

**Section 09 21 16.23**  
**Shaftwall Systems**

*The following paragraphs are for insertion into sections of generic specifications or proprietary specifications covering gypsum board products manufactured by National Gypsum Company. The Gold Bond<sup>®</sup> BRAND product name follows the generic description in parentheses.*

**Part 1 General**

**1.01 SUMMARY**

- A. Section Includes: A fire resistance rated and air pressure resistance rated metal stud and gypsum board wall system for the enclosure of shafts, chases, stairwells, and horizontal duct assemblies.

*(Specifiers Note: Edit list below to conform to project requirements. Verify section numbers and titles.)*

- B. Related Sections:
1. Section 09 26 13, Veneer Plaster.
  2. Section 09 29 00, Gypsum Board.

**1.02 REFERENCES**

*(Specifiers Note: Delete references not used to Part 2 or Part 3.)*

- A. American Society for Testing and Materials (ASTM):
1. C 645, Specification for Non-Load (Axial) Bearing Steel Studs, Runners (Track), and Rigid Furring Channels for Screw Application of Gypsum Board.
  2. C 754, Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Board.
  3. C 840, Specification for Application and Finishing of Gypsum Board.
  4. C 954, Specification for Steel Drill Screws for the Application of Gypsum Board or Metal Plaster Bases to Steel Studs from 0.33 in. (0.84 mm) to 0.112 in. (2.84 mm) in Thickness.
  5. C 1002, Specification for Steel Drill Screws for the Application of Gypsum Board or Metal Plaster Bases.
  6. C 1047, Specification for Accessories for Gypsum Gypsum Board and Gypsum Veneer Base.
  7. C 1396, Specification for Gypsum Board.
  8. D 3273, Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber.

**1.03 SUBMITTALS**

- A. Product Data: Manufacturers' specifications and installation instructions for each product specified.

*(Specifiers Note: Retain single – source paragraph below if more than one manufacturer is listed in Part 2 or if section is edited to be generic.)*

**1.04 DELIVERY, STORAGE, AND HANDLING**

- A. Packaging and Shipping: Have materials shipped in manufacturer's original packages showing manufacturer's name and product brand name.
- B. Storage and Protection: Store materials inside and protected from damage by the elements. Protect ends, edges, and faces of gypsum boards from damage. Protect steel studs and accessories from bending.

**1.05 PROJECT CONDITIONS**

- A. Environmental Requirements: Establish and maintain application and finishing environment in accordance with ASTM C 840.

## Part 2 Products

### 2.01 MANUFACTURERS

*(Specifiers Note: Edit list below to conform to project requirements. If other manufacturers are being added to this section, then add listings of their proprietary product names.)*

*(Specifiers Note: Proprietary product names may be listed in this article or in the "materials" article below. Listing them both may invite coordination errors.)*

- A. National Gypsum Company:
1. Gypsum Board:
    - a. Fire-Rated Shaftliner Board: Gold Bond® BRAND Fire-Shield® Shaftliner.
    - b. Fire-Rated Mold-Resistant Shaftliner Board: Gold Bond® BRAND Fire-Shield® Shaftliner XP.
    - c. Extended Exposure Gypsum Shaftliner: Gold Bond BRAND eXP Extended Exposure Shaftliner.
    - d. Fire-Rated Board: Gold Bond® BRAND Fire-Shield® Gypsum Board.
    - e. Fire-Rated Mold-Resistant Board: Gold Bond BRAND XP® Fire-Shield® Gypsum Board
    - f. Fire-Rated Board: Gold Bond® BRAND Fire-Shield C™ Gypsum Board.
    - g. Fire-Rated Mold-Resistant Board: Gold Bond BRAND XP® Fire-Shield® C Gypsum Board
    - h. Fire-Rated Plaster Base: Kal-Kore® BRAND Fire-Shield® C Plaster Base.
    - i. Fire-Rated Plaster Base: Kal-Kore® BRAND Fire-Shield® Plaster Base.

*(Specifiers Note: If specifying by the proprietary method, add manufacturers and product names for metal framing and accessories. Follow the format in the next article.)*

### 2.02 MATERIALS

*(Specifiers Note: This article includes generic descriptions of gypsum board products, the names of the corresponding National Gypsum products follow in parenthesis. If this section is being edited to be generic, then these product names should be deleted.)*

*(Specifiers Note: If other manufacturers are being added to this section, then (1) add the proprietary product names of those manufacturers, or (2) if proprietary names are listed in the "manufacturers" article above, then delete them from this article altogether.)*

*(Specifiers Note: Verify descriptions of metal framing products with manufacturer.)*

- A. Metal Framing:

*(Specifiers Note: Below is 25 gauge.)*

1. Studs: 2-1/2 in. 4 in. and 6 in. I, CH or CT shaped studs, weighing 490 lbs. and 615 lbs. per 1000 linear ft. with min. base steel of 0.020 in., galvanized, and complying with ASTM C 645.

*(Specifiers Note: Below is 20 gauge.)*

1. Studs: 2-1/2 in., 4 in. and 6 in. I, CH, or CT shaped studs, weighing 835 lbs., 1050 lbs. and 1353 lbs. per 1000 linear ft. with min. base steel of 0.0329 in., galvanized, and complying with ASTM C 645.

*(Specifiers Note: Below is 25 gauge with 2 ¼" leg.)*

2. Track: 2-1/2 in. 4 in. and 6 in. J shaped track with 2-1/4 in. leg, weighing 390 lbs. and 490 lbs. per 1000 linear ft., 25 ga., galvanized and complying with ASTM C 645.

*(Specifiers Note: Below is 20 gauge with 2 ¼" leg.)*

2. Track: 2-1/2 in., 4 in. and 6 in. J shaped track with 2-1/4 in. leg, weighing 675 lbs., 830 lbs. and 1038 lbs. per 1000 linear ft., 20 ga., galvanized and complying with ASTM C 645.

*(Specifiers Note: Below is 20 gauge with 3" leg.)*

2. Track: 2-1/2 in., 4 in., and 6 in. J shaped track with 3 in. leg, weighing 787 lbs., 968 lbs. and 1210 lbs. per 1000 linear ft., 20 ga., galvanized and complying with ASTM C 645.

**B. Gypsum Board:**

1. Fire-Rated Shaftliner Board: A gypsum core shaftwall panel with additives to enhance fire resistance of the core and surfaced with moisture resistant paper on front, back, and long edges and complying with ASTM C 1396, Type X (Gold Bond BRAND Fire-Shield Shaftliner).
  - a. Thickness: 1 in.
  - b. Width: 2 ft.
  - c. Length: 7 ft. through 14 ft.
  - d. Edges: Beveled.
2. Fire-Rated Mold-Resistant Shaftliner Board: A gypsum core shaftwall panel with additives to enhance fire resistance and mold resistance of the core; surfaced with moisture/mold resistant paper on front, back, and long edges and complying with ASTM C 1396, Type X (Gold Bond BRAND Fire-Shield Shaftliner XP).
  - a. Thickness: 1 in.
  - b. Width: 2 ft.
  - c. Length: 7 ft. through 14 ft.
  - d. Edges: Beveled.
  - e. Mold and Mildew Resistance: Panel score of 10, indicating no mold growth, when tested in accordance with ASTM D 3273.
3. Extended Exposure Shaftliner : A gypsum core wall panel with additives to enhance fire resistance, moisture and mold resistance; surfaced with water-resistant glass mat on front back, and long edges. complying with ASTM C1396 and ASTM C1658 (Gold Bond BRAND EXP Extended Exposure Shaftliner).
  - a. Thickness: 1 in.
  - b. Width: 2 ft.
  - c. Length: 8 ft., 10 ft. or 12 ft.
  - d. Edges: Double Beveled
  - e. Mold and Mildew Resistance: Panel Score of 10, when tested in accordance with ASTM D 3273.
4. Fire-Rated Gypsum Board: A gypsum core wall panel with additives to enhance fire resistance of the core and surfaced with paper on front, back, and long edges and complying with ASTM C 1396, Type X.
  - a. Thickness: ½ in. (Gold Bond BRAND Fire-Shield C Gypsum Board), 5/8 in. (Gold Bond BRAND Fire-Shield Gypsum Board), or 5/8 in. (Gold Bond BRAND Fire-Shield C Gypsum Board).
  - b. Width: 4 ft.
  - c. Length: 6 ft. through 16 ft.  
½ in. (Gold Bond BRAND Fire-Shield C Gypsum Board)  
5/8 in. (Gold Bond BRAND Fire-Shield Gypsum Board)  
Length: 8 ft. through 14 ft.  
5/8 in. Gold Bond BRAND Fire-Shield C Gypsum Board)

- d. Edges: Square, Tapered, or Beveled Taper (Sta-Smooth Edge).
5. Fire-Rated Mold-Resistant Gypsum Board: A gypsum core wall panel with additives to enhance fire resistance of the core and the water resistance of the core; surfaced with moisture/mold resistant paper on the front, back and long edges and complying with ASTM C 1396 and ASTM D 3273, Type X.
    - a. Thickness: ½ in. (Gold Bond BRAND XP Fire-Shield C Gypsum Board), 5/8 in. (Gold Bond BRAND XP Fire-Shield Gypsum Board).
    - b. Width: 4 ft.
    - c. Length: 8 ft., 10 ft. or 12 ft.
    - d. Edges: Square or Tapered
    - e. Mold and Mildew Resistance: Panel Score of 10, when tested in accordance with ASTM D 3273.
  6. Fire-Rated Plaster Base: A gypsum core wall panel with additives to enhance fire resistance of the core; surfaced with absorptive paper on front, back, and long edges and complying with ASTM C 1396, Type X.
    - a. Thickness: ½ in. (Kal-Kore BRAND Fire-Shield C Plaster Base) or 5/8 in. (Kal-Kore BRAND Fire-Shield Plaster Base)
    - b. Width: 4 ft.
    - c. Length: 8 ft. and 12 ft.
    - d. Edges: Tapered.

*(Specifiers Note: Verify descriptions of metal accessory products with manufacturer.)*

## 2.03 ACCESSORIES

- A. Angle: Rolled steel angle, 2 in. by 2 in. by 20 ga.
- B. Corner Bead: Formed galvanized steel angle, min. base steel 0.014 in. thick, and complying with ASTM C 1047.
- C. Control Joint: Extruded vinyl formed with V shaped slot covered with removable flexible vinyl strip and complying with ASTM C 1047.
- D. Control Joint: Bent zinc sheet formed with V shaped slot, covered with plastic tape, with perforated flanges and Complying with ASTM C 1047.
- E. Screws: ASTM C 954 or ASTM C 1002 or both with heads, threads, points, and finish as recommended by the manufacturer.
- F. Acoustical Sealant: Nondrying, non-hardening, non-skinning, non-staining, non-bleeding, gunnable type as recommended by the manufacturer.
- G. Joint Treatment: See Section 09 29 00.

## PART 3 Execution

### 3.01 INSTALLATION

- A. In accordance with the following ASTM Standards and manufacturer's recommendations:
  1. ASTM Standards:
    - a. Metal Framing: C 754.
    - b. Gypsum Board : C 840.

*(Specifiers Note: If other manufacturers were added in Part 2 then reference their installation recommendations below by title.)*

2. Manufacturer's Recommendations:
  - a. "Gypsum Construction Guide;"102171, National Gypsum Company.

### 3.02 PROTECTION

*(Specifiers Note: Revise below of other than AIA General Conditions are used.)*

- A. Protect gypsum board installations from damage and deterioration until the date of Substantial Completion.

**End of Section**