

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Gypsum Board Panels.
- B. Vertical wall gypsum board application.
- C. Taped and sanded joint treatment.
- D. Exterior gypsum sheathing board.
- E. Glass Mat Water-Resistant Backing Board for ceramic tile application.
- F. Related Sections:
 - 1. Section 054000, Cold-Formed Metal Framing.
 - 2. Section 099000, Painting.

1.2 REFERENCE STANDARDS

- A. Conform to current adopted reference standards by date of issue of the current code cycle and the date of the Contract Documents.
- B. American Society for Testing and Materials (ASTM)
 - 1. ASTM C475 – Joint Compound and Joint Tape for Finishing Gypsum Board.
 - 2. ASTM C645 – Specification for Nonstructural Steel Framing Members.
 - 3. ASTM C754 – Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products.
 - 4. ATSM C840 – Application and Finishing of Gypsum Board.
 - 5. ASTM C954 – Specification for Steel Drill Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Steel Studs from 0.033 in. to 0.122 in. in thickness.
 - 6. ASTM C1002 – Steel Drill Screws for the Application of Gypsum Board or Metal Plaster Bases.
 - 7. ASTM C1177 – Glass Mat Gypsum Substrate for Use as Sheathing.
 - 8. ASTM C1178 – Glass Mat Water-Resistant Gypsum Backing Panel.
 - 9. ASTM C1396 – Specification for Gypsum Board.
- C. Underwriters Laboratories, Inc. (UL)
 - 1. UL Directory- Fire Resistance Directory, Volume 1, Latest Edition.
- D. Gypsum Association (GA)
 - 1. GA-201 – Gypsum Board for Walls and Ceilings.
 - 2. GA-214 – Levels of Gypsum Board Finish.

3. GA-216 – Application and Finishing of Gypsum Board.
4. GA-600 – Fire Resistance Design Manual.
5. GA-226 – Gypsum Board installation on Curved Walls.

- E. 2019 California Building Code (CBC)
 1. CBC-7 – Chapter 7, Fire Resistant Materials and Construction.
 2. CBC -25 – Chapter 25, Gypsum Board and Plaster.

1.3 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: Show locations, fabrication, and installation of control and expansion joints including plans, elevations, sections, details of components, and attachments to other units of Work.

1.4 QUALITY ASSURANCE

- A. Applicator: Company specializing in gypsum board systems work with three years' experience.

1.5 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. Stack gypsum panels flat to prevent sagging.
- C. Steel Framing and related accessories shall be stored and handled in accordance with AISA Code of Standard Practice.

1.6 WARRANTY

- A. Provide manufacturer's warranty, 3 years against manufacturing defects.

1.7 PROJECT CONDITIONS

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

PART 2 - PRODUCTS

2.1 BOARD MATERIALS

- A. Regular Gypsum Board: ASTM C1396; 5/8 inch thick, maximum permissible length; ends square cut, tapered round edges.
- B. Fire-rated Gypsum Board, 1HR: ASTM C1396; Type X, fire resistive type, 5/8 inch thick, maximum permissible length; ends square cut, tapered round edges.
- C. Moisture Resistant Gypsum Board: ASTM C1396; 5/8 inch thick, maximum permissible length; ends square cut, tapered edges.
- D. Exterior Gypsum Sheathing Board: ASTM C1177; moisture resistant, and fire resistant, Type X, 5/8 inch thick, maximum permissible length, ends square cut, inorganic glass fiber mat faced, 48 inch width.
 - 1. Install Water Resistive Barrier at exterior wall over sheathing substrate.
 - 2. For parapet wall in fire-resistive construction: Parapet Wall Paneling, Fire-Resistive Buildings: Exterior fire-resistive gypsum board 5/8 inches, ASTM C1177.
- E. High Performance (Glass Mat) Water-Resistant Tile Backing Board: ASTM C1178, ASTM D3273, 5/8 inch thick Fireguard Type X, and 1/2 inch thick for non-rated walls. Glass mats on front and back, applied acrylic coating on front side.
- F. Paperless, Mold-Resistant Soundproof Gypsum Board: ASTM D3273, ASTM C1396.
 - 1. Manufacturer: Quiet Solution, Inc., QuietRock 530, or equal, thickness: 5/8 inches, Type X; Weight: 2.8 pounds per square foot; Edges: Tapered.
 - 2. STC-rated: 52-74 (ASTM E90)
 - 3. Surfacing: Coated fiberglass mat on face and back.
 - 4. Fire-rated: 1 hour.
 - 5. Surface flame: Class A (ASTM E84)
 - 6. Water absorption: less than 5 percent (percent of weight).
 - 7. R value: 0.38.

2.2 MATERIALS

- A. Furring Channels: 25 gauge galvanized steel, 7/8 inch deep by 2-9/16 inch wide hat channels, 275 pounds per 1,000 feet weight, FHC-25 and CEMCO METAL

FURRING CHANNEL CLIPS. Z Type, where required: CEMCO Z-FURRING CHANNEL, 1", 1-1/2", 2" and 3" depths.

1. Dietrich UltraSteel Framing, 25 gauge or equal.
- B. Resilient Sound Isolation Clips: For sound-rated walls and ceilings; Kinetics Noise Control "Model IsoMax", PAC International, Inc or equal.
- C. Angles: 1-3/8 inch by 7/8 inch, 24 gauge, Dietrich Metal Framing, CEMCO GALVANIZED METAL ANGLES or equal.
- D. Runner Channels: Minimum weights, sizes and maximum spans conform to reference standard listed in 2506.2.1 and Table 2506.2 California Building Code, 1-1/2", 1.12 lbs/foot, hot-rolled channels as defined therein.
- E. Hanger Wire: 8 gauge for 16 square feet maximum, galvanized annealed, size of wire in accordance with reference standard listed in 2506.2.1 and Table 2506.2, California Building Code.
- F. Tie Wire: 18 gauge galvanized annealed.
- G. Taping, Bedding and Finishing Compound: ASTM C475; compatible with tape and substrate.
1. USG SHEETROCK Brand Taping Joint Compound Read-Mixed, drying-type, non-asbestos, vinyl base.
 2. USG SHEETROCK Brand Topping Joint Compound Ready-Mixed, drying-type, non-asbestos, vinyl base.
 3. USG SHEETROCK Powder Joint Compound, drying-type, non-asbestos vinyl base, conventionally drying. For Taping and Topping.
 4. USG SHEETROCK Powder Setting-type Joint Compound, chemical hardening.
 5. Contractor's Option: USG SHEETROCK Lightweight All Purpose Joint Compound (Plus 3) with Dust Control.
 6. USG SHEETROCK Brand All Purpose Joint Compound Read-Mixed for laminating gypsum panels in multilayer partitions.
 7. USG SHEETROCK Brand Joint Tape-Heavy, ASTM C475, high strength cross-fibered paper tape.
 8. Drywall Primers: USG First Coat.
 9. Or equal as approved in accordance with Division 01, General Requirements for substitutions.
- H. Accessories: Corrosive Protective-Coated steel.
1. U-Trims: USG, Dietrich No. 200-A for joint compound or equal.
 2. J-Trim Casings, reveal type: USG, Dietrich No. 401 for 1/2" panels, 402 for 5/8" panels, no finishing compound.
 3. Control Joint: Dietrich 093, USG Control Joint No. 093, Zinc metal.

4. Corner Bead: USG, Dietrich No. 103 for joint compounds or equal.
- I. Fasteners: Self-drilling tapping screws shall comply ASTM C 954; self piercing screws shall comply ASTM C1002;
 1. ASTM C1002, No. 2 Phillips recessed, bugle head, power-driven. Nails not permitted.
 2. Type S-12, ASTM C954, 16 gage steel studs, minimum penetration 3/8 inch.
 3. Type S, ASTM C 1002, 20 gage steel studs, minimum penetration 3/8 inch.
 4. Type G, gypsum board to gypsum board, minimum penetration 1/2 inch.
- J. Revel Moldings: Extruded aluminum moldings as detailed. All intersections shall be factory fabricated with joints heliarc welded and backs sealed with permanent waterproof tape. Furnish with 6 inch legs to join with straight sections. Provide connector clips at butt joints of straight sections and end caps at terminations. Color as selected by Architect.
 1. Aluminum: Alloy and temper with not less than the strength and durability properties of ASTM B 221, alloy 6063-T5.
 2. Finish: Anodized finish, Class II medium etch 0.40 mils, AA-M12C22A31, clear anodized.

2.3 TEXTURE FINISHES

- A. USG Spray Texture Finish: orange peel.
- B. Primer as recommended by texture finish manufacturer.

PART 3 - EXECUTION

3.1 INSPECTION

- A. Verify that site conditions are ready to receive Work.
- B. Beginning installation means acceptance of substrate.

3.2 PREPARATION

- A. Delivery and Storage: Arrange for an adequate supply of materials on the jobsite so that progress of Work will be uninterrupted. Materials and accessories shall be delivered in original containers and bundles and identified with the manufacturer's name and brand. Store gypsum board on flat, solid supports in dry areas, well protected from the elements.

- B. Provided fixtures, anchors, sleeves, inserts and miscellaneous items, and provide openings and chases as necessary. Prior to closing in and finishing of drywall Work, ascertain that piping, conduit, ductwork and fixtures which are to be concealed and which penetrate gypsum boards are in place, tested and approved.
- C. Scaffolding: Construct, erect and maintain in conformance with applicable laws and ordinances.
- D. Protection, Patching and Cleaning: Adjacent surfaces of other materials shall be protected from damage. Drywall surfaces that have been cut out shall be neatly patched. Damaged or defective gypsum board finish shall be replaced. During progress of Work, rubbish droppings and water materials shall be removed.
- E. Fire Protection: Where required, the Work shall comply with the requirements for the protection rating indicated in the governing building code.
- F. Fire Sprinkler System: In areas where sprinkler heads occur, exercise care when installing drywall work. Do not damage or obstruct the heads in any way.

3.3 GYPSUM BOARD INSTALLATION

- A. Install gypsum board in accordance with ASTM C840, GA 201, GA 216 and Section 2508 California Building Code. Use board types as indicated; if not indicated use board types as follows.
 - 1. Use Type X (fire-rated core) drywall unless indicated otherwise.
 - 2. Where gypsum wallboard is indicated as base for ceramic tile use board types as follows:
 - a. Use Type (moisture resistant) board, except as follows:
 - b. At walls to which plumbing fixtures are mounted and portions of adjoining walls within 2'-0" of a plumbing fixture, install fiberglass-mat faced tile backer board to 4'-0" above the finished floor with Type WR, above, moisture and mod resistant gypsum board.
 - c. At showers use fiberglass-mat faced tile backer board full height on all enclosure walls and extending, where applicable, at least 2'-0" beyond line of shower curtain.
- B. Non-rated: Erect single layer gypsum board parallel or perpendicular on vertical framing, attached to studs and framing members with the specified fasteners spaced at 16" on center with screws and at top and bottom, 12" on center with screws at ceilings. Solid backing not required at joints running perpendicular to studs and framing members for walls.
- C. Rated: Erect single-or double-layer fire-rated gypsum board panels in accordance with Chapter 7 Fire and Smoke Protection Features California Building Code, and

GA-600, for on-hour or two-hour, fire-rated, non-bearing Fire Walls or Fire Partitions, steel or wood construction.

1. Gypsum board panels installed parallel to vertical studs or framing shall be spaced at 8" on center with screws at vertical edges, and 12" on center with screws in field and at top and bottom, and 12" on center with screws at ceilings. Solid backing not required at joints running perpendicular to studs and framing members for walls. Stagger vertical joints 24 inches on center each side and opposite sides. Where joints are not staggered required minimum 24 inches, solid backing shall be provided. All joints shall be treated except as provided herein.
- D. Resilient Sound Isolation Walls and Ceiling Clips: screw attached clips to each stud at 24" on center vertically, 6" from ceiling and 4" from floor. Engage furring channel in clips.
- E. Treat cut edges and holes in moisture-resistant gypsum board with sealant.
- F. Place control joints consistent with lines of building spaces as indicated or at maximum of 30 ft on centers. At rated walls, provide with fire rated panels same as wall construction.
- G. Please corner beads at external corners. Use longest practical length. Place edge trim where gypsum board abuts dissimilar materials.
- H. Seal all cutout and penetrations: For electrical, mechanical, plumbing and structural framing cutouts and penetration at interior surfaces. Per Section 079200.
- I. Foil-backed gypsum board shall be applied on the inside of exterior walls.
- J. Install reveal moldings according to manufacturer's recommendations.

3.4 JOINT TREATMENT

- A. Exposed gypsum board in wall areas and ceiling areas shall have joint compound and be taped and sanded per requirements of GA-114 for levels specified and ready for paint.
- B. On installations where two layers of gypsum board are required, only the face layer will require finishing of joints and screwheads.
- C. Gypsum wallboard joints in walls may either be exposed or covered with joint tape and joint compound for the portion of the wall above the suspended ceiling, which

is part of a fire resistive floor-ceiling or roof-ceiling assembly, as listed in UL Fire Resistive Ratings (BXUV), when the following conditions are met:

1. Vertical joints occur over framing members.
 2. Horizontal joints are staggered 24 inches on opposite sides or covered with 6 inch wide strips of gypsum board attached with 1-1/2 inch laminating screws at 8 inches on center.
 3. Partition is two-ply system with joints staggered 16 inches or 24 inches.
 4. Partition is not part of a smoke or sound control system.
- D. Fire-Rated Partitions: Perimeters of fire-rated partitions shall be caulked with fire-rated sealant, both sides of partition.
- E. Sound-Rated Partitions: Perimeters and penetrations of sound-rated partitions shall be caulked with acoustical sealant, both sides of partition.
- F. Moisture-resistant gypsum board shall have joint compound and taped and sanded. Make necessary cut-outs and seal cut or exposed panel edges with waterproof flexible sealant, as recommended by the gypsum manufacturer.
- G. Joints, except where excluded above including internal corners, shall be filled and taped. Thin uniform layer of joint compound, approximately 3 inches wide, shall be applied over joint. Tape shall be set in joint compound and finish levels required below. Internal angles, both horizontal and vertical, shall be reinforced and with tape folded to form straight and true angle. Metal external corners shall be set in place. Joints shall be allowed to dry at least 24 hours between each application of cement.
- H. Gypsum board finish shall be to the following levels as defined by GA-214:
1. Plenum areas above ceilings – Level 1.
 2. Substrate for tile, tackable wall panels, tackboards and markerboards – Level 2.
 3. Areas receiving heavy texture paint – Level 3.
 4. Areas receiving vinyl wall covering, high impact wall covering, texture finish or light textured flat paint – Level 4.
 5. All areas receiving Wall Coverings, non-textured, flat, egg-shell, gloss or semi-gloss paint – Level 5. Backroll application of sealer. Level 5 requires one of the following:
 - a. Skim coat: A thin skim coat of joint compound, or a material manufactured especially for this purpose, shall be applied to entire surfaces. Surfaces shall be smooth and free of tool marks and ridges.
 - b. Acrylic latex-based coating, spray apply: USG SHEETROCK Brand Primer-Surfacer Tuf-Hide or ProForm Surfacer/Primer by National Gypsum or equal. Apply to 15-20 mils wet film thickness to entire surface.
 - c. "Smooth Coat" Level 5 by Westpac Materials, Orang, CA.
 - d. Additional, apply primer coat per Section 099000 Painting.

3.5 TEXTURE FINISHES

- A. Spray apply textured finishes to interior gypsum board where scheduled on drawings.
- B. Provide Mock-up for Architect's approval before proceeding with Work.
- C. Texture coat shall provide a uniform splatter pattern finish with an 80 percent minimum coverage of surface.
- D. Utilized special equipment intended for specified texture finish.
- E. Provided protection from spray or interior surfaces of electrical boxes and wiring.

3.6 INSTALLATION OF HIGH PERFORMANCE TILE BACKER

- A. Install panels to framing. Precut board to required sizes and make all cutouts. Butt ends and edges. Cut board to fit by coring and breaking or by sawing from face side. Install board horizontally or vertically at non-rated walls, vertically at rated walls as required by UL Design.
- B. Secure to light gauge steel with 1 inch – 1-5/8 inch waferhead or buglehead, multilevel thread, sharp point drywall screw (Type S Hi-Lo) and to heavy gauge steel with 1 inch – 1-5/8 inch waferhead or buglehead, fine thread, drill pint drywall screw (Type S-12).
- C. For joints and angles in tile areas: Apply 2 inches glass fiber tape over joints. Embed tape in adhesive used to set tile. Allow joints to dry prior to setting tile. Caulk openings with flexible sealant prior to installation of tile.
- D. For installation as finished material (non-tile areas): Embed with 2 inch 10 x 10 glass mesh tape set with Sto Flexyl or equal. Trowel Sto Flexyl over entire Dens-Shield panel to product smooth surface. Finish with manufacturer's recommended acrylic coating.

3.7 EXTERIOR GYPSUM SHEATHING INSTALLATION

- A. Install per manufacturer's instructions.
- B. Erect exterior gypsum sheathing horizontally with edges butted tight and ends occurring over firm bearing. Track into place sufficiently to hold material until

permanent attachment is provided by self-furring lath fasteners for cement plaster application.

- C. Treat joints per manufacturer's system for exterior sheathing.

3.8 TOLERANCES

- A. Maximum Variation from True Flatness: 1/8 inch in 10 feet in any direction.
- B. Must provide flat finished surface prior to installation of Acoustical Suspension System wall angles and accessories.

END OF SECTION