1. Section 092116   
   Gypsum Board Assemblies
   1. PART 1  GENERAL
      1. REFERENCE STANDARDS
         1. AISI S220 - North American Standard for Cold-Formed Steel Nonstructural Framing; 2020.
         2. AISI S240 - North American Standard for Cold-Formed Steel Structural Framing; 2015, with Errata (2020).
         3. ASTM A1003/A1003M - Standard Specification for Steel Sheet, Carbon, Metallic- and Nonmetallic-Coated for Cold-Formed Framing Members; 2015.
         4. ASTM C1007 - Standard Specification for Installation of Load Bearing (Transverse and Axial) Steel Studs and Related Accessories; 2020.
         5. ASTM C754 - Standard Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products; 2020.
         6. ASTM C840 - Standard Specification for Application and Finishing of Gypsum Board; 2023.
         7. ASTM C954 - Standard Specification for Steel Drill Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Steel Studs from 0.033 in. (0.84 mm) to 0.112 in. (2.84 mm) in Thickness; 2022.
         8. ASTM C1002 - Standard Specification for Steel Self-Piercing Tapping Screws for Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs; 2022.
         9. ASTM C1047 - Standard Specification for Accessories for Gypsum Wallboard and Gypsum Veneer Base; 2019.
         10. ASTM C1288 - Standard Specification for Fiber-Cement Interior Substrate Sheets; 2023.
         11. ASTM C1396/C1396M - Standard Specification for Gypsum Board; 2017.
         12. ASTM D3273 - Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber; 2021.
         13. ASTM E90 - Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements; 2023.
         14. ASTM E413 - Classification for Rating Sound Insulation; 2022.
         15. GA-216 - Application and Finishing of Gypsum Panel Products; 2024.
      2. SUBMITTALS
         1. See Section 013000 - Administrative Requirements for submittal procedures.
         2. Product Data:
            1. Provide data on metal framing, gypsum board, accessories, and joint finishing system.
   2. PART 2  PRODUCTS
      1. GYPSUM BOARD ASSEMBLIES
         1. Provide completed assemblies complying with ASTM C840 and GA-216.
         2. Interior Partitions, Indicated as Acoustic:  Provide completed assemblies with the following characteristics:
            1. Acoustic Attenuation:  STC of 45-49 calculated in accordance with ASTM E413, based on tests conducted in accordance with ASTM E90.
         3. Shaft Walls at Elevator Shafts:  Provide completed assemblies with the following characteristics:
            1. Air Pressure Within Shaft:  Intermittent loads of 5 lbf/sq ft with maximum mid-span deflection of L/240.
            2. Acoustic Attenuation:  STC of 35-39 calculated in accordance with ASTM E413, based on tests conducted in accordance with ASTM E90.
      2. METAL FRAMING MATERIALS
         1. Steel Sheet:  ASTM A1003/A1003M, subject to the ductility limitations indicated in AISI S220 or equivalent.
         2. Nonstructural Framing System Components:  AISI S220; galvanized sheet steel, of size and properties necessary to comply with ASTM C754 for the spacing indicated, with maximum deflection of wall framing of L/120 at 5 psf.
            1. Studs:  C-shaped with knurled or embossed faces.
            2. Runners:  U shaped, sized to match studs.
            3. Ceiling Channels:  C-shaped.
            4. Furring Members:  Hat-shaped sections, minimum depth of 7/8 inch.
            5. Furring Members:  U-shaped sections, minimum depth of 3/4 inch.
            6. Furring Members:  Zee-shaped sections, minimum depth of 1 inch.
         3. Shaft Wall Studs and Accessories:  AISI S220; galvanized sheet steel, of size and properties necessary to comply with ASTM C754 and specified performance requirements.
      3. BOARD MATERIALS
         1. Gypsum Wallboard:  Paper-faced gypsum panels as defined in ASTM C1396/C1396M; sizes to minimize joints in place; ends square cut.
            1. Application:  Use for vertical surfaces and ceilings, unless otherwise indicated.
            2. Thickness:

Vertical Surfaces:  ​5/8 inch​.

Multi-Layer Assemblies:  Thicknesses as indicated on drawings.

* + - 1. Abuse Resistant Wallboard:
         1. Application: High-traffic areas indicated.
         2. Mold Resistance:  Score of 10, when tested in accordance with ASTM D3273.
         3. Type:  Fire-resistance-rated Type X, UL or WH listed.
         4. Thickness:  5/8 inch.
         5. Edges:  Tapered.
      2. Impact Resistant Wallboard:
         1. Application: High-traffic areas indicated.
         2. Mold Resistance:  Score of 10, when tested in accordance with ASTM D3273.
         3. Type:  Fire-resistance-rated Type X, UL or WH listed.
         4. Thickness:  5/8 inch.
         5. Edges:  Tapered.
      3. Backing Board For Wet Areas:  One of the following products:
         1. Application:  Surfaces behind tile in wet areas, including ​tub and shower surrounds and shower ceilings​.
         2. Application:  Horizontal surfaces behind tile in wet areas including countertops and \_\_\_\_\_.
         3. Mold Resistance:  Score of 10, when tested in accordance with ASTM D3273.
         4. ASTM Cement-Based Board:  Non-gypsum-based, cementitious board complying with ASTM C1288.

Thickness:  1/2 inch.

* + - 1. Ceiling Board: Special sag resistant gypsum ceiling board as defined in ASTM C1396/C1396M; sizes to minimize joints in place; ends square cut.
         1. Application: Ceilings, unless otherwise indicated.
         2. Thickness: 1/2 inch.
         3. Edges: Tapered.
    1. GYPSUM BOARD ACCESSORIES
       1. Beads, Joint Accessories, and Other Trim:  ASTM C1047, rigid plastic, galvanized steel, or rolled zinc, unless noted otherwise.
          1. Corner Beads:  Low profile, for 90 degree outside corners.
          2. Expansion Joints:
       2. Screws for Fastening of Gypsum Panel Products to Cold-Formed Steel Studs Less than 0.033 inches in Thickness and Wood Members:  ASTM C1002; self-piercing tapping screws, corrosion-resistant.
       3. Screws for Fastening of Gypsum Panel Products to Steel Members from 0.033 to 0.112 inch in Thickness:  ASTM C954; steel drill screws, corrosion-resistant.
  1. PART 3  EXECUTION
     1. EXAMINATION
        1. Verify that project conditions are appropriate for work of this section to commence.
     2. SHAFT WALL INSTALLATION
        1. Shaft Wall Framing:  Install in accordance with manufacturer's installation instructions.
           1. Install studs at spacing required to meet performance requirements.
        2. Shaft Wall Liner:  Cut panels to accurate dimensions and install sequentially between special friction studs.
     3. FRAMING INSTALLATION
        1. Metal Framing:  Install in accordance with ASTM C1007AISI S220 and manufacturer's instructions.
        2. Suspended Ceilings and Soffits:  Space framing and furring members as indicated.
        3. Studs:  Space studs at 16 inches on center.
           1. Extend partition framing to structure where indicated and to ceiling in other locations.
           2. Partitions Terminating at Ceiling:  Attach ceiling runner securely to ceiling track in accordance with manufacturer's instructions.
     4. ACOUSTIC ACCESSORIES INSTALLATION
        1. Acoustic Insulation:  Place tightly within spaces, around cut openings, behind and around electrical and mechanical items within partitions, and tight to items passing through partitions.
        2. Acoustic Sealant:  Install in accordance with manufacturer's instructions.
     5. BOARD INSTALLATION
        1. Comply with ASTM C840, GA-216, and manufacturer's instructions. Install to minimize butt end joints, especially in highly visible locations.
        2. Fire-Resistance-Rated Construction:  Install gypsum board in strict compliance with requirements of assembly listing.
     6. JOINT TREATMENT
        1. Paper Faced Gypsum Board:  Use paper joint tape, embed with drying type joint compound and finish with drying type joint compound.
        2. Finish gypsum board in accordance with levels defined in ASTM C840, as follows:
           1. Level 4:  Walls and ceilings to receive paint finish or wall coverings, unless otherwise indicated.
           2. Level 1:  Fire-resistance-rated wall areas above finished ceilings, whether or not accessible in the completed construction.
        3. Tape, fill, and sand exposed joints, edges, and corners to produce smooth surface ready to receive finishes.
           1. Feather coats of joint compound so that camber is maximum 1/32 inch.

1. END OF SECTION

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