

**CertainTeed**  
SAINT-GOBAIN

**GlasRoc<sup>®</sup>** *SHAFTLINER*



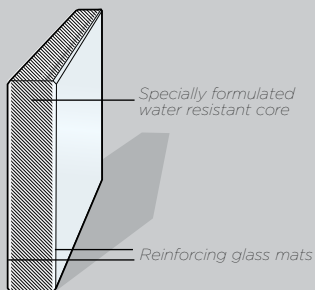
# GlasRoc<sup>®</sup>

## Shaftliner Type X

GlasRoc<sup>®</sup> Shaftliner is a paperless mold and moisture resistant gypsum board combining reinforcing glass mats and a specially formulated fire and moisture resistive, non combustible core.

GlasRoc<sup>®</sup> Shaftliner offers:

- Long term protection (12 months) to weather exposure.
- A superior water resistant surface that does not inhibit water vapor permeance.
- Excellent fire resistance properties, and numerous fire rated designs.
- Achieves score of 10 for mold resistance per ASTM D3273 the best possible scores for this test.



## GlasRoc<sup>®</sup> Shaftwall Systems

### 1 & 2 Hour Fire Resistance Ratings

The walls of elevator shafts and stairwells are a vital life safety link in multi-story buildings. These walls are the main line of defense against fire entering the cavities behind them and spreading rapidly from floor to floor.

Gypsum shaftwall systems have replaced traditional masonry for interior vertical enclosures including mechanical enclosures, stairwells, elevator enclosures, and other mechanical chases. Some inherent advantages of paperless gypsum shaftwall systems are: lightweight construction, thinner walls, ease and speed of installation and clean up, cost-effective construction.

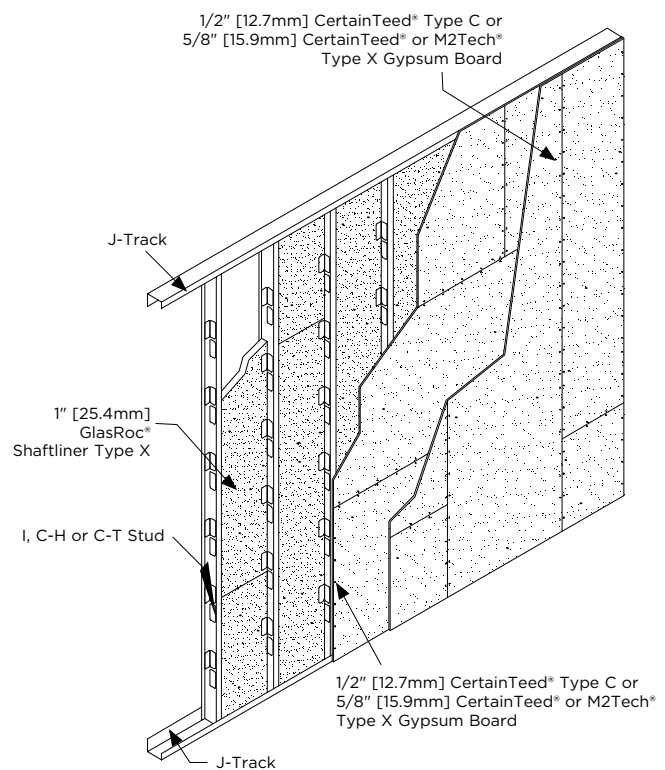
Shaftwall Systems provide one or two hour fire resistance ratings in non-loadbearing configurations and moisture and mold resistance during construction.

The systems are designed to withstand the intermittent surges of air pressure caused by fast moving elevator cabs. These systems utilize either an I-Stud, C-H Stud or a C-T Stud and J-Track to support layers of 1" (25.4 mm) GlasRoc® Shaftliner Type X and either 1/2" (12.7 mm) CertainTeed® Type C or 5/8" (15.9 mm) CertainTeed® or M2Tech® Type X gypsum boards.

EITHER I-STUD, C-H STUD OR C-T STUDS MAY BE USED IN CONJUNCTION WITH GlasRoc® shaftwall systems. All of the components are noncombustible.

### Shaftwalls can be erected from one side, eliminating the need to build extensive scaffolding.

GlasRoc® Shaftwall assemblies save money in several ways. With less weight per square area than other shaft enclosures, structural framing requirements are reduced; as is the need for heavily reinforced footings. The 2' (610 mm) wide GlasRoc® Shaftliner slides quickly into the I-Stud, C-H Stud or C-T Stud and automatically provides 24" (610 mm) o.c. spacing. Shaftwalls can be erected from one side, eliminating the need to build extensive scaffolding. No finishing is required on the shaft side of the partition.



**2-Hour Vertical Shaftwall System**



1. All construction shall comply with local building codes.
2. Only those components specified shall be used when constructing any fire or sound rated system. Substitutions may adversely affect performance capabilities.
3. Unless otherwise specified in the system design, face layer joints of 1/2" (12.7 mm) CertainTeed® Type C, 5/8" (15.9 mm) CertainTeed® or M2Tech® Type X gypsum boards shall be taped and finished with joint compound as described in "Surface Preparation" section.

#### Code Report References

UL ER3660-02 (IBC and NBCC Compliance)

#### Fire Resistance Rated Designs

UL/cUL U417, U428, U429, U469, U529, V433, V470, W409, W437, W453

ULC W446

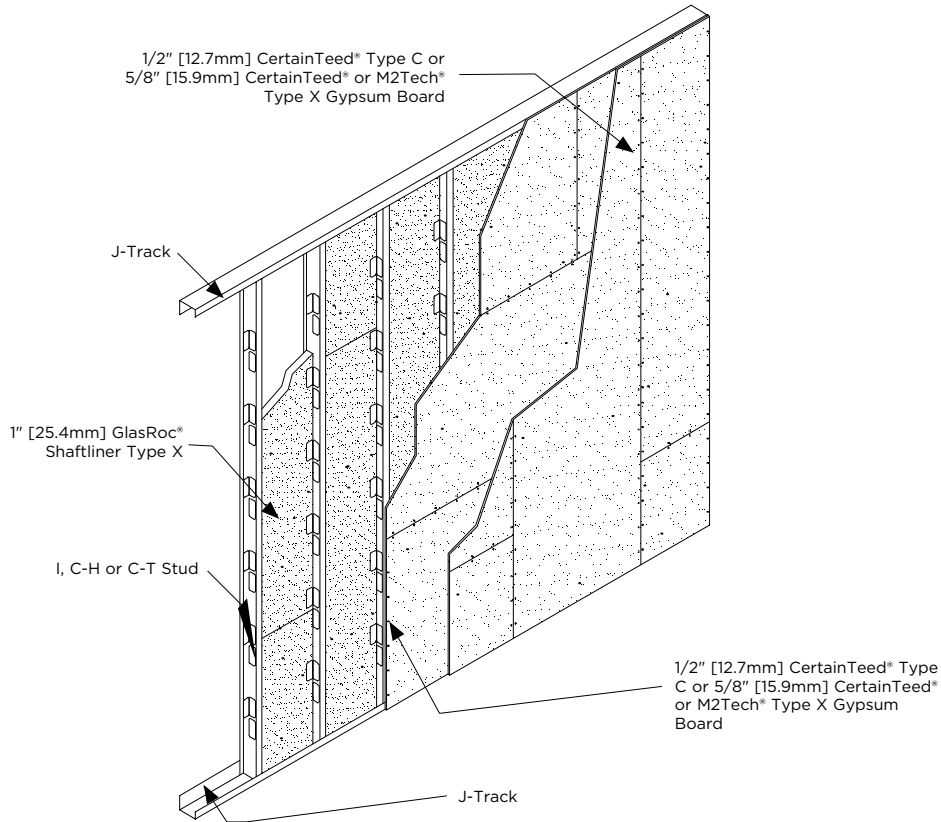
UL ER3660-02

Gypsum Association Fire Resistance Design Manual GA-600 (GA WP 7051, WP 7084, WP 7254, WP 7255)

For further technical information regarding sound control and fire resistance for Shaftwall Systems contact Marketing Technical Services at 1-800-446-5284.

# Working with the Product

## FRAMING AND INSTALLATION



### Cutting

The score and snap method is a fast and efficient way to cut GlasRoc® gypsum board.

#### Steps:

1. On the logo side, position a straight edge along the line of cut.
2. Score sheets with a knife or other suitable tool.
3. With a quick, firm motion, snap back away from the face.
4. The back can either be cut with a knife or separated by snapping the piece in the opposite direction.
5. Smooth all cut ends and edges to ensure tight joints.

To make cutouts, score around the perimeter on the face and back and tap out the waste piece from the face side. Cutouts can also be made with a drywall saw.

GlasRoc® gypsum boards can also be cut with a saw. For information on avoiding dust inhalation, refer to the Safety Data Sheet available on our website, [www.certainteed.com](http://www.certainteed.com). Safety glasses should always be worn when using power tools.

### Installation

Steel Framing and Installation of GlasRoc® Shaftliner gypsum boards.

1. Lay out per construction drawings.
2. Install J-Track along the floor and ceiling and vertically at columns or abutting partitions, positioning the long legs closest to the shaft. Secure each piece with the appropriate power driven fasteners spaced a maximum 24" (600 mm).
3. Pre plan stud layout 24" (610 mm) o.c. maximum so the terminal stud on either end will fall a minimum of 8" (200 mm) from the opening.
4. Install GlasRoc® Shaftliner gypsum boards vertically. Cut boards a maximum of 1" (25 mm) less than floor to ceiling height. The leading edge of the first board must be attached to the long leg of the vertical J-Track with 1-5/8" (41 mm) Type S screws spaced 12" (305 mm) o.c. or by tabs in the J-Track. Secure the top and bottom edges using the same fasteners and spacing or using the tabs.
5. Friction fit an I, C-H or C-T Stud into the top and bottoms tracks and slide it snugly against the GlasRoc® Shaftliner gypsum boards. Make sure the edge of the board is in full contact with the center web of the stud and covered by all of the tabs.
6. Erect adjacent GlasRoc® Shaftliner gypsum boards by inserting in the top and bottom J-Track and between the tabs and flange on the opposite side of the I, C-H or C-T Studs to complete framing. Check periodically to ensure they are plumb. Screws are not required for the top and bottom J-Tracks.
7. For doors, ducts or other openings install J-Track as perimeter framing.
8. For walls exceeding 12' (3660 mm) in height, GlasRoc® Shaftliner gypsum boards may be butted to span the floor-ceiling height. The shorter panel should be at least 24" (600 mm) long or of sufficient length to engage at least two I, C-H or C-T Stud tabs on each panel edge. End joints should fall alternately in the upper and lower 1/3 height of the partition. Subsequent butt joints between adjoining panels should be spaced no closer than 24" (600 mm) in elevation. Joints may be butted together or use a I, C-H or C-T Stud placed horizontally between boards to secure each joint.
9. As an option, if required in building code jurisdictions, butt joints in GlasRoc® Shaftliner gypsum boards may be back blocked in the cavity by screw attaching a 12" x 24" (300 mm x 600 mm) piece of 5/8" (15.9 mm) CertainTeed® or M2Tech® Type X or 1" (25.4 mm) GlasRoc®

- Shaftliner gypsum board over the joint to the tabs of the I, C-H or C-T Studs.
10. Frame all cut openings in the shaft side with J-Track, providing adequate structural support for openings over 48" (1220 mm).
  11. Elevator door frames must be tied to shaftwall enclosures; however, they must remain independently supported by the building frame. Attach GlasRoc® Shaftwall System to elevator door frame jamb and anchor clips with pan head screws. The J-Track 3" (76 mm) leg is used at the intersection of the elevator door frame and shaftwall system.
  12. Where required, use an acoustical sealant to caulk around the perimeter of wall sections, door frames, call boxes and any other openings that may allow air passage.

**1-Hour-Rated System: Finished One Side**

1. Apply a single layer of 5/8" (15.9 mm) CertainTeed® Type X gypsum board vertically with 1" (25 mm) Type S screws.
2. Holding the gypsum board firmly against the framing, begin fastening in the center of each sheet and move outward toward ends and edges.
3. Space screws at 12" (300 mm) o.c. in the field of the board and 8" (200 mm) o.c. around the perimeter.
4. Set fastener heads slightly below the surface without breaking the face paper or damaging the gypsum core.

**2-Hour-Rated System: Finished One Side**

1. Install a base layer of 1/2" (12.7 mm) CertainTeed® Type C or 5/8" (15.9 mm) CertainTeed® or M2Tech® Type X gypsum board vertically or horizontally with 1" (25 mm) Type S buglehead screws at 24" (600 mm) o.c.
2. Apply a face layer of 1/2" (12.7 mm) CertainTeed® Type C or 5/8" (15.9 mm) CertainTeed® or M2Tech® Type X gypsum board vertically or horizontally (opposite of base layer) over the face layer with 1-5/8" (41 mm) Type S screws spaced at 24" (600 mm) o.c.
3. All joints in the face layer must be staggered with respect to those in the base layer.

**2-Hour-Rated System: Finished Two Sides**

1. Follow the preceding framing details using I, C-H or C-T Studs and J-Track.
2. Apply GlasRoc® Shaftliner gypsum board, followed by the attachment of 1/2" (12.7 mm) CertainTeed® Type C or 5/8" (15.9 mm) CertainTeed® or M2Tech® Type X gypsum board in a single facing layer on each side of the studs vertically, parallel to framing, with 1" (25 mm) No. 6 Type S screws 12" (300 mm) on center.

**2-Hour-Rated System:**

**Sound Control (STC) Rating of 54**

A two-hour-rated shaftwall partition can be configured to achieve a minimum STC rating of 50 with the following system.

1. Fill wall cavity with 1-1/2" (38 mm) CertainTeed Sustainable Insulation®, or equivalent.
2. Install resilient furring channels, 1/2" (12.7 mm) deep minimum No. 25 gauge/0.0188" (0.478 mm) thick, on the face side horizontally to I, C-H or C-T Studs at 24" (610 mm) o.c.
3. Secure channels to each stud with 3/8" (10 mm) Type S panhead screws.
4. Apply a double layer of 1/2" (12.7 mm) CertainTeed® Type C or 5/8" (15.9 mm) CertainTeed® or M2Tech® Type X gypsum board. Attach the base layer to the channels using 1" (25 mm) Type S buglehead drywall screws spaced 24" (600 mm) o.c. along the edges and in the field of the board with the first screw 3" (75 mm) from board end. Attach the face layer to the channels using 1-5/8" (41 mm) No. 6 Type S buglehead screws spaced 12" (300 mm) o.c. along the edges and in the field with the first screw 6" (150 mm) from board end.
5. Apply caulk, such as Green Glue Noiseproofing Sealant, under the top and bottom tracks and around the exterior face perimeters of each layer of 1/2" (12.7 mm) CertainTeed® Type C or 5/8" (15.9 mm) CertainTeed® or M2Tech® Type X gypsum board.

**2-Hour-Rated System:**

**Horizontal Membrane and Duct Protection**

1. Install the J-Track and I, C-H, or C-T stud system for two hour construction using 3 layers of 1/2" (12.7mm) CertainTeed® Type C gypsum board.
2. The first layer of CertainTeed® Type C gypsum board is installed parallel to the I, C-H, or C-T studs with 1" (25mm) No. 6 Type S screws at 12" (300mm) o.c. around the perimeter and 24" (610mm) o.c. across the field.
3. The second layer is also installed parallel to the I, C-H, or C-T studs with the joints off-set from the first layer by 24" (610mm). The panel is attached with 1-5/8" (41mm) No. 6 Type S screws 12" (300mm) o.c. around the perimeter and 24" (610mm) o.c. across the field.
4. The face layer is applied perpendicular to the I, C-H, or C-T studs with 2" (51mm) No. 6 Type S screws at 12" (300mm) o.c. around the perimeter, at butt joints, and across the field.
5. Vertical section of duct enclosure is installed as described for the 2-Hour Rated System: Finished One Side. Board end joints of corner intersection for enclosure overlapped as shown in drawing on Page 18.

**Surface Preparation of Finished Sides:**

No finishing is required on the shaft side of partitions. Joints, corners and fastener heads on the opposite face side shall be finished in accordance with ASTM C840, the GA-216, the Fire Resistance Design Manual GA-600 and CertainTeed® Finishing systems, or equivalent joint compound manufacturer's instructions. Joint compound shall comply with ASTM C475.

1. No surface treatment shall be done until the interior temperature has been maintained at a minimum of 50°F (10°C) for at least 48 hours prior to application of compounds and until all materials have completely dried. Adequate continuous ventilation must also be provided.
2. Embed tape into the wet compound and allow to dry. For inside corners, crease the tape and work it into the joint.
3. Apply a second coat of compound across the joint and feather to approximately 4" (100 mm) on each side.
4. Apply a third coat and feather to approximately 6" (150 mm) on each side
5. Allow each coat to dry before proceeding.
6. Attach corner bead to outside corners and apply three coats of joint compound. Feather out each coat as described in steps 3-5.
7. Spot cover all fastener heads with three coats of joint compound applied in different directions.
8. Additional coats of compound may be required to achieve higher Levels of Finish.
9. Lightly sand the last coat of all treated areas, taking care not to roughen the surrounding gypsum board paper. Smoothing can also be accomplished with a damp sponge.

**Finishing:**

1/2" (12.7 mm) CertainTeed® Type C or 5/8" (15.9 mm) CertainTeed® or M2Tech® Type X gypsum board can be finished with paint, texture or wallpaper. High quality primer/sealer must be used prior to any type of final decoration. For high gloss paint and severe lighting conditions, a thin skim coat of joint compound or CertainTeed® Level V Wall/Ceiling Primer Surfacer, should be applied across the entire surface (Level 5 Finish). This will help minimize the irregularities and porosity differences between the materials. Refer to GA-214, GA-216, and ASTM C840 for additional finishing instructions. Finishing is not required on shaft side of wall system.

**Limitations**

- GlasRoc® Shaftwall Systems are for non-loadbearing partitions and ceilings only.
- GlasRoc® Shaftwall Systems shall not be exposed to sustained temperatures exceeding 125°F (52°C).
- GlasRoc® gypsum board should not come in direct contact with concrete, masonry or other surfaces that have a high moisture content.
- GlasRoc® Shaftwall Systems are not designed to serve as an unlined air supply duct. Where gypsum board is used in air handling systems, the board temperature shall be maintained above the air stream dew point temperature but not higher than 125°F (52°C).
- Caulk with Green Glue Noiseproofing Sealant, or equivalent to seal perimeters and penetrations to minimize air noises and dust associated with air movement.

# Working with the Product

## Helpful Hints

1. Use a fastening plate to secure the J-Track whenever fasteners are closer than 4" (100 mm) to the edge. Setting the plate at the time of concrete construction will avoid spalling by mechanical fasteners.
2. Pre-cut I, C-H or C-T Studs 5/8" (16 mm) less than the height of the opening.
3. Pre-cut 1" (25.4 mm) GlasRoc® Shaftliner boards 1" (25 mm) less than the height of the opening.
4. In structural steel frame construction, install J-Track sections before applying spray-on fireproofing.
5. Items to be anchored to the wall (cabinets, sinks, handrails, etc.) should be fastened to the I, C-H or C-T Studs or to plates secured behind or between the layers of CertainTeed® or M2Tech® Type X or Type C.
6. Joint compounds should be applied at ambient temperatures above 50°F (10°C). Provide adequate ventilation to "drive-off" excess moisture.
7. For acoustic sealant and prevention of air leakage, use a bead of flexible caulking, such as Green Glue Noiseproofing Sealant, at the perimeter of each wall under the face layer and under the 2-1/2" (64 mm) flange of J-Track for shaftwall finished on one side to minimize whistling and dirt accumulation.
8. Use Type S screws for 25 ga steel framing. Use Type S-12 screws for 20 ga or heavier steel framing.

## Product Specifications

### COMPONENT SPECIFICATIONS

|                | Type C                              | Type C                               | Type X                               | Shaftliner                           | Steel Framing  |                |         |
|----------------|-------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--|----------------|---------|
| Standards      | ASTM C1396 / CAN/CSA-A82.27         |                                      |                                      | ASTM C1396,<br>ASTM C1658            | C 645  | C 645          | C 645   |
| Thickness      | 1/2" (12.7 mm)                      | 5/8" (15.9 mm)                       | 5/8" (15.9 mm)                       | 1" (25.4 mm)                         | 25 ga**  | 20 ga**        | 19 ga** |
| Width/Size*    | 4' (1220 mm)                        | 4' (1220 mm)                         | 4' (1220 mm)                         | 2' (610 mm)                          | 2-1/2", 4"   | 2-1/2", 4", 6" | 4", 6"  |
| Lengths*       | 8', 9', 10', 12'                    | 8', 12'                              | 8', 9', 10', 12'                     | 8', 10', 12'                         | * 2-1/2" = 64 mm<br>4" = 102 mm<br>6" = 152 mm<br>8" = 2440 mm<br>9" = 2740 mm<br>10" = 3050 mm<br>12" = 3660 mm |                |         |
| Approx. Weight | 1.8 psf<br>(8.8 kg/m <sup>2</sup> ) | 2.3 psf<br>(11.2 kg/m <sup>2</sup> ) | 2.3 psf<br>(11.2 kg/m <sup>2</sup> ) | 4.0 psf<br>(19.5 kg/m <sup>2</sup> ) | ** 25 ga: .0188" = 0.478 mm<br>20 ga: .0329" = 0.836 mm<br>19 ga: .0400" = 1.02 mm                               |                |         |
| Edges          | Tapered                             | Tapered                              | Tapered                              | Double Beveled                       |  |                |         |

CertainTeed Gypsum certifies that the gypsum board products described herein meet or exceed listed ASTM standard specifications. All products are not available in all geographic areas. Consult local building codes for regulations in your area. For further information, consult a CertainTeed sales representative.

### SURFACE BURNING

|   | CertainTeed® Type C<br>with M2Tech® | CertainTeed® Type X<br>with M2Tech® | GlasRoc® Shaftliner<br>Type X |
|---|-------------------------------------|-------------------------------------|-------------------------------|
| ASTM E84 Flame Spread/Smoke Developed     | 0/5 Class A                         | 0/5 Class A                         | 0/10 Class A                  |
| CAN/ULC-S102 Flame Spread/Smoke Developed | 5/5                                 | 5/5                                 | 0/20                          |

### Technical References

For additional information on application and finishing consult:

- ICC International Codes
- UL/cUL U417, U428, U429, U469, U529, V433, V470, W409, W437, W453
- UL C W446
- UL ER3660-02
- Gypsum Association Publications GA-214, GA-216, and GA-600
- ASTM C475, C514, C645, C734, C840, C1002, C1047, C1396, C1658, E84, E119,
- CAN/CSA A82.27, CAN/ULC-S101, CAN/ULC-S102, CAN/ULC-S114
- NBCC

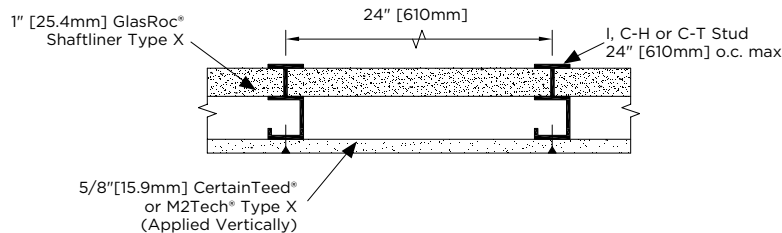
### Handling and Storage

GlasRoc® gypsum boards should be stacked flat on a smooth, level surface, not directly on the ground. When spacers are used, position them closely enough together to minimize warpage. Care should be taken to prevent damage to edges and corners. Always keep GlasRoc®, CertainTeed® and M2Tech® gypsum board dry prior to installation. CertainTeed assumes no responsibility for consequential damages that may result from the presence of standing water.

# Vertical Systems

## 1 and 2 hour Fire Resistance Rating

### FIRE RESISTANCE RATED SYSTEM DESIGNS FINISHED ONE SIDE



1" [25.4mm] GlasRoc® Shaftliner gypsum boards are inserted between 2-1/2" [64mm], 4" [102mm] or 6" [152mm] I, C-H, or C-T Studs. A single layer of 5/8" [15.9mm] CertainTeed® or M2Tech® Type X gypsum board is applied vertically, parallel to framing, on open stud-face side with 1" [25 mm] Type S screws spaced 12" [300 mm] on center. Exposed joints and screwheads are to be finished with CertainTeed® Finishing System unless otherwise specified. (Non-Loadbearing)

## 1 HR

### VERTICAL SHAFTWALL SYSTEM

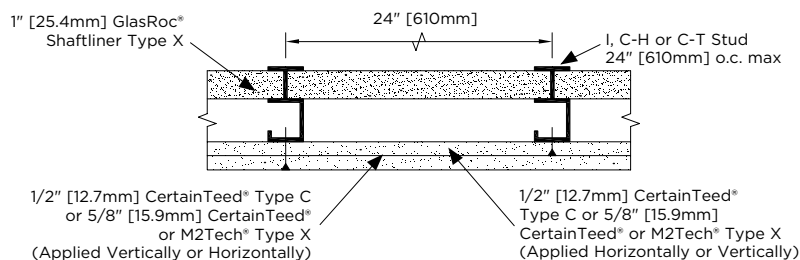
#### FINISHED ONE SIDE

**FIRE TEST**  
UL U417/ULC W446

**SOUND REPORT**  
NGC 2006036 STC 41 with CertainTeed Sustainable Insulation; OL 14-0504 STC 50 with resilient channel and CertainTeed Sustainable Insulation or equivalent

**THICKNESS**  
3-1/8" [80mm]

**APPROX. WT.**  
6.5 psf [32 kg/m<sup>2</sup>]



1" [25.4mm] GlasRoc® Shaftliner gypsum boards are inserted between 2-1/2" [64 mm], 4" [102 mm] or 6" [152 mm] I, C-H or C-T Studs. Two layers of 1/2" [12.7 mm] CertainTeed® Type C or 5/8" [15.9 mm] CertainTeed® or M2Tech® Type X gypsum board are applied to one side, with the base layer applied vertically or horizontally to the open-stud-face of framing studs with 1" [25 mm] Type S buglehead screws spaced 24" [600 mm] o.c. The second layer is placed vertically or horizontally (opposite of base layer) over the base layer and fastened using 1-5/8" [41 mm] No. 6 Type S screws spaced 12" [300 mm] on center. Exposed joints and screwheads are to be finished with CertainTeed® Finishing system, or equivalent, unless otherwise specified. (Non-Loadbearing)

## 2 HR

### VERTICAL SHAFTWALL SYSTEM

#### FINISHED ONE SIDE

**FIRE TEST**  
UL U417/ULC W446

**SOUND REPORT**  
OL 14-0502 STC 54 with 5/8" (15.9 mm) CertainTeed® or M2Tech® Type X, resilient channel and CertainTeed Sustainable Insulation® or equivalent

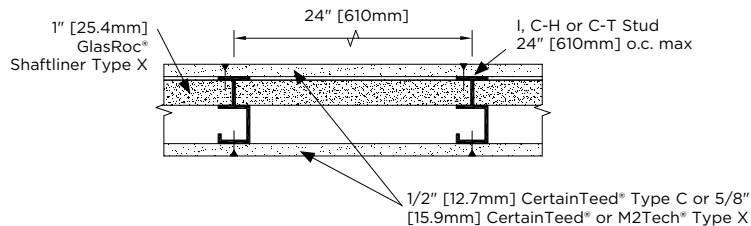
**THICKNESS**  
3-3/4" [95mm]

**APPROX. WT.**  
9 psf [44 kg/m<sup>2</sup>]

# Vertical Systems

1 and 2 hour Fire Resistance Rating

## FIRE RESISTANCE RATED SYSTEM DESIGNS FINISHED BOTH SIDES



1" [25.4 mm] GlasRoc® Shaftliner gypsum boards are inserted between 2-1/2" [64 mm], 4" [102 mm] or 6" [152 mm] I, C-H or C-T Studs. A single layer of 1/2" [12.7 mm] CertainTeed® Type C or 5/8" [15.9 mm] CertainTeed® or M2Tech® Type X gypsum board is applied vertically on both sides, parallel to framing with 1" [25 mm] Type S screws spaced 12" [300 mm] o.c. Joints are staggered or offset. Exposed joints and screwheads are to be finished with CertainTeed® Finishing System unless otherwise specified. (Non-Loadbearing)

## 2 HR

VERTICAL SHAFTWALL SYSTEM

FINISHED BOTH SIDES

### FIRE TEST

UL U417/ULC W446

### SOUND REPORT

OL 14-0502 STC 54 with resilient channel and CertainTeed Sustainable Insulation® or equivalent

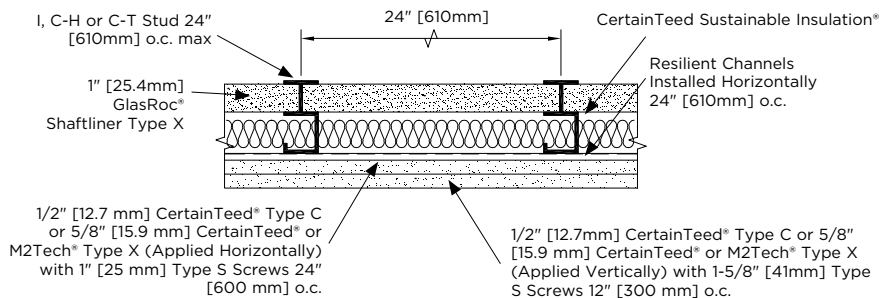
### THICKNESS

3-3/4" [95mm]

### APPROX. WT.

9 psf [44 kg/m<sup>2</sup>]

## SOUND CONTROL SYSTEM FINISHED ONE SIDE



A two-hour rated finished-one-side construction, the base and face layers of 1/2" [12.7mm] CertainTeed® Type C or 5/8" [15.9mm] CertainTeed® or M2Tech® Type X gypsum board are applied over 25 gauge resilient furring channels installed horizontally at 24" [610mm] o.c. fastened with 3/8" [10mm] Type S panhead screws. The cavity of the partition is filled with CertainTeed Sustainable Insulation® or equivalent. Caulking is applied under top and bottom tracks and around both face perimeters. Exposed joints are to be finished with CertainTeed® Finishing System unless otherwise specified. (Non-Loadbearing)

## 2 HR

VERTICAL SHAFTWALL SYSTEM

SOUND CONTROL

FINISHED ONE SIDE

### FIRE TEST

UL U417/ULC W446

### SOUND REPORT

OL 14-0502 STC 54 with CertainTeed Sustainable Insulation® or equivalent

### THICKNESS

5-1/2" [140 mm]

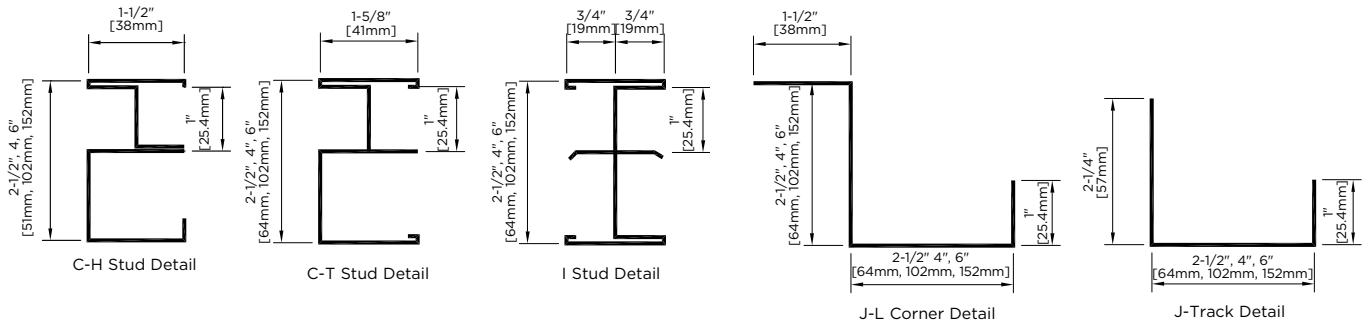
### APPROX. WT.

9 psf [44 kg/m<sup>2</sup>]



# Vertical Assembly Details

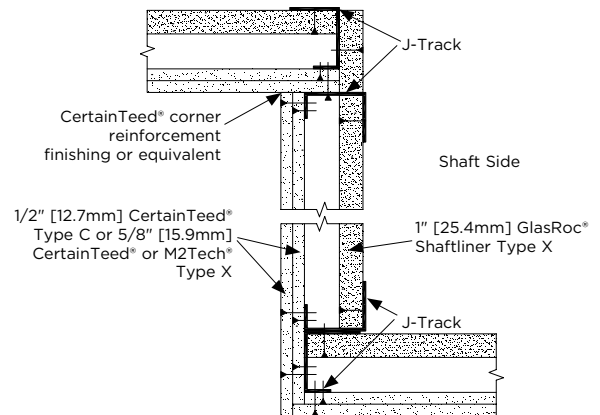
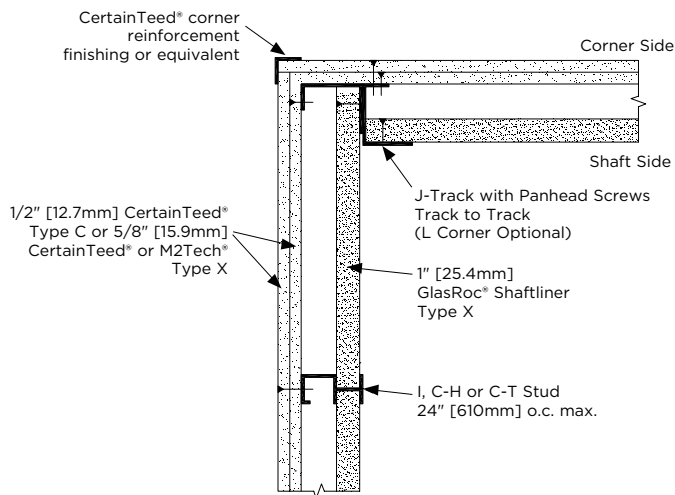
## SECTION DETAILS



## DETAILS - FINISHED ONE SIDE

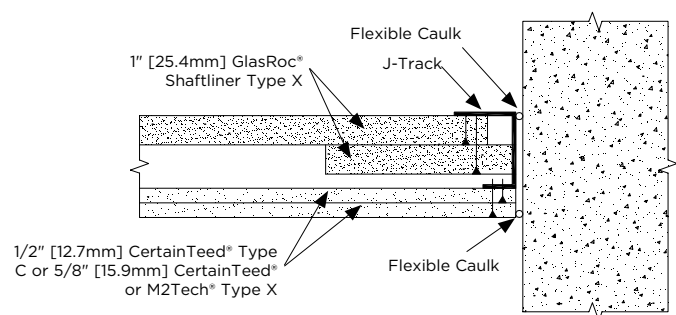
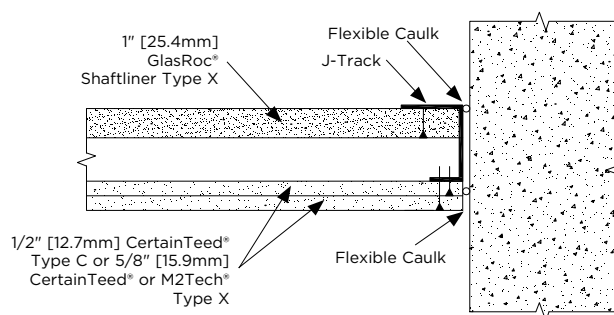
### OUTSIDE CORNER

### INSIDE AND OUTSIDE CORNER



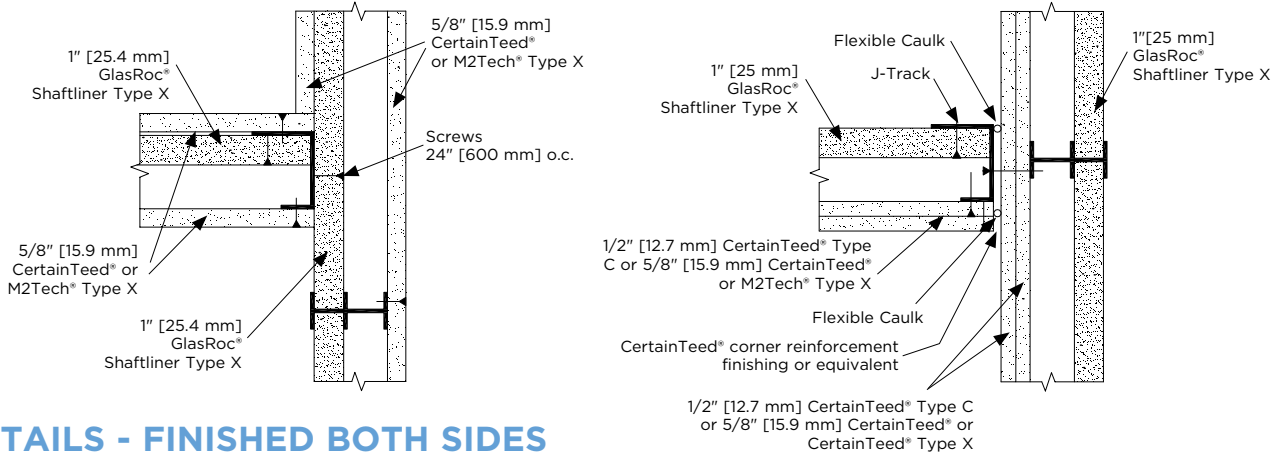
### TYPICAL START/END OF WALL

### ALTERNATE END OF WALL SECTION



# Vertical Assembly Details

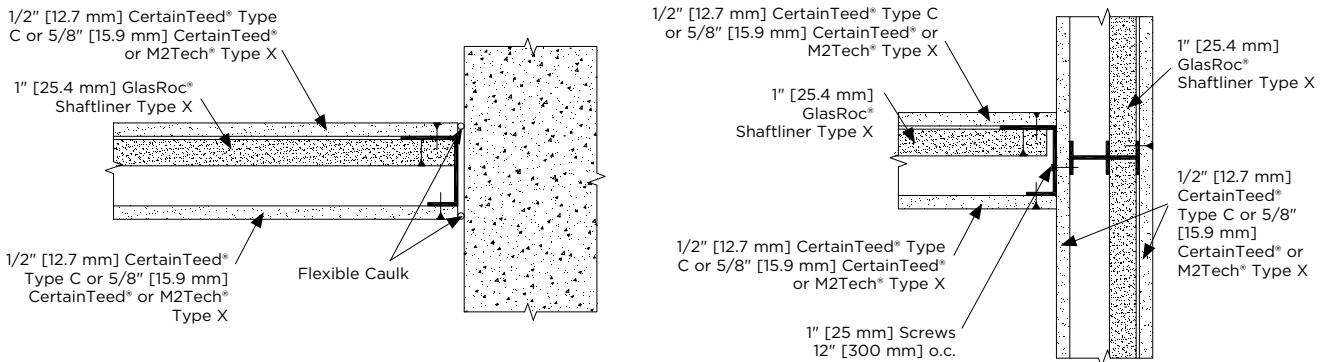
## WALL INTERSECTION ON SHAFTLINER SIDE SEPARATION WALL INTERSECTION ON FINISHED SIDE



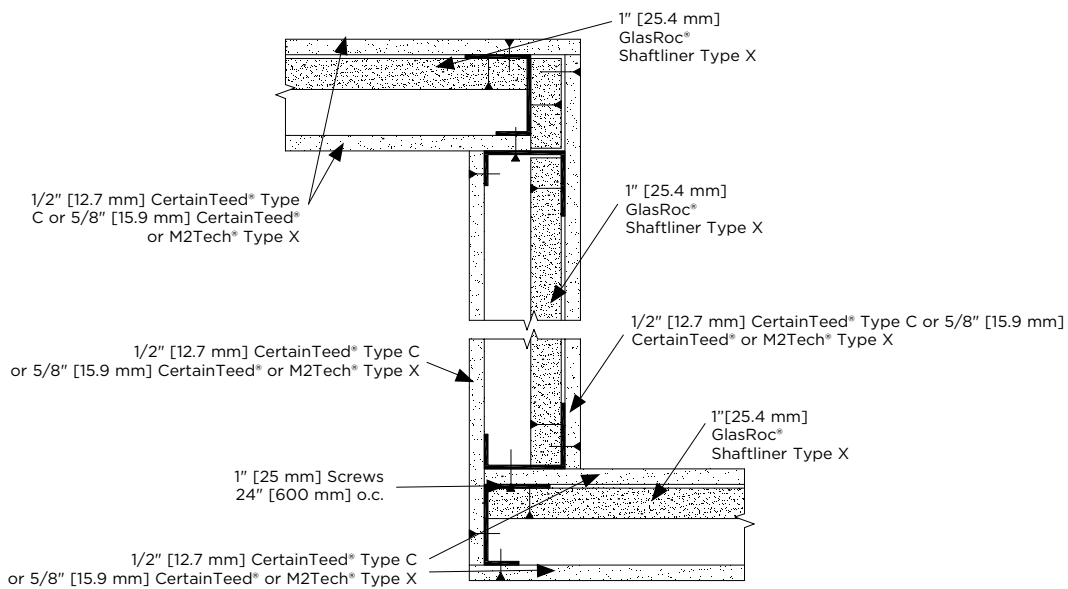
## DETAILS - FINISHED BOTH SIDES

### ABUTMENT TO MASONRY

### WALL INTERSECTION ON CAVITY SIDE

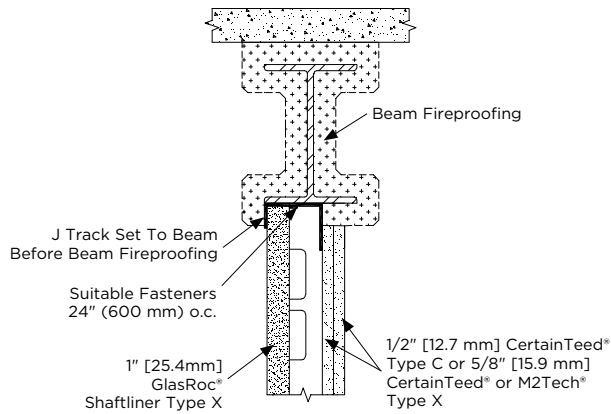


## INSIDE AND OUTSIDE CORNER

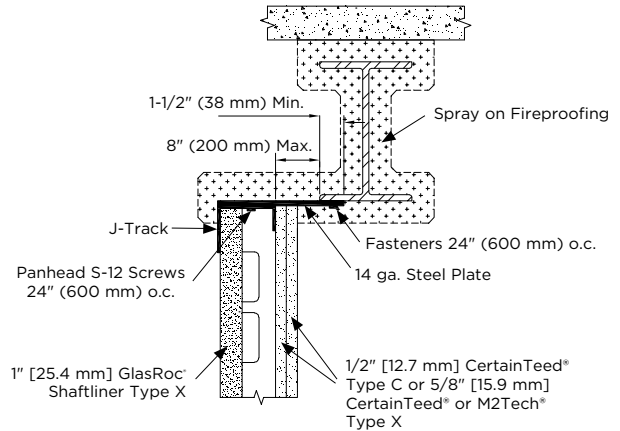


# Additional Details

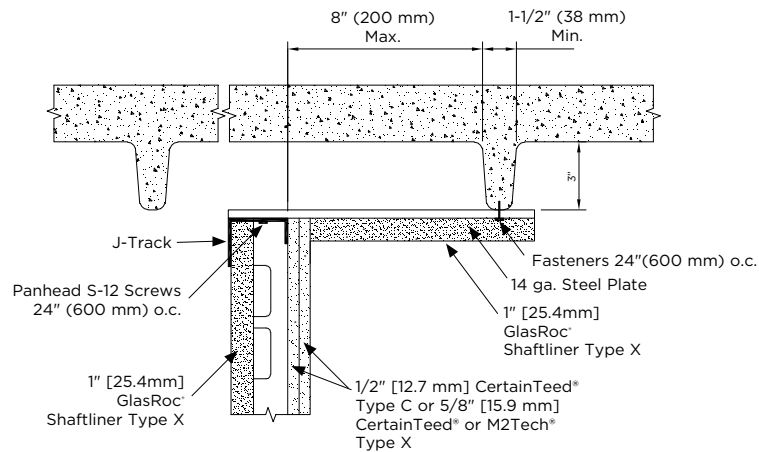
## SHAFTWALL TO BEAM



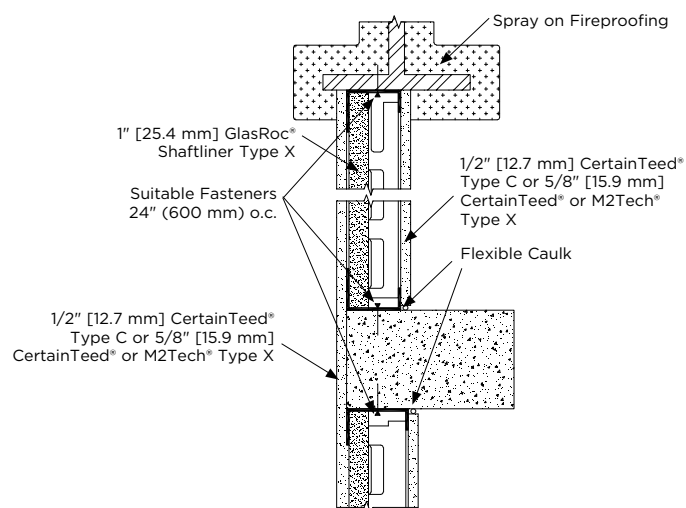
## SHAFTWALL OFFSET FROM BEAM



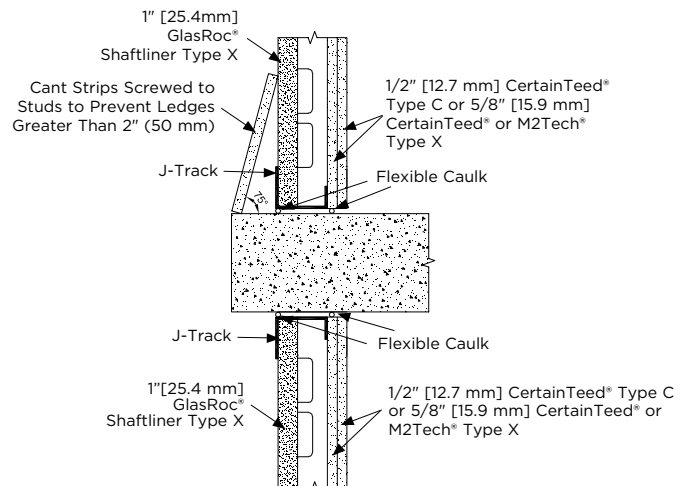
## SHAFTWALL OFFSET FROM DECK



## TOP AT BEAM AND FLOOR BYPASS

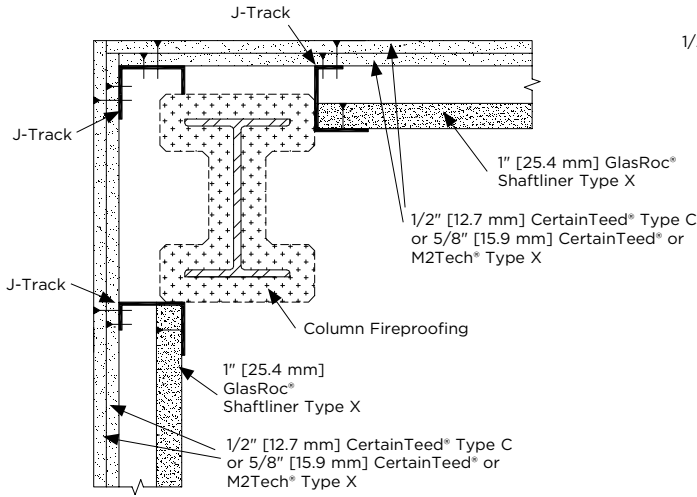


## SHAFT CANT

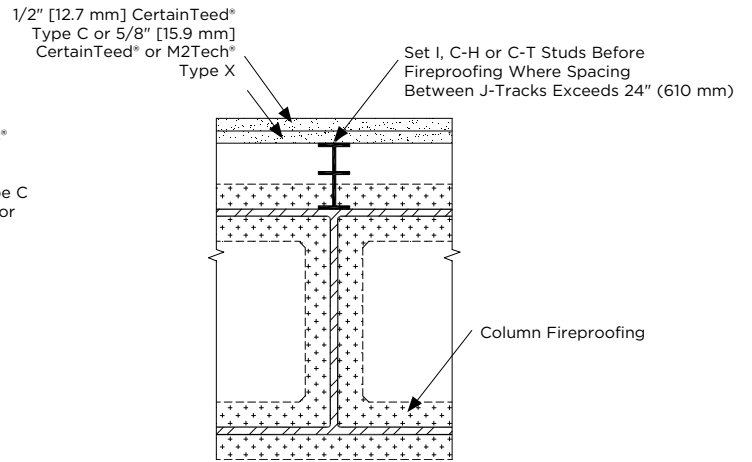


# Additional Details

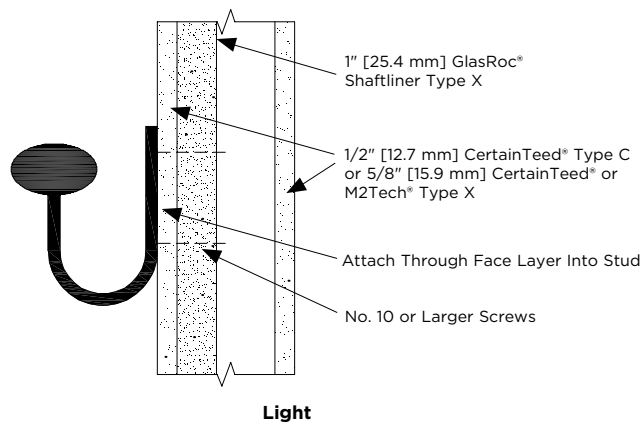
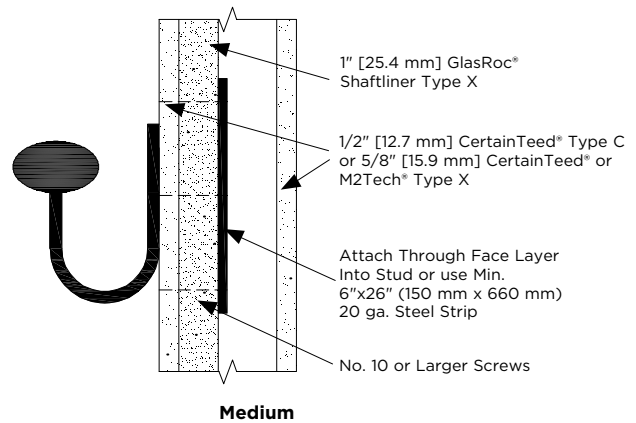
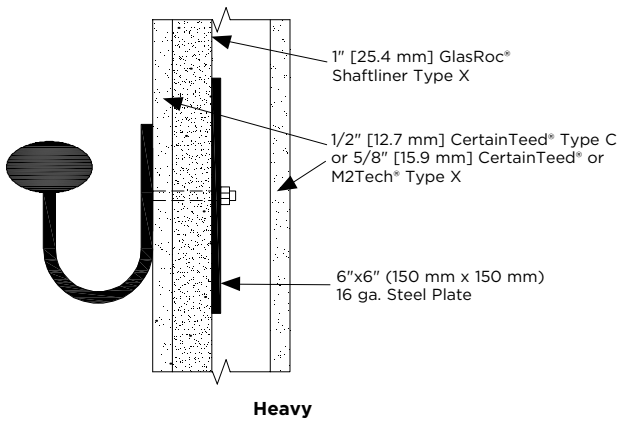
## CORNER COLUMN BYPASS



## BYPASS OF LARGE COLUMNS

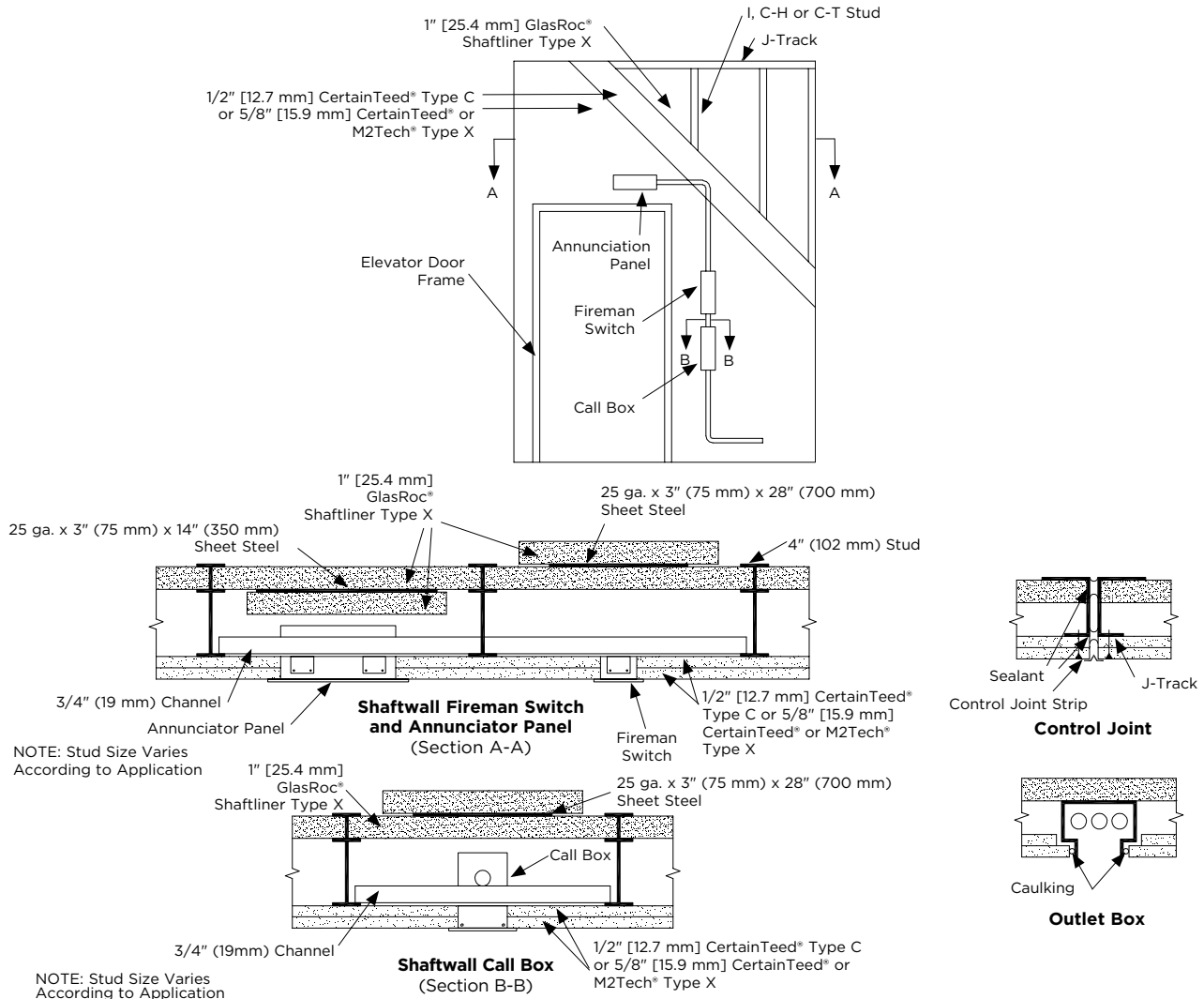


## HAND RAIL ATTACHMENT DETAILS

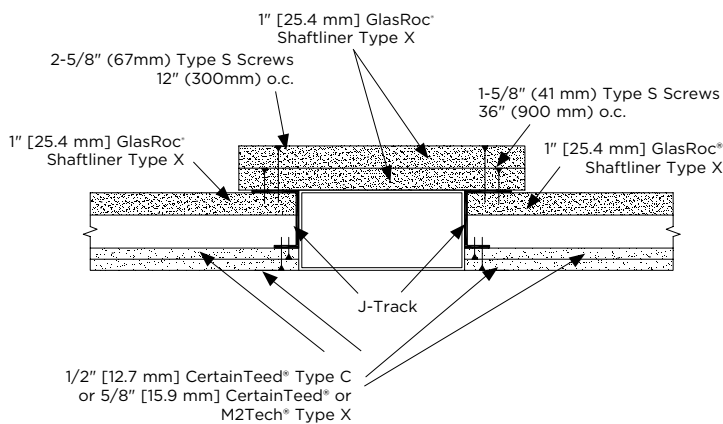


# Accessory Details

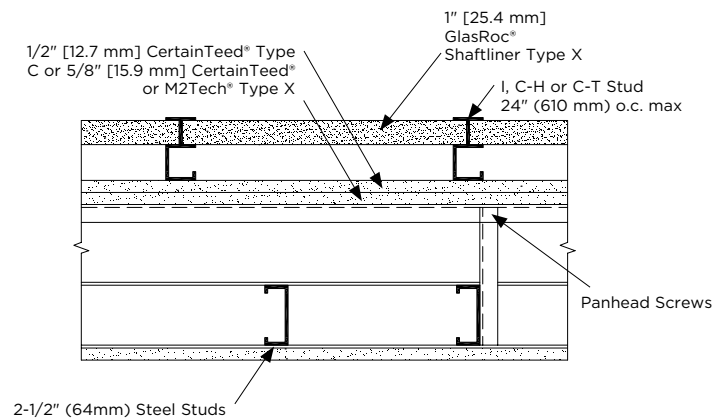
## SHAFTWALL ELEVATOR ELECTRICAL CONTROL LAYOUT



## MAIL CHUTE

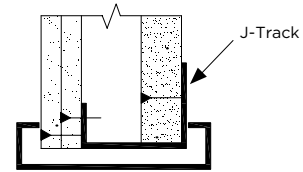
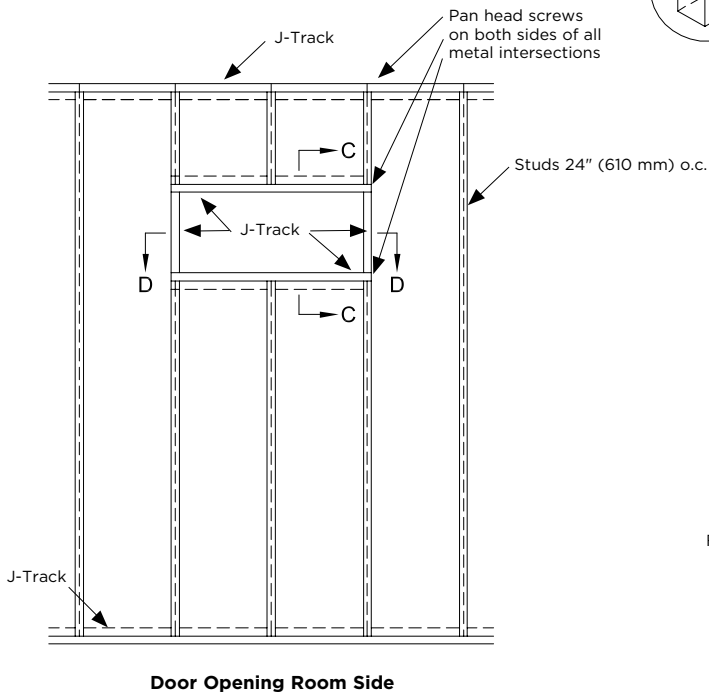
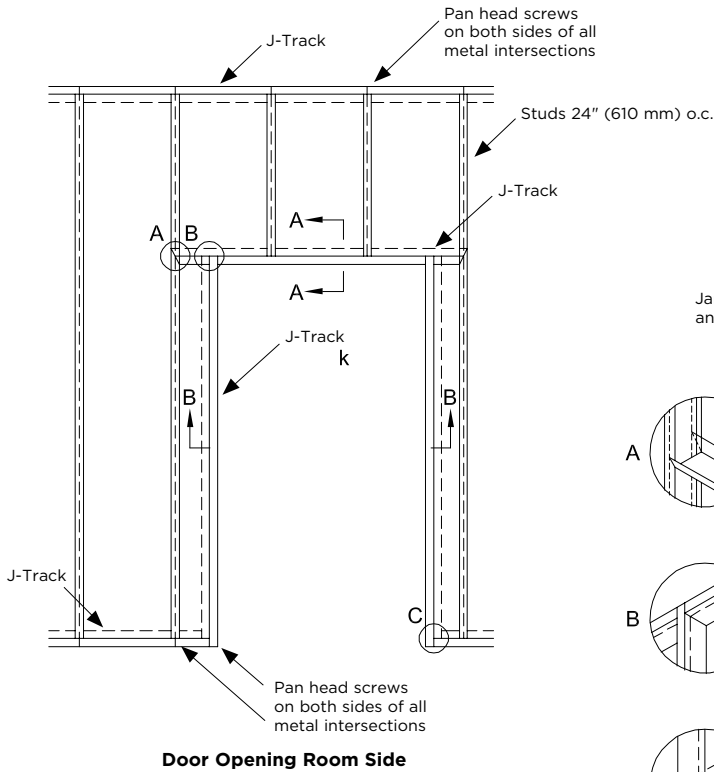


## CHASE WALL



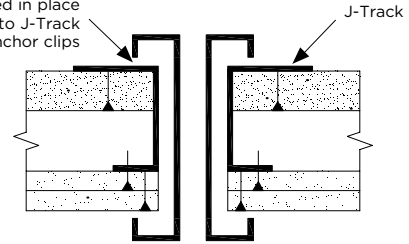
# Openings and Elevator Details

**ILLUSTRATED WITH 2 HR. RATED ASSEMBLY**

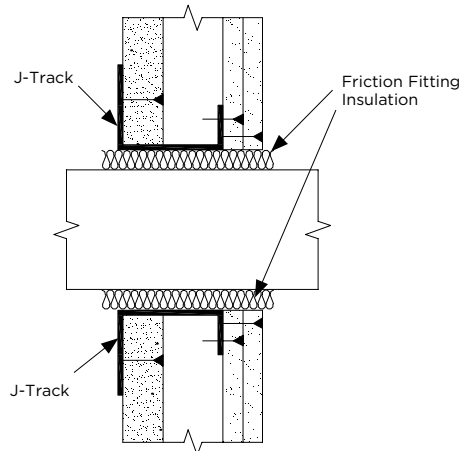
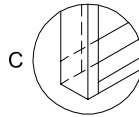
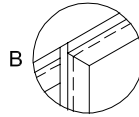
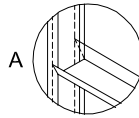


**Header Section AA**

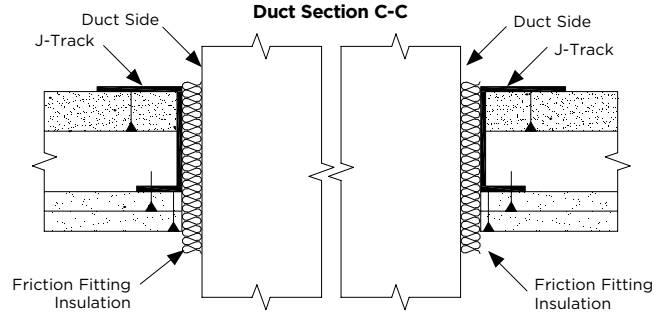
Jamb trim grouted in place and/or attached to J-Track with jamb anchor clips



**Cross Section B-B**



**Duct Section C-C**



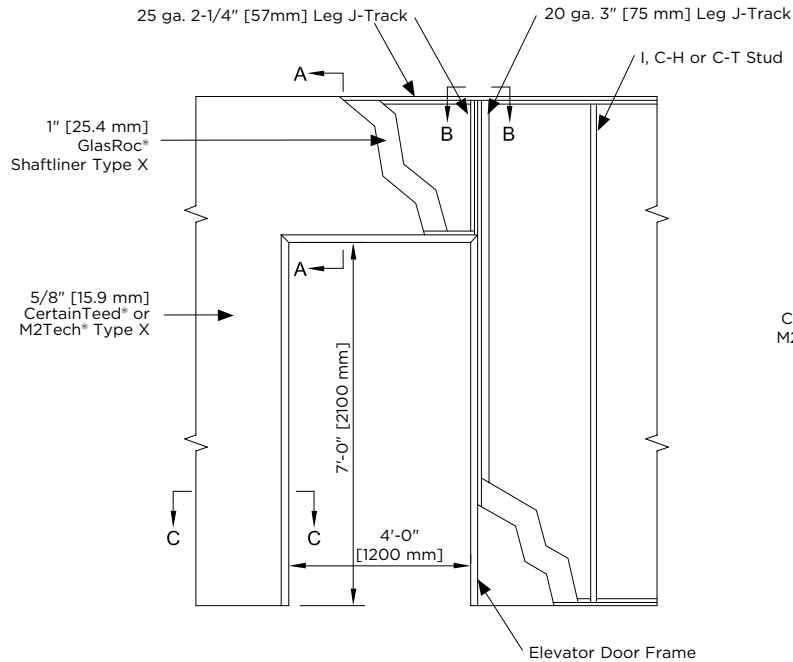
**Duct Section D-D**

**NOTE:**  
Clearance openings and attachments details should be as per fire damper manufacturer's installation requirements

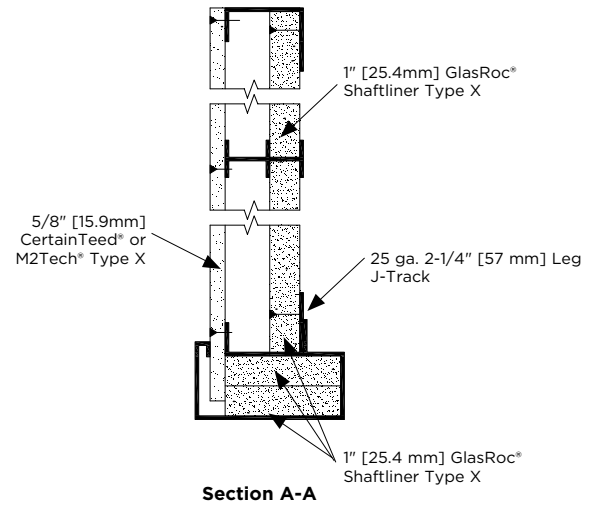
# Elevator Door Frames 7'

## ONE HOUR DETAILS

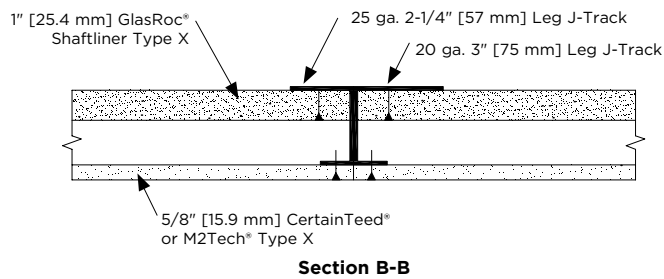
### ELEVATOR DOOR FRAMING



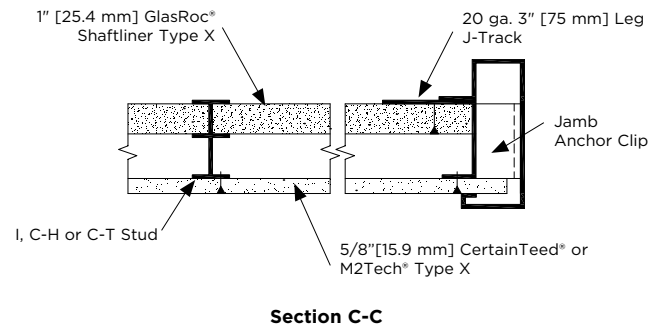
### ELEVATOR DOOR HEAD



### J-TRACK FRAMING ABOVE DOOR



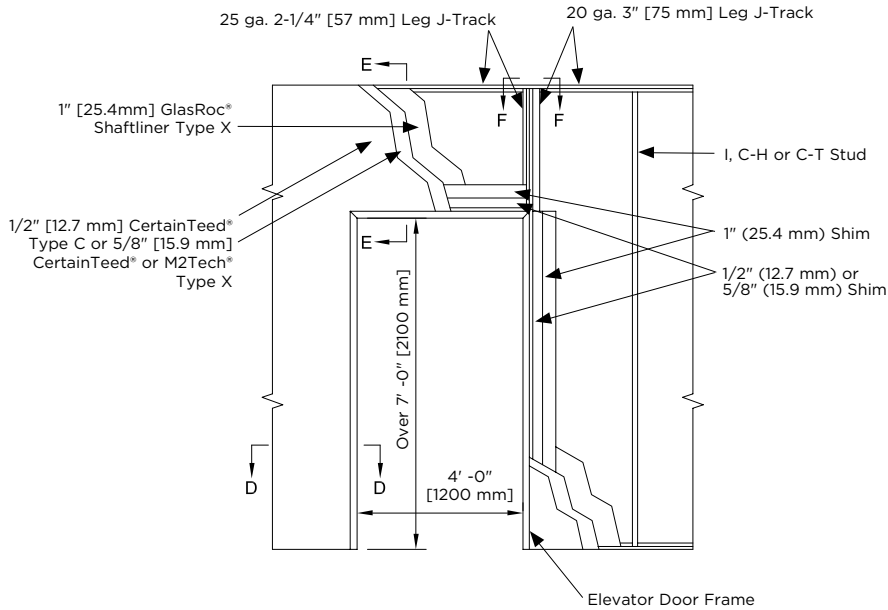
### ELEVATOR DOOR JAMB



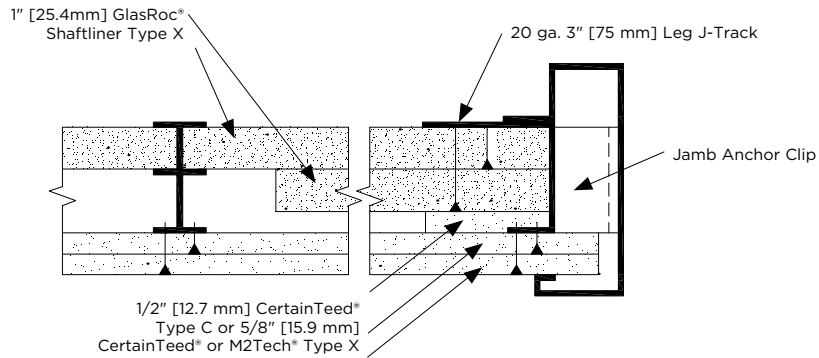
# Elevator Door Frames Over 7'

## TWO HOUR DETAILS

### ELEVATOR DOOR FRAMING



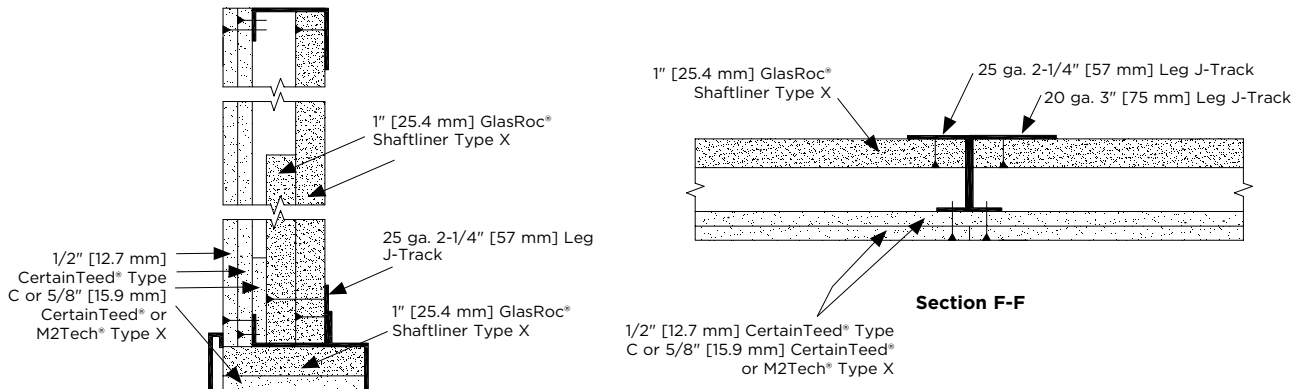
### ELEVATOR DOOR JAMB



Section D-D

### ELEVATOR DOOR HEAD

### J-TRACK FRAMING ABOVE ELEVATOR DOOR

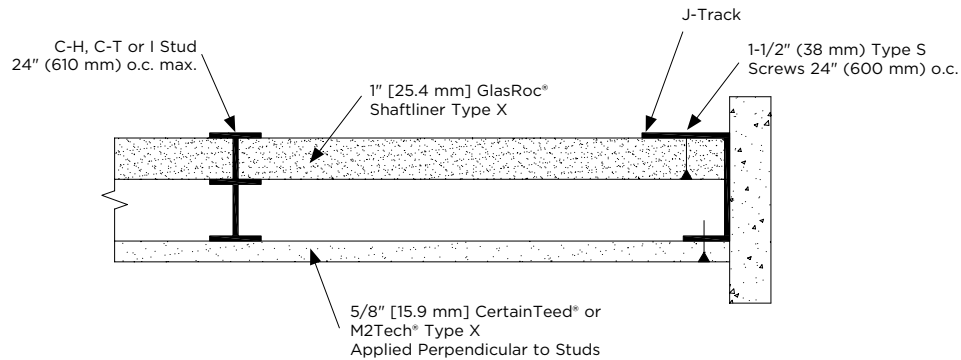




# Horizontal Systems

1 and 2 Hour Fire Resistance Rating for Corridors

## FIRE RESISTANCE RATED SYSTEM DESIGNS



### 1 HR

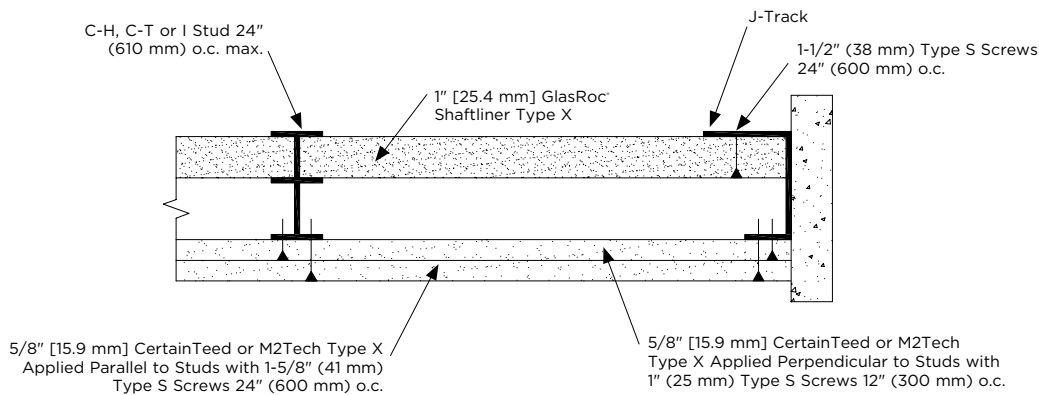
HORIZONTAL  
CEILING SYSTEM

**FIRE TEST**  
UL ER3660-02

**THICKNESS**  
3-1/8" [80mm]

**APPROX. WT.**  
6-1/2 psf [31 kg/m<sup>2</sup>]

1" [25.4 mm] GlasRoc® Shaftliner Type X gypsum boards are inserted between 2-1/2" [64 mm], 4" [102 mm] or 6" [152 mm] C-H, C-T or I Studs. A single layer of 5/8" [15.9 mm] CertainTeed® or M2Tech® Type X gypsum board is applied at right angles to the C-H, C-T or I Studs, with 1" [25mm] Type S screws spaced 12" [300 mm] o.c. (Non-Loadbearing)



### 2 HR

HORIZONTAL  
CEILING SYSTEM

**FIRE TEST**  
UL ER3660-02

**THICKNESS**  
3-3/4" [95 mm]

**APPROX. WT.**  
9 psf [39 kg/m<sup>2</sup>]

1" [25.4 mm] GlasRoc® Shaftliner Type X gypsum boards are inserted between 2-1/2" [64 mm], 4" [102 mm] or 6" [152 mm] I, C-H, or C-T Studs. Two layers of 5/8" [15.9 mm] CertainTeed or M2Tech Type X gypsum board are installed on the open stud face with the first layer installed at right angles to the C-H, I or C-T Studs with 1" [25 mm] Type S screws spaced 12" [300 mm] o.c., and the second layer installed parallel to the C-H, I or C-T Studs with 1-5/8" [41 mm] Type S screws at 24" [600 mm] o.c. (Non-Loadbearing)

\*Diagrams shown with 2-1/2" (64 mm) stud configurations. System thickness varies according to stud size application.

# Horizontal Systems

2 Hour for Corridors, Ducts, Enclosures, etc.

## FIRE RESISTANCE RATED SYSTEM DESIGNS

### 2 HR

HORIZONTAL MEMBRANE  
FOR DUCT ENCLOSURE

#### FIRE TEST

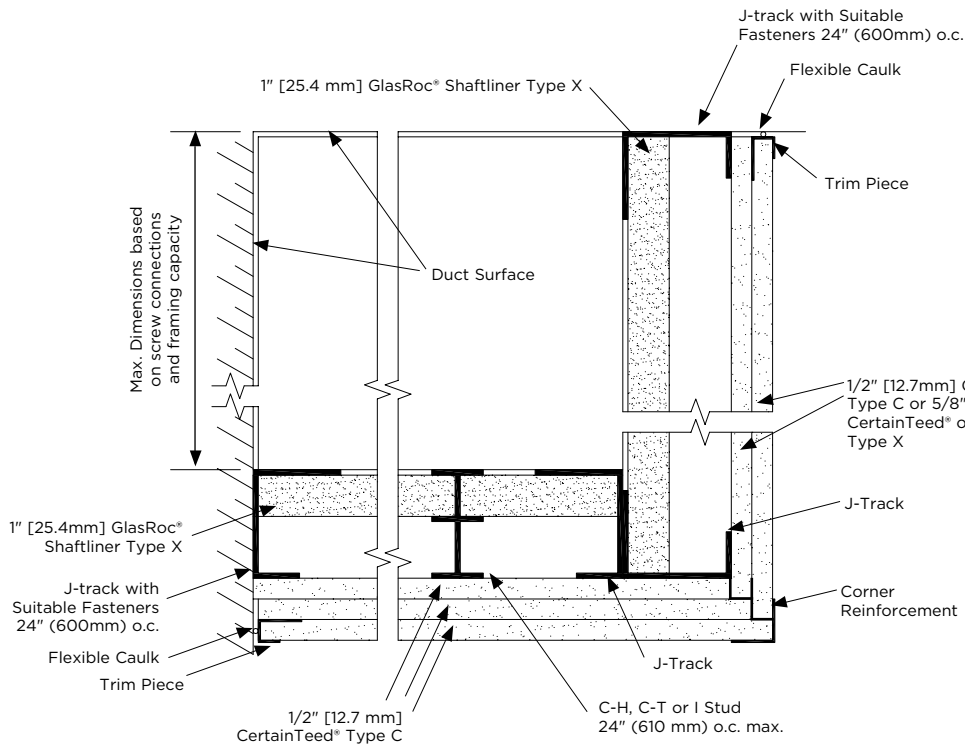
UL ER3660-02  
(Horizontal Section)  
UL U417/ULC W446, Systems  
A or C (Vertical Section)

#### THICKNESS

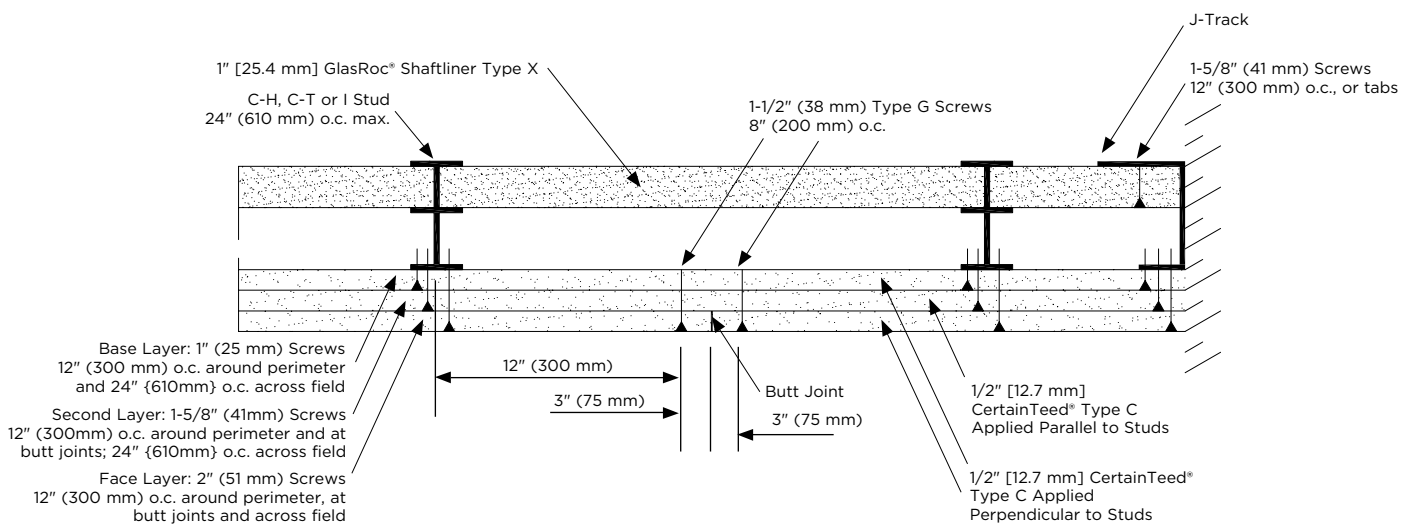
4" [102mm]

#### APPROX. WT.

11 psf [54 kg/m<sup>2</sup>]



**Horizontal Duct Enclosure**



Spans of horizontal members (ceilings over corridors or stairways) should not exceed spans specified by stud manufacturer.

**Horizontal Applications**  
(e.g. Corridors, Duct Enclosures, Etc.)

# Architectural Specifications

## Section 09 21 16.23 or 09265

### Gypsum Board Shaftwall Assemblies

#### PART 1-GENERAL

##### 1.1 PROJECT DESCRIBED

Non-loadbearing one or two hour fire resistance rated shaftwall systems, staircase enclosures, or other mechanical enclosures.

##### 1.2 QUALIFICATIONS

All gypsum materials used in the described system installations shall be manufactured by CertainTeed and carry the GlasRoc®, CertainTeed® and M2Tech® brand identity. CertainTeed or its representative will provide verification that the products applicable to the described performance specification meet the applicable ASTM standards for performance described herein. Additional framing materials including J-Track, I-Stud, C-H Stud or C-T Stud and fasteners must be supplied and installed in accordance with printed installation instructions as instructed by the manufacturer and required by the testing agencies.

##### 1.3 SUBMITTALS

Submit system descriptions and construction guide brochures for each assembly indicating component materials, fasteners, finishes, dimensions and related information showing compliance with stated construction guidelines.

##### 1.4 DELIVERY, STORAGE, HANDLING

GlasRoc® gypsum boards are delivered in original, unopened containers or wrapped and stacked flat on a smooth, level surface, but not stored directly on concrete floors. When spacers are used, they are positioned closely enough together to minimize warpage. Care is taken to prevent damage to edges and corners. Always keep GlasRoc®, CertainTeed® and M2Tech® gypsum boards dry prior to installation. Do not use shipping bags for outdoor storage of material.

##### 1.5 INSTALLATION ENVIRONMENT

GlasRoc® and all gypsum board must not be used in areas that are continuously or repeatedly exposed to excessive moisture or temperatures above 125°F (52°C). No treatment of joints shall be done until the interior temperature has been maintained at a minimum of 50°F (10°C) for at least 48 hours prior to application of joint treatment materials. Adequate continuous ventilation must also be provided during the finishing of joints.

Joints, corners and fastener heads shall be finished in accordance with ASTM C840, the GA-216, the Fire Resistance Design Manual GA-600, CAN/CSA-A82.31 and CertainTeed® Joint Compound manufacturer's instructions. Joint Compound shall comply with ASTM C475. No finishing is required on the shaft side of partitions.

For further technical information regarding sound control and fire resistance refer to the following reports:

GA-600 (WP 7051, WP 7084, WP 7254, WP 7255)

UL/cUL U417, U428, U429, U469, U529, V433, V470, W409, W437, W453  
ULC W446, UL ER3660-02

Gypsum Association Fire Resistance Design Manual

#### PART 2-PRODUCTS

##### 2.1 MATERIALS

###### A. Steel Framing

Studs complying with the requirements for ASTM A 653 SS Grade 33.

###### A-1. Stud Form

Studs can be in the form of I, C-H or C-T Studs with J-Tracks.

###### A-2. Stud Width

Galvanized I, C-H or C-T Studs are available in widths of 2-1/2, 4, and 6" (64 mm, 102 mm, 152 mm).

###### A-3. Stud Thickness

Studs are manufactured from steel having minimum design steel thicknesses from 0.0188" to 0.0451" (0.478 mm to 1.146 mm).

###### A-4. Stud Coating

Studs have a G40 or G60 galvanized coating.

###### B. Fasteners

1-5/8" (41 mm) long No. 6 Type S screws, 1" (25 mm) long No. 6 Type S buglehead screws, 3/8" (10 mm), long Type S panhead screws.

###### C. CertainTeed® Gypsum Board Products

C-1. GlasRoc® Shaftliner Type X - 1" (25.4 mm) thick

C-2. CertainTeed® Type C - 1/2" (12.7 mm) thick

C-3. CertainTeed® or M2Tech® Type X - 5/8" (15.9 mm) thick

###### D. CertainTeed® Joint Finishing

D-1 CertainTeed® Brand Joint Compound

D-2 CertainTeed® Mold Resistant Lite Ready-Mixed Joint Compound

D-3 CertainTeed® Brand Joint Tape

D-4 CertainTeed M2Tech® 90 Setting Compound

D-5 FibaTape® Mold X-10TM Mold Resistant Drywall Tape

D-6. FibaFuse® Paperless Drywall Tape

###### E. CertainTeed High Performance Corners

###### F. Acoustical Sealant, Green Glue Noiseproofing Sealant, or equivalent

###### G. CertainTeed Sustainable Insulation®, or equivalent.

###### H. Resilient Channels

#### PART 3-INSTALLATION

##### 3.1 CONSTRUCTION BRIEFS

###### General

Construction consists of steel studs and tracks faced on one side with GlasRoc® Shaftliner and on the opposite side with, one or two (depending on the application specifications) layers of either 1/2" (12.7 mm) CertainTeed® Type C, 5/8" (15.9 mm) CertainTeed® or M2Tech® Type X gypsum board. The following steps pertain to one or two hour fire rated installation with one finished side:

1. Plan and lay out metal framing components to ensure that all wall sections are plumb and properly aligned.
2. Install J-Track along the ceiling line and vertically at columns and abutting partitions, positioning the long legs closest to the shaft. Secure each piece with the appropriate power driven fasteners spaced a maximum 24" (600 mm) o.c.
3. Attach J-Track to the floor with fasteners spaced at 24" (600 mm) o.c.

4. Install GlasRoc® Shaftliner gypsum boards vertically with the logo side facing weather exposure during construction. The leading edge of the first panel must be attached to the long leg of the vertical J-Track with 1-5/8" (41 mm) Type S screws spaced 12" (305 mm) o.c. or by using the tabs in the J-track. Secure the top and bottom edges using the same fasteners and spacing, filling the stud cavity with CertainTeed Sustainable Insulation®, or equivalent.
5. Friction fit an I, C-H or C-T Stud into the top and bottom tracks and slide it snugly against the GlasRoc® Shaftliner gypsum board. Make sure the edge of the board is in full contact with the center web of stud and covered by all of the tabs.
6. Place the next GlasRoc® Shaftliner gypsum board between the tabs and flange on the opposite side of the I, C-H or C-T Stud with no screw attachments required.
7. Install subsequent GlasRoc® Shaftliner gypsum boards and I, C-H or C-T Stud in the same manner. Check periodically to ensure they are plumb.
8. For walls exceeding 12' (3660 mm) in height, GlasRoc® Shaftliner gypsum board end joints should fall alternately in the upper and lower 1/3 height of the partition. Joints may be butted together or use an I, C-H or C-T Stud placed horizontally between boards to secure each joint.
9. Frame all cut openings in the shaft side with J-Track, providing adequate structural support for openings over 48" (1220 mm).
10. Elevator door frames should be tied to shaftwall enclosures, however, must remain independently supported by the building frame.

###### Installation of Finished Side

1. Apply a single layer of 5/8" (15.9 mm) CertainTeed® or M2Tech® Type X or 1/2" (12.7 mm) CertainTeed® Type C with gypsum board with 1" (25 mm) Type S screws for one hour rated applications. Apply a second layer with 1-5/8" (41 mm) Type S screws for two hour rated applications, and a third layer with 2-1/4" (57 mm) Type S screws for three hour rated applications. Alternate layers between horizontal and vertical attachment so that outside layer is installed vertically.
2. Holding the gypsum board firmly against the framing, begin fastening in the center of each sheet and move outward to ends and edges.
3. Set fastener heads slightly below the surface without breaking the face paper or damaging the gypsum core.
4. Install sheets in a brick pattern with all ends supported by framing members.

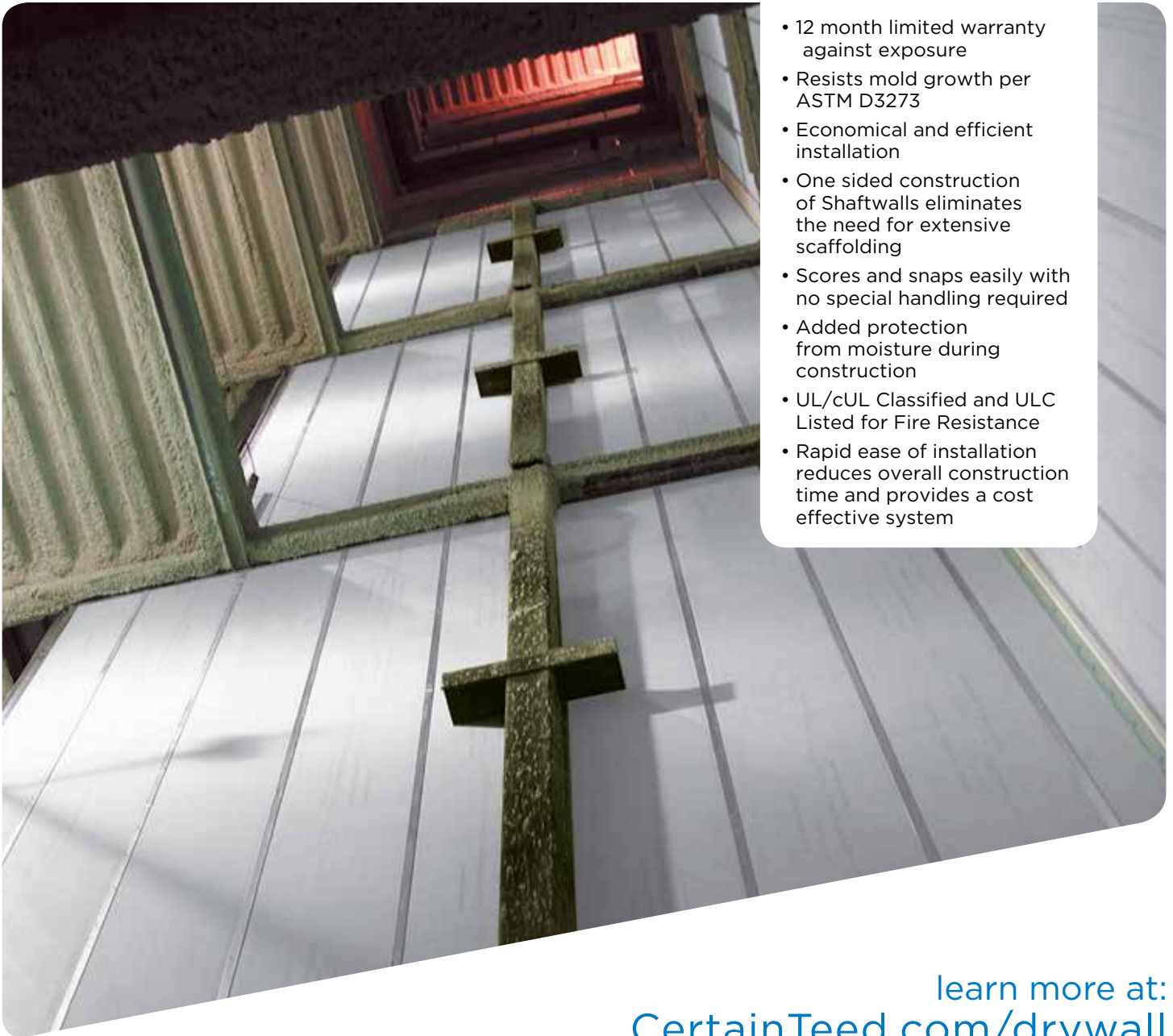
For finishing both sides, apply a single layer of 5/8" (15.9 mm) CertainTeed® or M2Tech® Type X or 1/2" (12.7 mm) CertainTeed® Type C vertically over GlasRoc® Shaftliner gypsum board with 1" (25 mm) Type S screws. For sound rated partitions follow instructions that include filling the stud cavity with CertainTeed Sustainable Insulation® or equivalent insulation and installation of finish side board onto 25 gauge resilient furring channels.

# GlasRoc® SHAFTLINER

**CertainTeed**

SAINT-GOBAIN

**Gypsum**



- 12 month limited warranty against exposure
- Resists mold growth per ASTM D3273
- Economical and efficient installation
- One sided construction of Shaftwalls eliminates the need for extensive scaffolding
- Scores and snaps easily with no special handling required
- Added protection from moisture during construction
- UL/cUL Classified and ULC Listed for Fire Resistance
- Rapid ease of installation reduces overall construction time and provides a cost effective system

learn more at:  
[CertainTeed.com/drywall](http://CertainTeed.com/drywall)

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**CertainTeed Corporation**

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20 Moores Road Malvern, Pa 19355 Professional: 800-233-8990 Consumer: 800-782-8777 [certainteed.com](http://certainteed.com)