 mm) Type S pan-head screws.
9. Where one unit extends past the adjacent unit, there are two methods for constructing the Area Separation Wall. The first option is to continue the Area Separation Wall to the farthest point of the building. Fasten 1/2 in. (12.7 mm) plywood or OSB to the H-Studs with Type S screws 12 in. (305 mm) to apply vinyl siding or cement board siding. The second option is to terminate the Area Separation Wall at the end of the common wall and construct a 1-hour wall to the farthest point of the building.
10. Where one unit extends vertically past the adjacent unit, extend the Area Separation Wall to the uppermost point of the building. Fasten 1/2 in. (12.7 mm) plywood or OSB to the H-Studs with Type S screws 12 in. (305 mm) to apply vinyl siding or cement board siding.
11. Cap the top edge of the erected wall with 2 in. (50.8 mm) C-Track over studs and Shaftliner. C-Track may be fastened to H-Studs with 3/8 in. (9.5 mm) Type S pan-head screws to assist with installation.
12. Where another Area Separation Wall intersects the installed area separation wall, fasten a C-Track to the foundation or floor at a right angle to the installed Area Separation Wall with fasteners 24 in. (610 mm). Attach the web of a vertical C-Track to the flange of an H-Stud with 3/8 in. (9.5 mm) pan-head screws 24 in. (610 mm) o.c. Continue installing shaftliner panels and H-Studs in the same manner.
13. Attach H-Studs to adjacent framing with ASW clips. Fasten the clips to the H-Studs with one 3/8 in. (9.5 mm) Type S pan-head screw through the short leg of the clip. Attach the ASW clips directly to the H-Studs or through the gypsum board battens to the studs. Attach clips to adjacent framing with one 1-1/4 in. (31.8 mm) Type W screw for wood and Type S screw for steel.
14. Maintain a minimum 3/4 in. (19.1 mm) air space between the H-Stud assembly and any adjacent framing members. When you cannot maintain a 3/4 in. (19.1 mm) air space, cut gypsum board batten strips from pieces of 5/8 in. (15.9 mm) Fire-Shield or 1/2 in. (12.7 mm) Fire-Shield® C Gypsum Board and install over H-Studs and C-Tracks. 3 in. (76.2 mm) wide battens are installed over C-Track at foundation and roof. 6 in. (152 mm) wide battens are fastened to the H-Studs with 1 in. (25.4 mm) Type S screw 12 in. (305 mm) o.c. screwed into alternate flanges of the H-Studs.
15. Attach 2 in. (50.8 mm) C-Track to the installed track capping off the wall of the lower floor. This back-to-back track installation allows you to erect the Area Separation Wall one floor at a time. Secure the two tracks together with two 3/8 in. (9.5 mm) Type S pan-head screws 24 in. (610 mm) o.c. Stagger back-to-back track joints a minimum of 12 in. (305 mm).

BASIC COMPONENTS OF AREA SEPARATION WALL

1. 2" C-Track
2. 1" Shaftliner XP®
3. 2" H-Stud
4. 1/2" Fire-Shield® C Gypsum Batten



16. For applications where a floor overhangs the floor below, the C-Track can be cantilevered 24 in. (610 mm) from the C-Track, capping the wall of the lower floor. A 36 in. (914 mm) cantilever can be achieved in the same manner when diagonal steel strapping is applied to each side of the wall.
17. For additional vertical sections, erect shaftliner and H-Studs in the same manner as the basement wall, steps 4-10, except that starting and ending procedures vary depending on the exterior wall intersection detail.
18. At the roof intersection, cap the walls with C-Tracks abutting the underside of the roof sheathing. C-Tracks can be fastened to H-Studs with 3/8 in. (9.5 mm) Type S pan-head screws to assist with installation. Fasten H-Studs to framing with ASW clips at the roof line.
19. Provide fire blocking at intermediate floors, roof locations, and horizontally every 10 ft. (3,048 mm). Use mineral wool, gypsum board or non-combustible, spray-firestop sealants.

20. The 2 in. (50.8 mm) Area Separation Wall system can be finished in a variety of ways, depending on wall installation. Wood stud or steel stud walls flanking the Area Separation Wall may be finished in any method specified. Where appearance is not critical and flanking walls are not installed, the Area Separation Wall and battens may be left unfinished.

Recommendations

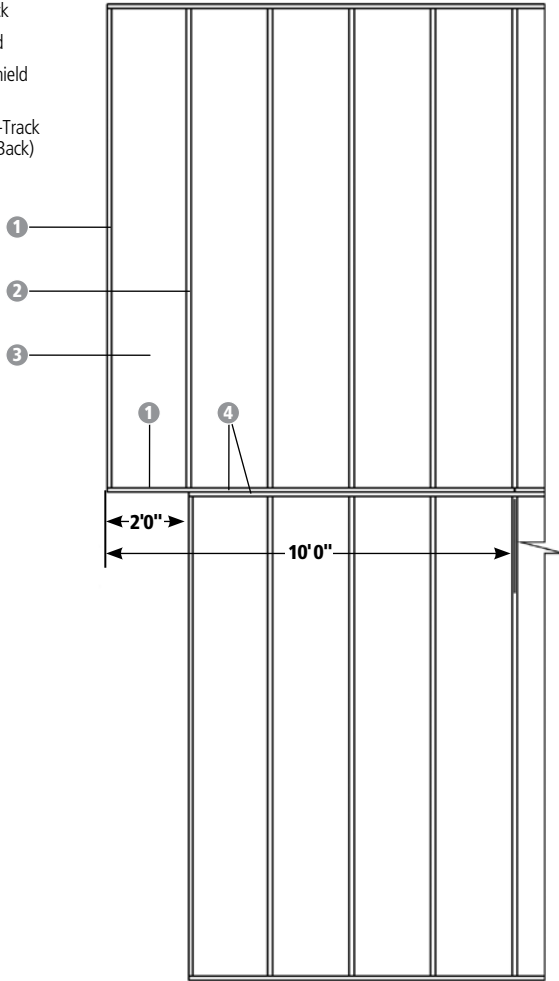
Order H-Studs and 1 in. (25.4 mm) Fire-Shield® Shaftliner according to the following:

1. Basement wall section – length equal to distance from foundation to approximately 3 in. (76.2 mm) above the first floor line.
2. Intermediate floors – length equal to the distance between floor lines.
3. Top floor or attic – length to extend to top of parapet wall or to roof intersection, depending on detail.

2-Hour Area Separation Wall System

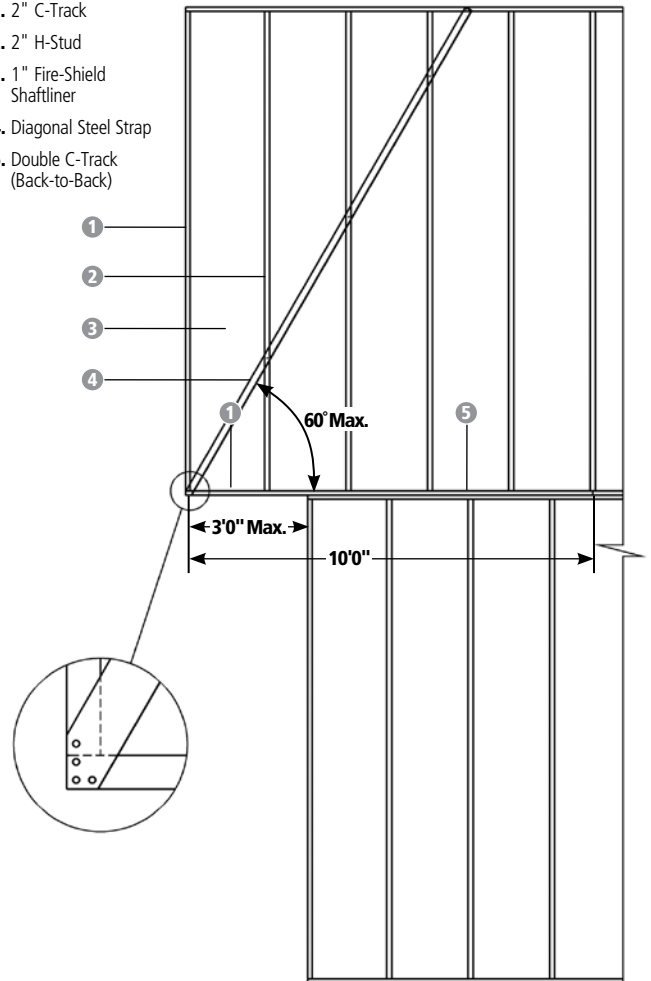
2 FT. CANTILEVER

- 1. 2" C-Track
- 2. 2" H-Stud
- 3. 1" Fire-Shield Shaftliner
- 4. Double C-Track (Back-to-Back)



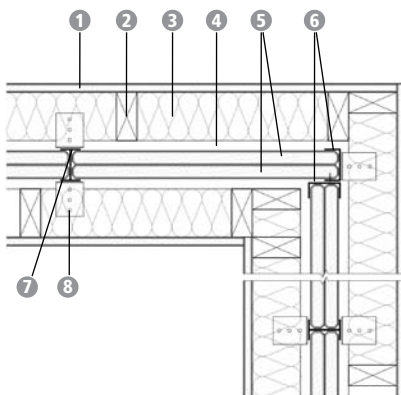
3 FT. CANTILEVER

- 1. 2" C-Track
- 2. 2" H-Stud
- 3. 1" Fire-Shield Shaftliner
- 4. Diagonal Steel Strap
- 5. Double C-Track (Back-to-Back)



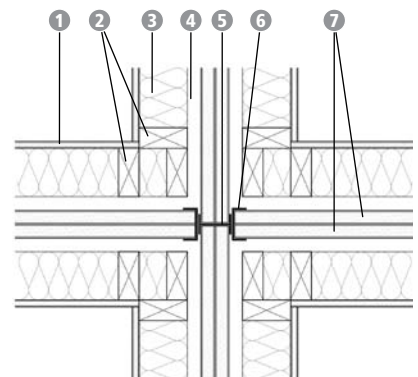
CORNER DETAIL

- 1. Gypsum Board
- 2. 2x4 Wood Stud
- 3. Insulation
- 4. Minimum 3/4" Air Space
- 5. 1" Fire-Shield Shaftliner
- 6. 2" C-Track
- 7. 2" H-Stud
- 8. ASW Clip



4-WAY INTERSECTION DETAIL

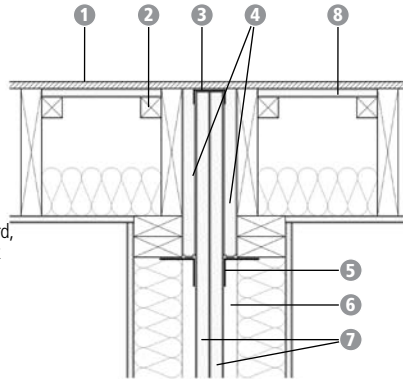
- 1. Gypsum Board
- 2. 2x4 Wood Stud
- 3. Insulation
- 4. Minimum 3/4" Air Space
- 5. 2" H-Stud
- 6. 2" C-Track
- 7. 1" Fire-Shield Shaftliner



Area Separation Wall Systems

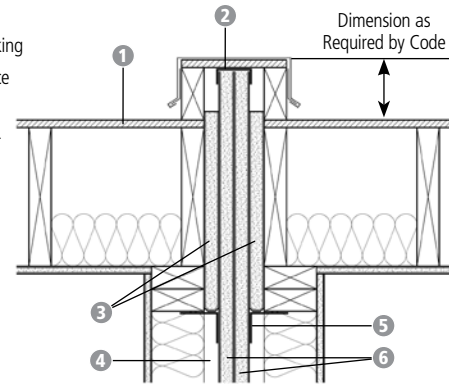
ROOF JUNCTION DETAIL

1. Roof Deck
2. 2x2 Wood Ledger
3. 2" C-Track
4. Gypsum Board or Mineral Wool Fire Blocking
5. ASW Clip
6. Minimum 3/4" Air Space
7. 1" Fire-Shield Shaftliner
8. 5/8" Fire-Shield Gypsum Board, 4' Each Side When Roof Deck is Not Constructed With Fire-Retardant Treated Wood.



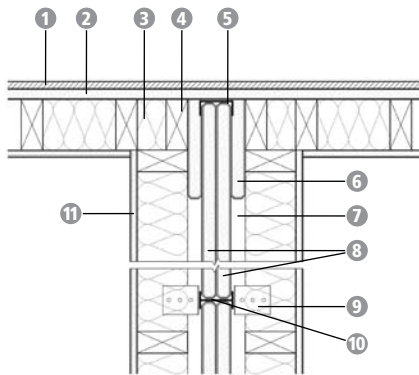
ROOF PARAPET DETAIL

1. Roof Deck
2. 2" C-Track
3. Gypsum Board or Mineral Wool Fire Blocking
4. Minimum 3/4" Air Space
5. ASW Clip
6. 1" Fire-Shield Shaftliner



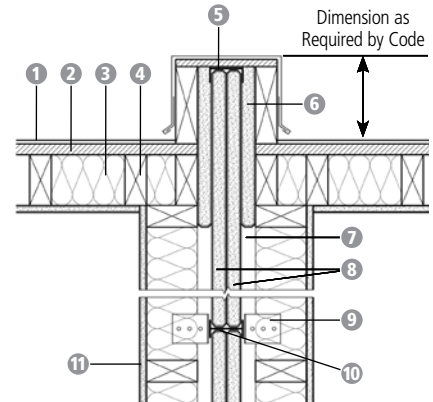
EXTERIOR WALL JUNCTION DETAIL

1. Siding
2. 5/8" Fire-Shield Gypsum Sheathing, 4' Each Side
3. Insulation
4. 2x4 Wood Stud
5. 2" C-Track
6. Gypsum Board or Mineral Wool Fire Blocking
7. Minimum 3/4" Air Space
8. 1" Fire-Shield Shaftliner
9. ASW Clip
10. 2" H-Stud
11. Gypsum Board



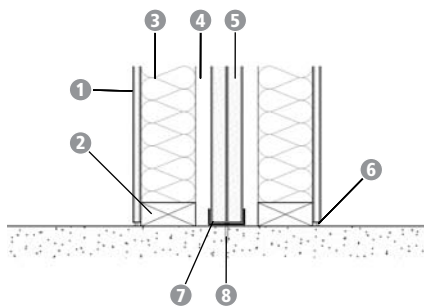
EXTERIOR WALL INTERSECTION DETAIL

1. Siding
2. 5/8" Fire-Shield Gypsum Sheathing
3. Insulation
4. 2x4 Wood Stud
5. 2" C-Track
6. Gypsum Board or Mineral Wool Fire Blocking
7. Minimum 3/4" Air Space
8. 1" Fire-Shield Shaftliner
9. ASW Clip
10. 2" H-Stud
11. Gypsum Board



FOUNDATION DETAIL

1. Gypsum Board
2. 2x4 Wood Plate
3. Insulation
4. Minimum 3/4" Air Space
5. 1" Fire-Shield Shaftliner
6. Sealant
7. 2" C-Track
8. Fasteners 24" o.c. Max.



FLOOR INTERSECTION DETAIL

1. Subfloor
2. Sealant
3. 2" Wood Plate
4. Gypsum Board
5. Insulation
6. Minimum 3/4" Air Space
7. Rim Joist
8. Gypsum Board or Mineral Wool Fire Blocking
9. 1" Fire-Shield Shaftliner
10. ASW Clip
11. 2x4 Wood Stud
12. Ceiling

