SECTION 092900 - GYPSUM BOARD

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Interior gypsum board.
2. Glass-Mat Interior Gypsum Board - Wet Locations
3. Gypsum board edge trims.
4. Aluminum Trims
5. Sound Barrier Mullion Trim Cap

B. Related Requirements:

1. Section 079219 "Acoustical Joint Sealants" for acoustical joint sealants installed in gypsum board assemblies.

2. Section 092216 "Non-Structural Metal Framing" for nonstructural steel framing and suspension systems that support gypsum board panels.

3. Section 093013 "Ceramic Tiling" for tile backing panels installed as substrates for ceramic tile.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of specified product.

1.3 DELIVERY, STORAGE, AND HANDLING

A. Store materials inside under cover and keep them dry and protected against weather, condensation, direct sunlight, construction traffic, and other potential causes of damage. Stack panels flat and supported on risers on a flat platform to prevent sagging.

1.4 FIELD CONDITIONS

A. Environmental Limitations: Comply with ASTM C840 requirements or manufacturer's written instructions, whichever are more stringent.

B. Do not install paper-faced gypsum panels until installation areas are enclosed and conditioned.

C. Do not install panels that are wet, moisture damaged, or mold damaged.

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1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
2. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

PART 2 - PRODUCTS

2.1 SOURCE LIMITATIONS

A. Obtain each type of gypsum board and joint finishing material from single source with resources to provide products of consistent quality in appearance and physical properties.

2.2 PERFORMANCE REQUIREMENTS

A. STC-Rated Assemblies: For STC-rated assemblies, provide materials and construction identical to those tested in assembly indicated on Drawings in accordance with ASTM E90 and classified in accordance with ASTM E413; tested by a qualified testing agency.

2.3 GYPSUM BOARD, GENERAL

A. Size: Provide panel products in maximum lengths and widths available that will minimize joints in each area and that correspond with support system specified or indicated on Drawings.

B. Sizes of panels may be restricted by size of service elevator in building. Confirm site conditions.

2.4 INTERIOR GYPSUM BOARD

A. Gypsum Wallboard (GWB at Curved Walls): ASTM C1396/C1396M.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

    a. Georgia Pacific, GP ToughRock Gypsum Board
    b. USG Sheetrock, Gypsum Panels
    c. CertainTeed Corp. Regular Drywall

2. Thickness: 1/4 inch or 3/8 inch or 1/2 inch.
3. Long Edges: Tapered.
4. Thinner noncombustible and dimensionally stable wall covering material used for curved surfaces. Multiple overlapping layers may be used to achieve desired smooth radius at curved walls. Use thickness as needed to achieve acceptable

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curved surface.

B. Gypsum Board, Type X (GWB): ASTM C1396/C1396M.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

   a. Georgia-Pacific GP ToughRock Fireguard X Gypsum Board
   b. USG Sheetrock Brand Firecode X Panels
   c. CertainTeed Type X Drywall Panels

2. Thickness: 5/8 inch.
3. Long Edges: Tapered and featured (rounded or beveled) for prefilling.

C. Glass-Mat Interior Gypsum Board (GWB at Damp Locations): ASTM C1658/C1658M; manufactured with fiberglass mat laminated to both sides and designed for interior use.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

   a. GP DensArmor Plus Interior Panels

2. Glass-Matt Gypsum Board to be used as top layer of GWB at walls & ceilings in Restrooms and Janitor Sink room. Use above areas of tile backing panels as specified in Section 093000, TILING. Use behind fiber reinforced panels (FRP) for use in Janitor Sink room. Use at ceiling of restrooms and Janitor Sink area.

3. Core: 5/8 inch, Type X.

4. Mold Resistance: ASTM D3273, score of 10 as rated in accordance with ASTM D3274.

5. Long Edges: Tapered.

D. Trim for Interior Gypsum Board: ASTM C1047.

1. Material: Galvanized-steel sheet or aluminum-coated steel sheet, rolled zinc, plastic, or paper-faced galvanized-steel sheet.
2. Shapes:

   a. Cornerbead.

   b. LC-Bead: J-shaped; exposed long flange receives joint compound.
   c. L-Bead: L-shaped; exposed long flange receives joint compound.
   d. U-Bead: J-shaped; exposed short flange does not receive joint compound.
   e. Z-Shadow Bead: Architectural Z bead where shown on the drawings when abutting dissimilar surfaces to gypsum board.
   f. Tear-away L-Bead: L-bead with tear away protective mask for mudding.

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g. F-Bead: Architectural F shaped reveal bead.

3. Products that could be incorporated into the work include the following or approved equal. Provide submittal for all trims shown on drawings for the unique conditions shown.

a. Manufacturers: TrimTex or approved equal.

E. Aluminum Trim: Extruded accessories of profiles and dimensions indicated on Drawings.

F. Joint Treatment Materials for Interior Gypsum Board: Comply with ASTM C475/C475M requirements.

1. Joint Tape: Paper.
2. Joint Compound: For each coat, use formulation that is compatible with other compounds applied on previous or for successive coats.

a. Mold-Resistant Joint Compound: Use mold-resistant formulations with mold-resistant gypsum board products.
b. Prefilling: At open joints, rounded or beveled panel edges, and damaged surface areas, use setting-type taping compound.
c. Embedding and First Coat: For embedding tape and first coat on joints, fasteners, and trim flanges, use setting-type taping compound.
d. Fill Coat: For second coat, use drying-type, all-purpose compound.
e. Finish Coat: For third coat, use drying-type, all-purpose compound.

2.5 AUXILIARY MATERIALS

A. Provide auxiliary materials that comply with referenced installation standards and manufacturer's written instructions.

B. Laminating Adhesive: Adhesive or joint compound recommended in writing by manufacturer for directly adhering gypsum panels to continuous substrate.

C. Steel Drill Screws: ASTM C1002 unless otherwise specified or indicated on Drawings.

1. Use screws complying with ASTM C954 for fastening panels to steel members from **0.033 to 0.112 inch** thick.

D. Sound-Attenuation Blankets: ASTM C665, Type I (blankets without membrane facing) produced by combining thermosetting resins with mineral fibers as follows:

1. Non-Fire-Resistance-Rated Assemblies: slag or rock wool.
2. Available manufacturers: See Section 072100 - Acoustical Insulation.

E. Acoustical Sealant: As specified in Section 079219 "Acoustical Joint Sealants."

1. Provide Acrylic emulsion latex or water-based elastomeric sealant; do not use

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solvent-based non-curing butyl sealant.

F. Sound Barrier Mullion Trim Cap: Extruded aluminum partition gap closure trim for maintaining sound barriers at intersections between gypsum walls and glazing assemblies.

1. STC: Match similar to wall with STC 50-55 rating based on specified construction.
2. Fire Rating: Used as reference depending on number of layers of gypsum board specified on the individual wall types. See drawings and details.
3. Gasket Thickness: 1/2 inch.
4. Length: 10 foot lengths for field cutting.
5. Materials: All Materials are Class A rated per ASTM E84.
6. Insulation: Interior insulation to wrap around existing mullion.
7. Finish: To be selected from full range of anodized and factory powder coating options.
8. Accessories: Provided related and required accessories and trims, corner trims for gypsum board finishing, as needed for a complete closer system, including insulation to be installed within the mullion cap.
9. Products:

    a. Mullion Mate. Gordon Inc. (Basis of design) Designed to be finished with gypsum plaster and integrated into the wall finish. Mullion Mate Pro FR - 4 (for 4" - 5" gap)

    b. Alternative product based on Architect's approval: Mull-it-Over Products, Inc. Mull-It-Over 55 - Classic. Designed with aluminum trim cover over end of gypsum board.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas and substrates including welded hollow-metal frames and support framing, with Installer present, for compliance with requirements and other conditions affecting performance of the Work.

B. Examine panels before installation. Reject panels that are wet, moisture damaged, or mold damaged.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION AND FINISHING OF GYPSUM BOARD, GENERAL

A. Comply with ASTM C840 requirements.

B. Install ceiling panels across framing to minimize the number of abutting end joints and

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to avoid abutting end joints in central area of each ceiling. Stagger abutting end joints of adjacent panels not less than one framing member.

C. Install panels with face side out. Butt panels together for a light contact at edges and ends with not more than **1/16 inch** of open space between panels. Do not force into place.

D. Locate edge and end joints over supports, except in ceiling applications where intermediate supports or gypsum board back-blocking is provided behind end joints. Do not place tapered edges against cut edges or ends. Stagger vertical joints on opposite sides of partitions. Do not make joints other than control joints at corners of framed openings.

E. Form expansion (control) joints with space between edges of adjoining gypsum panels.

F. Cover both faces of support framing with gypsum panels in concealed spaces (above ceilings, etc.), except in chases braced internally.

1. Unless concealed application is indicated or required for sound, fire, air, or smoke ratings, coverage may be accomplished with scraps of not less than **8 sq. ft.** in area.
2. Fit gypsum panels around ducts, pipes, and conduits.
3. Where partitions intersect structural members projecting below underside of floor/roof slabs and decks, cut gypsum panels to fit profile formed by structural members; allow **1/4- to 3/8-inch-** wide joints to install sealant.

G. Isolate perimeter of gypsum board applied to non-load-bearing partitions at structural abutments. Provide **1/4- to 1/2-inch-** wide spaces at these locations and trim edges with edge trim where edges of panels are exposed. Seal joints between edges and abutting structural surfaces with acoustical sealant.

H. Attachment to Steel Framing: Attach panels so leading edge or end of each panel is attached to open (unsupported) edges of stud flanges first.

I. Wood Framing: Install gypsum panels over wood framing, with floating internal corner construction. Do not attach gypsum panels across the flat grain of wide-dimension lumber, including floor joists and headers. Float gypsum panels over these members or provide control joints to counteract wood shrinkage.

J. STC-Rated Assemblies: Seal construction at perimeters, behind control joints, and at openings and penetrations with a continuous bead of acoustical sealant. Install acoustical sealant at both faces of partitions at perimeters and through penetrations. Comply with ASTM C919 requirements and with manufacturer's written instructions for locating edge trim and closing off sound-flanking paths around or through assemblies, including sealing partitions above acoustical ceilings.

K. Install sound-attenuation blankets before installing gypsum panels unless blankets are readily installed after panels have been installed on one side.

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3.3 INSTALLATION OF INTERIOR GYPSUM BOARD

A. Single-Layer Application:

1. On ceilings, apply gypsum panels before wall/partition board application to greatest extent possible and at right angles to framing unless otherwise indicated on Drawings.
2. On partitions/walls, apply gypsum panels **vertically (parallel to framing)** unless otherwise specified or indicated on Drawings or required by fire-resistance-rated assembly, and minimize end joints.

    a. Stagger abutting end joints not less than one framing member in alternate courses of panels.
    b. At stairwells and other high walls, install panels horizontally unless otherwise indicated on Drawings or required by fire-resistance-rated assembly.

3. On Z-shaped furring members, apply gypsum panels vertically (parallel to framing) with no end joints. Locate edge joints over furring members.
4. Fastening Methods: Apply gypsum panels to supports with steel drill screws.

B. Multilayer Application:

1. On ceilings, apply gypsum board indicated for base layers before applying base layers on walls/partitions; apply face layers in same sequence. Apply base layers at right angles to framing members and offset face-layer joints one framing member, 16 inches minimum, from parallel base-layer joints, unless otherwise indicated on Drawings or required by fire-resistance-rated assembly.
2. On partitions/walls, apply gypsum board indicated for base layers and face layers vertically (parallel to framing) with joints of base layers located over studs or furring members and face-layer joints offset at least one stud or furring member with base-layer joints unless otherwise indicated on Drawings or required by fire-resistance-rated assembly. Stagger joints on opposite sides of partitions.
3. On Z-shaped furring members, apply base layer vertically (parallel to framing) and face layer either vertically (parallel to framing) or horizontally (perpendicular to framing) with vertical joints offset at least one furring member. Locate edge joints of base layer over furring members.
4. Fastening Methods: Fasten base layers and face layers separately to supports with screws.

C. Application of Laminating Adhesive to Substrate: Where gypsum panels are indicated as directly adhered to a substrate (other than studs, joists, furring members, or base layer of gypsum board), comply with gypsum board manufacturer's written instructions and temporarily brace or fasten gypsum panels until fastening adhesive has set.

D. Curved Surfaces:

1. Install panels horizontally (perpendicular to supports) and unbroken, to extent possible, across curved surface plus **12-inch-** long straight sections at ends of curves and tangent to them.

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2. For double-layer construction, fasten base layer to studs with screws **16 inches** o.c. Center gypsum board face layer over joints in base layer, and fasten to studs with screws spaced **12 inches** o.c.

E. Trim for Interior Gypsum Board: For trim with back flanges intended for fasteners, attach to framing with same fasteners used for panels. Otherwise, attach trim in accordance with manufacturer's written instructions.

1. Cornerbead: Install at outside corners.
2. L-Bead: Install where indicated on Drawings.
3. U-Bead: Install at exposed panel edges or where indicated on Drawings.
4. Curved-Edge Cornerbead: Install at curved openings.

F. Base-of-Wall PVC Moisture Barrier Trim: Install at base of wall unless otherwise specified or indicated on Drawings.

G. Aluminum Trim: Install in locations indicated on Drawings.

H. Joint Treatment Materials for Interior Gypsum Board: Treat joints, interior angles, edge trim, control joints, penetrations, fastener heads, surface defects, and elsewhere as required to prepare panel surfaces for decoration. Promptly remove residual joint compound from adjacent surfaces.

1. Prefill open joints and damaged surface areas.
2. Apply joint tape over panel joints, except for trim products specifically indicated as not intended to receive tape.

I. Finish interior gypsum board panels to comply with levels indicated below and in accordance with ASTM C840:

1. Level 1: Ceiling plenum areas, concealed areas, and where indicated on Drawings.
2. Level 2: Panels that are substrate for tile.
3. Level 3: Where indicated on Drawings.

    a. Primer and its application to surfaces are specified in Section 099123 "Interior Painting."

4. Level 4: At panel surfaces that will be exposed to view unless otherwise indicated.

    a. Primer and its application to surfaces are specified in Section 099123 "Interior Painting."

5. Level 5: Where indicated on Drawings.

    a. Primer and its application to surfaces are specified in Section 099123 "Interior Painting."

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3.4 PROTECTION

A. Protect adjacent surfaces from joint compound and promptly remove from floors and other non-gypsum board surfaces. Repair surfaces stained, marred, or otherwise damaged during gypsum board installation and finishing.

B. Protect installed products from damage from weather, condensation, direct sunlight, construction, and other causes during remainder of the construction period.

C. Remove and replace panels that have gotten wet, moisture damaged, or mold damaged.

1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
2. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

END OF SECTION 092900

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