

SECTION 09250
GYPSUM BOARD ASSEMBLIES

PART 1 - GENERAL

1.01 PROVISIONS INCLUDED

- A. The general provisions of the Contract, including General and Supplementary General Conditions, and Division 1 General Requirements, apply to work specified in this Section.

1.02 SUMMARY:

- A. This Section includes the following types of gypsum board construction:
1. Steel framing members to receive gypsum board.
 2. Gypsum board screw-attached to steel framing and furring members.
 3. Other panels screw-attached to steel framing members.
 4. Tile backer board.
 5. Acoustical insulation.
 6. Installation of access panels in gypsum drywall construction.
 7. Fiberglass-reinforced gypsum (FRG) column covers.
 8. Ventilation grilles.
 9. Cutting and patching of existing gypsum board assemblies as required for installation of new work.
- B. Related Work Specified in Other Sections:
1. Wood Blocking: Section 06100, Rough Carpentry.
 2. Wood trim: Section 06400, Finish Carpentry and Architectural Woodwork.
 2. Firestopping and firesafing of gypsum board systems: Section 07840.

1.03 REFERENCED STANDARDS

- A. Gypsum Board Construction Terminology: Refer to ASTM C 11 and GA 505 for definitions of terms for gypsum board construction not otherwise defined in this section or other referenced standards.
- B. American Society for Testing and Materials (ASTM): The principal standards for installation of metal framing and gypsum board which are referenced in this section are:
1. ASTM C 11, "Terminology Relating to Gypsum and Related Building Materials and Systems."
 2. ASTM C 754, "Installation of Steel Framing Members to Receive Screw-Attached Gypsum."
 3. ASTM C 840, "Specification for Application and Finishing of Gypsum Board."
 4. ASTM C 919, "Practice for Use of Sealants in Acoustical Applications."
- C. Gypsum Association (GA): GA-214, Levels of Gypsum Board Finish.

1.04 SYSTEM PERFORMANCE REQUIREMENTS

- A. When cutting and patching existing fire-rated construction, maintain the existing fire resistance ratings rating. No new construction is fire-rated.

1.05 SUBMITTALS

- A. Product data : Manufacturer's specifications, installation and maintenance instructions for each type of product specified.
- B. Product certificates signed by manufacturers of gypsum board assembly components certifying that their products comply with specified requirements.
- C. Submit layout drawings showing locations of wall board control joints.

1.06 QUALITY ASSURANCE

- A. Fire-Resistance Ratings: Where patching of fire-rated gypsum board assemblies is indicated or required, provide materials and construction identical to the existing assembly in order to maintain the fire-resistance rating.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials in original packages, containers or bundles bearing brand name and identification of manufacturer or supplier.
- B. Store materials inside under cover and keep them dry and protected against damage from weather, direct sunlight, surface contamination, corrosion, construction traffic and other causes. Neatly stack gypsum boards flat to prevent sagging.
- C. Handle gypsum boards to prevent damage to edges, ends, and surfaces. Do not bend or otherwise damage metal corner beads and trim.

1.08 PROJECT CONDITIONS

- A. Establish and maintain environmental conditions for application and finishing gypsum board to comply with ASTM C 840 and with gypsum board manufacturer's recommendations.
- B. Room Temperatures: Maintain not less than 40°F during installation of gypsum board. For finishing of gypsum board maintain not less than 50°F for 48 hours prior to application and continuously thereafter until drying is complete.
- C. Ventilate building spaces to enable joint treatment materials to dry. Avoid drafts during dry, hot weather to prevent materials from drying too rapidly.

1.09 SCHEDULING

- A. Coordinate erection of steel stud partitions with installation of wood blocking specified in Section 06100, to make sure required blocking is in place before partitions are closed in with gypsum board.

PART 2 - PRODUCTS

2.01 STEEL FRAMING FOR PARTITIONS:

- A. Metal Framing, General: Furnish steel studs, runners, furring channels, furring brackets and related components complying with ASTM C 645, manufactured from cold-rolled steel, ASTM A 568 or A525, with ASTM A 525 zinc coating.
 - 1. Minimum Base Metal Thickness: 0.0209 inch minimum thickness, individual measurement, before application of protective coating.
 - 2. Protective Coating: ASTM A525 G40 zinc coating, except G60 zinc coating in the animal facility areas and glass washing room
- B. Shaftwall Studs: ASTM C 645, galvanized steel, with ASTM A 525 G60 galvanized coating, in special shape to permit gypsum boards to be installed from outside the shaft. Match existing shaftwall framing with respect to stud type/shape, gauge/thickness, and depth.
- C. Steel Studs and Runners: Fabricate from steel no less than 0.0359 inch base metal thickness; provide heavier gauge framing where indicated on drawings.
 - 1. Stud Shape: C-Shape, with punched web, and with flange edges bent back 90 deg and doubled over to form 3/16" minimum lip (return).
 - 2. Depth: As shown.
 - 3. Runners: Same gauge as studs.
- D. Deep-Leg Deflection Track: ASTM C 645 top runner with 2-inch-deep flanges.
- E. Flat Strap and Backing Plate: Steel sheet for blocking and bracing in length and width indicated; minimum base metal thickness 0.0312 inch.
- F. Cold-Rolled Furring Channels: 0.0538-inch bare steel thickness, with minimum 1/2-inch-wide flange; depth as shown indicated.
 - 1. Furring Brackets: Adjustable, corrugated-edge type of steel sheet with minimum bare steel thickness of 0.0312 inch.
 - 2. Tie Wire: ASTM A 641/A 641M, Class 1 zinc coating, soft temper, 0.0625-inch- (1.59-mm-) diameter wire, or double strand of 0.0475-inch- (1.21-mm-) diameter wire.
- G. Fasteners: Of type, material, size, corrosion resistance, holding power, and other properties required to fasten steel members to substrates.

2.02 GYPSUM BOARD

- A. Gypsum Wallboard: ASTM C 36 or C 1396, paper face; edges tapered and featured (rounded or beveled) for prefilling; thickness shown on Drawings.
- B. Gypsum Backing Board for Multi-Layer Applications: ASTM C 442 or, where backing board is not available from manufacturer, gypsum wallboard, ASTM C 36. Thickness shown on Drawings.

- C. Tile Backing Board: Gypsum backer board with coated glass-fiber face that protects the core from moisture; complying with ASTM C 1178/C 1178M; "DensShield Tile Guard" by G-P Gypsum. Core thickness shown on Drawings.
- D. Fire-Rated Applications: Provide fire-rated gypsum wallboard.
- E. Gypsum Shaftwall/Liner Panel: ASTM C 442 Type X liner panel or coreboard designed for shaft wall construction, with moisture-resistant paper facings. Match thickness of existing.
- F. Provide gypsum board in maximum lengths available to minimize end-to-end joints.
- G. Fasteners: Corrosion-resistant screws with bugle-shaped head, self-drilling points; minimum 1" long for 1/2" sheathing.
 - 1. For fastening gypsum board to steel framing less than 0.033 inch thick (24 gauge and lighter), furnish screws conforming to ASTM C1002, Type S points; equal to U.S.G. "Super-Tite Screws."
 - 2. For fastening gypsum board to steel framing 0.033 to 0.112 inch thick (22 to 12 gauge), furnish screws conforming to ASTM C954; equal to U.S.G. "Super-Tite Driller Screws".
 - 3. For fastening second layer of gypsum board to first layer in 2-layer assemblies, furnish screws conforming to ASTM C1002, Type G.
 - 4. For fastening gypsum board to wood blocking, furnish screws conforming ASTM C1002, Type W, cadmium-plated or other corrosion resistant, self-drilling bugle-head screws, length to penetrate wood at least 7/8".

2.03 METAL TRIM AND JOINT FINISHING MATERIALS

- A. Metal Trim: ASTM C 1047, hot-dip zinc-coated steel, with perforated and embossed flanges suitable for screw-attachment to metal studs (not crimp-on type) and for bedding in joint compound. Furnish the following types of trim; USG numbers are used to identify shapes:
 - 1. Corner Bead: 1" x 1" corner bead with smooth rigid nose; USG "Dur-A-Bead" (100 series). For installation on curved edges, provide corner bead with flanges that can be notched and bent to curvature radius.
 - 2. Control joints: One-piece formed with V-shaped slot, with removable strip covering the slot opening; USG No.093.
 - 3. Edge moldings: L-bead casing molding; USG "200 Series."
- B. Gypsum Board Joint Treatment Materials: Comply with ASTM C 475 and the recommendations of both the manufacturers of sheet products and of joint treatment materials for each application indicated.
 - 1. Joint Tape: Perforated paper reinforcing tape, unless otherwise indicated.
 - 2. Joint Compound, Chemical Hardening Type: Factory-packaged, job-mixed, chemical-hardening powder products formulated for uses indicated. Furnish sandable formulation for use as topping.

3. Joint Compound, Drying-Type: Factory-mixed, vinyl-based products. Furnish compound formulated for taping or topping, as applicable, or furnish all-purpose compound formulated for both taping and topping for both applications.

2.04 ACOUSTICAL BLANKET INSULATION AND ACOUSTICAL SEALANT

- A. Acoustical Insulation: ASTM C 665, Type 1, unfaced glass fiber blanket insulation; width equal to distance between studs, except where otherwise specified; thickness equal to depth of studs, unless otherwise shown.
- B. Acoustical Sealant for Exposed Joints: Manufacturer's standard nonsag, paintable, nonstaining latex sealant complying with ASTM C 834 and demonstrated, by testing representative assemblies per ASTM E 90, to be effective in reducing airborne sound transmission through perimeter joints and openings in building construction.
 1. Acceptable Products: AC-20 FTR Acoustical and Insulation Sealant; Pecora Corp.; SHEETROCK Acoustical Sealant; United States Gypsum Company.
- C. Acoustical Sealant for Concealed Joints: Manufacturer's standard nondrying, nonhardening, nonskinning, nonstaining, gunnable, synthetic rubber sealant recommended for sealing interior concealed joints to reduce transmission of airborne sound.
 1. Acceptable Products: BA-98; Pecora Corp.; Tremco Acoustical Sealant; Tremco, Inc.

2.05 SPECIAL PANELS

- A. Melamine Coated Plywood: 1/2" thick flexible plywood, with white melamine coating on one face.
- B. Corrugated Polycarbonate Sheet: Impact resistant, formed polycarbonate panels; McMaster-Carr 85795K35, wave pattern, opaque white color. Furnish in 8' x 42" sheets.

2.06 GLASS FIBER REINFORCED GYPSUM (FRG) COLUMN COVERS

- A. Manufacturers: Formglas Inc.; Plastrglas, Inc.; or Pittcon
- B. Material: High density (90 lbs./cu. ft. minimum density) gypsum plaster reinforced with glass fibers or glass fiber mat.
- C. Fabrication: Preformed in column shape; diameter as shown; 1/4" minimum shell thickness; smooth, even finish which will be suitable for painting with only minor filling and spackling. Fabricate column in two halves (divided vertically) for installation around a structural column. Provide cast-in wood or steel reinforcement as required for strength of the fabrication and to prevent bowing.
- D. Fabrication Tolerances:
 1. Dimension: $\pm 3/16$ "
 2. Thickness: $1/4" \pm 1/8$ "
 3. Warp or Bowing: No more than 1/8 inch per foot of column length, nor more than 1" over the full height of the column.

- E. Accessories: Furnish with fasteners and accessories necessary for assembly and mounting.

2.07 VENTILATION GRILLE

- A. Ventilation Grille: Extruded aluminum linear bar diffuser, straight bar style, 4" wide by length as indicated on Drawings, satin clear-anodized finish. Furnish grille only, without damper. Where change in direction is indicated, furnish factory-mitered corners.
 1. Bar Size and Spacing: 1/8" bars, 1/4" spacing ("pencil-proof").
 2. Acceptable Products: Titus "CT-480 or Hart and Cooley "LS-Series."
 3. Borders: Extruded aluminum matching grille.
 4. Furnish accessories for mounting.

2.08 MISCELLANEOUS MATERIALS

- A. Spot Grout: ASTM C 475, setting-type joint compound of type recommended for spot grouting hollow metal door frames.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. With Installer present, examine the spaces in which, and the substrates to which gypsum drywall systems are to be applied and the conditions under which gypsum drywall systems are to be installed.
 1. Steel Frames: Examine preset hollow metal frames for compliance with installation tolerances.
 2. Blocking: Do not install gypsum board until blocking is in place for proper support of items which are to be mounted on drywall walls.
- B. Do not proceed with the installation until unsatisfactory conditions have been corrected.

3.02 TOLERANCES FOR GYPSUM DRYWALL WORK

- A. Walls: For plumbness, do not exceed a variation of 3/16" in 8'-0". Finished wall surface shall not deviate from the surface of a flat plane by more than 1/8 inch, and high and low points shall be at least 20 feet apart, so that surface is flat in appearance.
- B. Joints between panels: Flush to within 1/16 of an inch before filling and finishing.

3.03 INSTALLATION OF STEEL FRAMING FOR WALLS

- A. Steel Framing Installation Standard: Install steel framing to comply with ASTM C 754 and with ASTM C 840 requirements that apply to framing installation.
- B. General:
 1. Install metal framing and accessories in accordance with manufacturer's printed instructions and referenced standards, except where more stringent requirements are shown or specified.

2. Space studs no farther apart than 16 inches on center. Stud gauges indicated are minima and spacing indicated is maximum; subject to Architect's approval, modify as necessary to meet performance requirements.
 3. Extend partitions full height to the underside of floor or roof deck above, unless drawings explicitly indicate partitions terminating at a different location.
 4. Install steel framing and furring member so that fastening surfaces do not vary more than 1/8 inch from the plane formed by the faces of adjacent framing.
 5. Isolation of Partitions: Where partitions abut ceiling or deck construction or horizontal structural elements provide slip or cushion-type joint between metal framing and structure as recommended by manufacturer to prevent transfer of structural loads or movements to partitions, except as otherwise indicated.
 6. Lay out framing to accommodate fire suppression system sprinkler heads.
 7. Align punch-outs in stud webs, including box studs at jamb openings, so that electrical conduit can be run continuously within the stud space.
- C. Install runners (tracks) at floors and at deck or floor at top of partition, and structural walls and columns where gypsum board stud assemblies abut other construction. Align runner tracks to the partition layout at both base and top of the partition. Secure runner tracks as recommended by the stud manufacturer; do not exceed 24 inches between securement devices.
1. Install deep flange deflection track at top of partition where partition extends to underside of structure or underside of floor or roof deck above.
 2. Attach runners to concrete subfloor and structure or deck above with fasteners located 2 inches from ends and spaced 24 inches o.c.
- D. Studs: Use full length studs between runner tracks wherever possible. If the height of a partition makes it necessary to use more than one length of stud, splice studs by nesting with 8" laps, with 2 screws through each flange. Mechanically attach stud to runner tracks at partition corners and intersections and adjacent to openings; use 3/8" self-tapping screws or clinch both flanges of studs using stud clinching tool.
1. Frame inside and outside corners with 3 studs. Provide additional studs at partition intersections, terminations of partitions and both sides of control joints. Fasten multiple studs together with screws to ensure composite action. (Refer to article on gypsum board installation for location of control joints, if joints are not shown on drawings.)
 2. Where partition extends to underside of structure above, cut studs 1/2 inch short of full height to allow for deflection of structure above.
 3. Where ducts, structural members, or similar items penetrate partitions, frame the opening to provide support for gypsum board.

- E. Frame door openings to comply with details indicated, and as specified below. Attach vertical studs at jambs with screws, either directly to frames or to jamb anchor clips on door frames. Install runner track section (for cripple studs) at head and secure to jamb studs.
 - 1. Doors up to 4'-0" wide and weighing 300 lbs or less: Two 20 gauge studs each side of door, either nested or with open sides abutting. Anchor strut studs securely to top and bottom runners with screws.
 - 2. Doors wider than 4'-0" or heavier than 300 lbs and double doors: Design framing to meet load conditions, but no less than two 20 gauge studs each side of door.
 - 3. Screw multiple studs to each other to ensure composite action.
- F. Rough Framing at Other Openings: Install full-length studs adjacent to jambs. Between jamb studs, install horizontal header and sill tracks. Cut horizontal tracks to length, split flanges and bend webs at ends for flange overlap and screw to jamb studs. Install cut-to-length, intermediate studs above and below openings, at same spacing as full-length studs.
- G. Metal Furring: Install furring vertically, 16 inches on center,
- H. Install supplementary framing and bracing as required at penetrations and terminations of gypsum wallboard assemblies.

3.04 INSTALLATION OF GYPSUM BOARD

- A. Gypsum Board Installation Standard: Install and finish gypsum board to comply with ASTM C 840.
- B. Types of Board: Except as specified below, or otherwise noted on drawings, install standard gypsum wallboard at interior walls, ceilings, and soffits.
 - 1. Glass-Faced Gypsum Backer Board: Install as a backer board where tile is to be applied as a finish over gypsum board. Do not use this board exposed to view or for ceiling applications.
 - 2. Double-Layer Application: Install gypsum backing board for base layer and gypsum wallboard for face layer.
 - 3. Fire-Rated Construction: Install Type-X board where fire-rated partition or ceiling construction is indicated, and at other locations shown or scheduled on drawings.
- C. Cull damp and damaged boards.
- D. Butt boards together for a light contact at edges and ends with not more than 1/16 inch open space between boards. Do not force into place. Position boards so that like edges abut, tapered edges against tapered edges and mill-cut or field-cut ends against mill-cut or field-cut ends. Do not place tapered edges against cut edges or ends.

- E. Partitions/Walls:
1. To minimize end joints, use floor-to-ceiling length boards, if possible and apply vertically. Locate edge joint over supports, but offset at least one stud space on opposite faces of partitions/walls.
 2. On high walls, where more than one length of board would be required if board were to be installed vertically, apply gypsum board horizontally, locating long joints generally at 4' and 8' above finish floor so they do not fall at eye level. Use maximum practical length of board and locate end joints over supports. Stagger joints at least 24 inches in alternate courses of board. Stagger vertical (end joints) over different studs on opposite sides of partitions.
 3. Cover both faces of steel stud partition framing with gypsum board in concealed spaces (above ceilings, etc.), except in chase walls which are braced internally.
 - a. Fit gypsum board around ducts, pipes, and conduits.
 - b. Where partitions are perpendicular to steel deck flutes, cut gypsum board to fit profile of flutes and allow 1/4 to 1/2 inch wide joint for sealant, except where approved firestopping design incorporates a different top-of-partition detail.
 4. Where framing is indicated to be isolated from the structure, also leave a 1/4 inch to 1/2 inch gap between drywall and surrounding construction.
 5. Control Joints: Install control joints at intervals of approximately 30 feet, at locations shown on drawings; if no control joints are shown in long runs of drywall, consult Architect for placement.
- F. On metal furring, install wallboard vertically with no end joints.
- G. Fastening to Framing: Fasten drywall to steel framing and furring with power-driven screws. Seat heads slightly below the surface of the board but do not break the paper. Place screws at least 3/8" from edge of board.
1. Single Layer: Space screws 16" o.c. max for walls; 12" o.c. max for ceilings.
 2. Double Layer: Comply with drywall manufacturer's instructions for spacing of fasteners, but no less than the following:
 - a. For attachment of base layer, space 24" o.c., with screws staggered on adjoining edges and ends.
 - b. For attachment of face layer, space screws 36" o.c. along edges, within 2" of joint and 12" of both ends. In field of panel, space screws along centerline, 48" o.c. max and within 24" of both ends.
- H. At openings and cutouts, fasten gypsum board to supplementary framing and blocking provided for additional support.
- I. Control Joints: Fasten gypsum board to separate studs on each side of control joint. Leave space between boards to receive specified control joint trim.

3.05 FIRE-RATED CONSTRUCTION

- A. Install gypsum board as specified in the preceding article, with additional details as specified in this article.
- B. Use Type X or Fire Code gypsum board.
- C. Use other materials and details which conform to the same U.L. design as the existing assembly, or to an equivalent assembly acceptable to the authorities having jurisdiction.
- D. Coordinate construction closely with recessed and penetrating work and with firestopping work specified in Section 07840 so that completed construction will provide a continuous smoke and fire barrier with the specified fire-rating.
- E. Wherever boxes or recessed equipment is set into recesses with face opening larger than 144 square inches, close the sides and back of the recess with gypsum board to box in the item.
- F. At inside corners and intersections with non-rated construction, make the fire-rated gypsum board continuous to maintain the rated enclosure.
- G. Identification: Do not remove stencilled messages identifying fire-rated partitions. If removal is unavoidable during cutting and patching, replace the message at a location as close as possible to the previously existing location. Intent is to leave messages at intervals not to exceed 25 feet on center, so that a message will be visible and can be read from any place where a person might gain access to the space above the ceiling.

3.06 SOUND ATTENUATION

- A. Where acoustical insulation is shown in the partition, construct the partition and install acoustical sealant and insulation as specified in this article.
- B. Do not install electrical boxes and similar penetrations back-to-back. Stagger them horizontally or vertically on opposite sides of the partition.
- C. Install sound attenuation blankets prior to gypsum board. Fit batt snugly to studs and around boxes and penetrations.
- D. Apply a continuous bead of sealant along top and bottom edge of gypsum board on both sides of the partition to seal the gap between the edge of the board and the structure above or the floor below. In double-layer work, seal the first layer of gypsum board.
- E. Seal construction at perimeters, control and expansion joints, openings and penetrations with a continuous bead of acoustical sealant to close off sound-flanking paths around or through construction. Apply a bead of sealant at both faces of partitions. Seal partitions above acoustical ceilings.
- F. Comply with ASTM C 919 and manufacturer's recommendations for location of edge trim.

3.07 SHAFTWALL SYSTEMS

- A. Cut and patch shaftwall systems so that finished system provides the same fire-resistance and structural performance as the existing installation.
- B. For installation of framing and core board, comply with shaftwall manufacturer's instructions. For installation of gypsum board on exposed face of shaftwall installation, install and finish in accordance with other articles in this Section pertaining to gypsum board installation and finishing.
- C. When installing shaft wall, take care not to damage sprayed-on fireproofing applied to structural elements. If fireproofing is damaged, patch to restore fire-rating of the assembly.
- D. At penetrations in shaft wall, maintain fire-resistance rating of shaft-wall assembly by installing supplementary steel framing around perimeter of penetration and fire protection behind boxes containing wiring devices and similar items.
- E. Seal gypsum board shaft walls at perimeter of each section which abuts other work and at joints and penetrations within each section. Firestopping sealants are specified in Section 07840 for Firestopping. Where firestopping is not needed, seal perimeter, joints, and penetrations with acoustical sealant, installed to withstand dislocation by the the air pressure differential between shaft and external spaces, in accordance with ASTM C 919.

3.08 INSTALLATION OF SPECIAL PANELS

- A. Where melamine-faced plywood and corrugated polycarbonate sheet are shown applied to steel stud framing, handle, cut, and install panels in accordance with panel manufacturer's recommendations and as shown on Drawings. Space fasteners as specified above for gypsum board panels, unless panel manufacturer recommends closer spacing of fasteners, or different distance from panel edges.

3.09 INSTALLATION OF FRG COLUMN COVERS

- A. Install column covers in accordance with manufacturer's recommendations.
- B. Joint Finish: Tape and finish joints as specified below for gypsum board.
- C. Surface Finishing: Fill and sand holes and pockmarks in accordance with manufacturer's recommendations to produce a smooth, even, unpitted surface.

3.10 FINISHING GYPSUM BOARD ASSEMBLIES

- A. Metal Trim: Trim outside corners, edges and control joints with metal trim of type scheduled below. Securely fasten metal trim to studs with screws. Space fasteners as recommend by trim manufacturer. Use fasteners which will be fully concealed by joint compound fill applied over flanges.
 - 1. Corner Beads: Install at external corners of drywall work.
 - 2. Edge Trim: Install at exposed panel edges and where gypsum board butts other materials. Install in single unjointed lengths wherever possible.
 - 3. Control joints: Install at control and expansion joints.

- B. General: Apply joint treatment at gypsum board joints (both directions); flanges of corner bead, edge trim, and control joints; penetrations; fastener heads, surface defects, and elsewhere as required to prepare gypsum board surfaces for decoration. Mix and apply joint compounds according to manufacturer's instructions and use within recommended pot-life. Allow joint compound to dry between coats. Sand between coats.
- C. Prefill open joints, rounded or beveled edges, gaps wider than 1/16 inch (1.6 mm) between abutting drywall units, and damaged areas using setting-type joint compound.
- D. Apply joint tape over gypsum board joints except those which have metal trim, and fully embed tape in joint compound.
- E. Joint Finishing: Embed tape in joint compound and apply three separate coats of joint compound over joints, angles, fastener heads, and accessories.
 - 1. Use the following joint compound combination:
 - a. Embedding and First Coat: Setting-type joint compound.
 - b. Fill (Second) Coat: Setting-type joint compound.
 - c. Finish (Third) Coat: Ready-mixed, drying-type, all-purpose or topping compound.
 - 2. Touch up and sand between coats and after last coat as needed to produce a surface free of visual defects and ready for decoration. (GA-214 "Level 4" finish.)
 - 3. Third coat may be omitted on concealed gypsum board surfaces above ceilings (GA-214 "Level 3" finish.)
- F. Finish glass-faced gypsum backing board forming base for ceramic tile to comply with ASTM C 840 and board manufacturer's directions for treatment of joints behind tile. Apply waterproof joint compound to joints and fastener heads to provide a smooth, level surface for tile installation.

3.11 MISCELLANEOUS WORK

- A. Install ventilation grilles in accordance with approved shop Drawings. Secure in place so they cannot be easily dislodged.
- B. Spot grout hollow metal door frames. Apply spot grout at each jamb anchor clip just before inserting board into frame.
- C. Access Doors: Install metal access doors into gypsum wall board partitions and ceilings in accordance with manufacturer's printed instructions.

3.12 CLEAN UP

- A. Keep work areas clean and free of debris by daily sweeping. At the completion of work in any area or on any floor, remove wallboard scraps and leave area broom clean.
- B. Restore or replace work of other trades damaged or soiled by the work of this Section.

3.13 REPAIR AND TOUCH UP

- A. Protect gypsum board from damage during remainder of the construction period, including damage from water and impact.
 - 1. If gypsum board is wetted during construction, immediately remove and replace it. Once wet, gypsum board may not remain in place in the finished work.
 - 2. If gypsum board is damaged by impact during construction, repair to Architect's satisfaction before finishes are applied, or remove and replace with whole board.
- B. Before installation of running trim or of adhered tack-boards and markerboards (including work by Owner), inspect wall surfaces to which such trim will be applied for flatness and correct surface if necessary to conform to tolerance requirements in this section. Gap between surface-applied trim and the wall surface shall not exceed 1/8 inch; if the gap exceeds 1/8 inch at any location remove trim, fill low areas in wall surface, and re-install the trim.
- C. After drywall has received prime coat of paint, inspect surfaces for defects and touch up where necessary.

END OF SECTION 09250