

DIVISION

09

FINISHES

SECTION 09255 - GYPSUM BOARD ASSEMBLIES

1.1 GENERAL

- A. Fire-Test-Response Characteristics: Where fire-rated gypsum board assemblies are indicated, provide materials and construction identical to those of assemblies tested for fire resistance per ASTM E 119 by an independent testing and inspecting agency acceptable to authorities having jurisdiction.

1.2 PRODUCTS

- A. Manufacturers: Subject to compliance with requirements, provide gypsum board and related products by one of the following:
1. Georgia-Pacific Corp.
 2. Gold Bond Building Products Div., National Gypsum Co.
 3. United States Gypsum Co.
- B. Steel Framing for Walls and Partitions: Comply with ASTM C 754 and the following:
1. Component Sizes and Spacings: As indicated but not less than that required to comply with ASTM C 754 under the following maximum deflection and lateral loading conditions:
 - a. Maximum Deflection: $L/240$ at 5 lbf per sq. ft.
 2. Protective Coating for Framing Members: G40 hot-dip galvanized coating per ASTM A 525.
 3. Steel Studs and Runners: ASTM C 645, 0.0179-inch base metal thickness, unless otherwise indicated.
 4. Steel Rigid Furring Channels: ASTM C 645, 0.0179-inch base metal thickness, hat-shaped.
 5. Fasteners for Metal Framing: Type, material, size, corrosion resistance, holding power, and other properties required to fasten steel framing and furring members securely to substrates and complying with the recommendations of gypsum board manufacturers for applications indicated.
- C. Gypsum Board: Provide gypsum board of types indicated, in maximum lengths available, to minimize end joints:
1. Gypsum Wallboard: ASTM C 36, thickness as indicated.
 - a. Type: Regular for vertical surfaces, unless otherwise indicated.
 - b. Type: Type X where required for fire-resistive-rated assemblies.
 - c. Type: Sag-resistant type for ceiling surfaces.
 - d. Edges: Tapered..
 2. Gypsum Backing Board for Multilayer Applications: ASTM C 442 or A 36, thickness as indicated.
 - a. Type: Type X for fire-resistive-rated assemblies.

3. Water-Resistant Gypsum Backing Board: ASTM C 630, thickness as indicated.
 - a. Type: Regular, unless otherwise indicated.
 - b. Type: Type X for fire-resistive-rated assemblies.
 4. Exterior Gypsum Board: ASTM C 931, thickness as indicated.
 - a. Type: Regular, unless otherwise indicated.
- D. Accessories for Interior Installation: Corner beads, edge trim, and control joints complying with ASTM C 1047 and requirements indicated below:
1. Material: Formed metal, plastic, or metal combined with paper, with metal complying with the following requirement:
 - a. Sheet steel zinc-coated by hot-dip process.
 2. Shapes indicated below by reference to Fig. 1 designations in ASTM C 1047:
 - a. Cornerbead on outside corners, unless otherwise indicated.
- E. Gypsum Board Joint Treatment Materials: ASTM C 475 and ASTM C 840, and as follows:
1. Joint Tape: Paper reinforcing tape, unless otherwise indicated.
 - a. Use open-weave glass-fiber tape where recommended by gypsum board manufacturer with setting-type joint compound.
 2. Drying-Type Joint Compounds: Factory-packaged, vinyl-based products complying with the following requirements:
 - a. Job-Mixed Formulation: Powder product, mixed with water at Project Site.
 - b. Taping compound formulated for embedding tape and first coat over fasteners and flanges of corner beads and edge trim.
 - c. Topping compound formulated for fill (second) and finish (third) coats.
 - d. All-purpose compound formulated as both taping and topping compound.
- F. Miscellaneous Materials: As follows, recommended by gypsum board manufacturer:
1. Steel drill screws complying with ASTM C 1002 for fastening gypsum board to steel members less than 0.03 inch thick.
 2. Steel drill screws complying with ASTM C 954 for fastening gypsum board to steel members from 0.033 to 0.112 inch thick.
 3. Gypsum Board Nails: ASTM C 514.
- G. Texture Finish Products: As follows:
1. Primer: Of type recommended by texture finish manufacturer.
 2. Polystyrene Aggregated Finish for Ceilings: Factory-packaged proprietary powder product formulated with polystyrene aggregates for mixing with water at Project site to produce the spray-applied texture, as selected by Architect from manufacturer's standard textures.
 3. Aggregate Finish: Factory-packaged proprietary drying-type powder product formulated with aggregate for mixing with water at Project site for spray application to produce texture selected by Architect from manufacturer's standard textures.

4. Acoustical Finish: Factory-packaged proprietary chemical-hardening powder product formulated for mixing with water at Project site for spray application to produce a 1/2-inch-thick, evenly textured, white-colored finish with a flame-spread rating of 10 and a smoke-developed rating of 25 per ASTM E 84 and an NRC of 0.50 per ASTM C 423.

1.3 EXECUTION

- A. Install steel framing to comply with ASTM C 754 and ASTM C 840.
 1. Do not bridge building expansion joints with support systems; frame both sides of joints with furring and other supports as indicated.
 2. Secure hangers to structural support by connecting directly to structure where possible. Otherwise connect to inserts, clips, other anchorage devices, or fasteners, as indicated.
 3. Install steel studs with bottom and top runner tracks anchored to substrates. Isolate system from building structure to prevent transfer of loading and deflections into metal support system, both vertically and horizontally.
 4. Frame door and other openings with studs and runners of thickness, number, and arrangement to comply with manufacturer's recommendations for size of opening, weight and height of doors, and stud size, unless otherwise indicated.
 5. Install supplementary framing, runners, furring, blocking, and bracing at openings and terminations in gypsum board assemblies and where required to support other work that cannot be adequately supported on gypsum board alone.

- B. Install and finish gypsum board to comply with ASTM C 840 and as follows:
 1. Form floating construction for gypsum boards at internal corners, except where special isolation or edge trim is indicated.
 2. Isolate gypsum board construction from abutting structural and masonry work. Provide edge trim and acoustical sealant as recommended by manufacturer.
 3. Install water-resistant backing board where indicated to receive thin-set tile and similar rigid applied finishes at tubs, showers, and where indicated.
 4. Screw gypsum board to wood supports.
 5. Screw gypsum board to metal supports.
 6. Screw both layers to supports where double-layer work is indicated or otherwise required.
 7. Do not bridge building expansion joints. Leave a space of the width indicated between boards, and trim both edges for installation of sealant or gasket.

- C. Finishing Gypsum Board Assemblies: 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 and levels of gypsum board finish indicated.
 1. Apply joint tape over gypsum board joints and to trim accessories with concealed face flanges as recommended by trim accessory manufacturer and as required to prevent cracks from developing in joint compound at flange edges.
 2. Levels of Gypsum Board Finish: Provide the following levels of gypsum board finish per GA-214.
 - a. Level 1 for ceiling plenum areas, concealed areas, and where indicated, unless a higher level of finish is required for fire-resistive-rated assemblies and sound-rated assemblies.
 - b. Level 2 where water-resistant gypsum backing board panels form substrates for tile, and where indicated.
 - c. Level 4 for gypsum board surfaces unless otherwise indicated.

3. For level 4 gypsum board finish, embed tape in finishing compound plus two separate coats applied over joints, angles, fastener heads, and trim accessories.
4. Where level 2 gypsum board finish is indicated, apply joint specified for first coat in addition to embedding coat.
5. Where level 1 gypsum board finish is indicated, apply joint compound specified for embedding coat.
6. Finish water-resistant 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.

END OF SECTION 09255

SECTION 09300 - TILE**.1 General**

- A. ANSI Tile Standards: Comply with ANSI A13.1 Standard Specification for Ceramic Tile and ANSI 108 series of tile installation standards included under "American National Standard Specifications for the Installation of Ceramic Tile."
- B. TCA Installation Guidelines: TCA "Handbook for Ceramic Tile Installation"; comply with TCA installation methods indicated.
- C. Submittals: With manufacturer's product data and installation instructions for tile work, submit samples of each type, color, and texture of tile mounted on 12-inch-square backing with joints grouted.
 - 1. Provide manufacturer's Master Grade Certificate.

.2 Products

- A. Colors, Textures, and Patterns: For tile, grout, and other products requiring selection of colors, surface textures, patterns, and other appearance characteristics, comply with the following requirements:
 - 1. Provide selections made by Architect from manufacturer's full range of standard colors, textures, and patterns for products of type indicated.
- B. Sizes and Thicknesses: As indicated or, if not indicated, as selected by Architect from manufacturer's standard sizes and thicknesses.
- C. Tile Grade: "Standard Grade" unless otherwise indicated.
- D. Factory-Applied Temporary Protective Coating: Where indicated under tile type, protect exposed surfaces of tile against adherence of mortar and grout by precoating them with a continuous film of petroleum paraffin wax, applied hot. Do not coat unexposed tile surfaces.
- E. Porcelain Tile: Porcelain Tile as manufactured by Crossville or approved equal.
 - 1. Type: Crossville Veranda Stone – "Empire Series".
 - 2. Setting Method: Thin-set Installation.
 - 3. Size: 20"x20" Tile.
 - 4. Edge: Square.
 - 5. Colors:
 - a. Field Tile: As selected by Architect.
- F. Trim Shapes: Same material, size, color, and texture as field tile.
- G. Marble Thresholds: Group "A"; ASTM C 503, for exterior use with minimum hardness of 10.0 per ASTM C 241; white with honed finish unless otherwise indicated.
- H. Setting Materials: Provide setting materials as follows:
 - 1. Portland Cement Mortar: Materials complying with ANSI A 108.1 and as follows:

- a. Cleavage Membrane: Asphalt felt, ASTM D 226, Type I (No. 15); or polyethylene sheeting ASTM D 4397, 4.0 mils thick.
 - b. Reinforcing Wire Fabric: Galvanized welded wire fabric, 2 inches by 2 inches - WO.3 by WO.3 (16 ASW gage or 0.0625-inch diameter); comply with ASTM A 185 and ASTM A 82 except for minimum wire size.
 - c. Expanded Metal Lath: Provide diamond mesh lath complying with ASTM C 847 and the following:
 - 1) Base Metal and Finish for Interior Applications: Uncoated or zinc-coated (galvanized) steel sheet, with uncoated steel sheet painted after fabrication into lath.
 - 2) Weight: 3.4 psf.
 - d. Latex additive (water emulsion) as follows, replacing part or all of gauging water, specifically recommended by latex additive manufacturer for use with job-mixed portland cement and aggregate mortar bed.
 - 1) Latex Additive: Manufacturer's standard.
 - 2) Latex Additive: Styrene butadiene rubber.
 - 3) Latex Additive: Acrylic resin.
2. Epoxy Mortar: Epoxy Mortar as recommended by Quarry Tile Manufacturer for use at Kitchen.
- J. Grouting Materials: Provide grouting materials as follows:
1. Commercial Portland Cement Grout: ANSI A118.6.
 2. Epoxy Grout: Epoxy Grout as recommended by Quarry Tile Manufacturer for use at Kitchen.
- K. Elastomeric Sealants: Manufacturer's standard chemically curing, elastomeric sealants of base polymer indicated that comply with requirements of Division 7 Section "Joint Sealers" including ASTM C 920 as referenced by Type, Grade, Class, and Uses.
1. One-Part Mildew-Resistant Silicone Sealants: ASTM C 920, Type S, Grade NS, Class 25, Uses NT, G, A, and O (for use in joints in nontraffic areas).
 2. Multipart Urethane Sealants: ASTM C 920, Type M, Grade P, Class 25, Uses T, M, A and O (for use in joints subject to pedestrian traffic).
 3. Chemical-Resistant Sealants: For chemical-resistant floors, provide sealants compatible with chemical-resistant mortars and grouts, approved for use indicated by manufacturers of both mortar/grout and sealant and with chemical-resistance properties equivalent to mortar/grout.
- L. Cementitious Backer Units: Proprietary backing units with glass fiber mesh reinforcing and water-resistant coating on both faces, complying with the following requirements:
1. Cement-Coated Portland Cement Panels: High-density portland cement surface coating on both faces and lightweight concrete core composed of portland cement and expanded ceramic aggregate; fabricated in panels 7/16-inch thick by 36 inches wide, weighing 3.2 - 3.8 psf.
 2. Vinyl-Coated Portland Cement Panels: Core formed in a continuous process from aggregated portland cement slurry and reinforced with vinyl-coated woven glass fiber mesh embedded in both surfaces, with one face smooth and other textured; fabricated in panels 1/2-inch thick and by 36 inches wide, weighing 3 psf.
 3. Mortar Unit Finishing Materials: Tape and joint compounds as recommended by manufacturer of cementitious backer units.
- M. Miscellaneous Materials: Provide the following materials:

1. Metal Edge Strips: Stainless steel or zinc alloy, 1/8-inch wide at top edge.
2. Temporary Protective Coating: As follows, formulated to protect exposed surfaces of tile against adherence of mortar and grout, compatible with tile and mortar/grout products, and easily removable without damaging grout or tile.
 - a. Petroleum paraffin wax, fully refined, tasteless, odorless, containing at least 0.5 percent oil, with a melting point of 120 deg F (49 deg C) to 140 deg F (60 deg C) per ASTM D 87.
 - b. Grout release in form of manufacturer's standard proprietary liquid coating that is specially formulated and recommended for use as a temporary protective coating for tile.

3 Execution

- A. Field-Applied Temporary Protective Coating: Where indicated under or needed to prevent adhesion or staining of exposed tile surfaces by grout, precoat tile with a continuous film of temporary protective coating indicated below:
 1. Petroleum paraffin wax, applied hot.
 2. Grout release.
- B. At "wet areas," install cementitious backer units and treat joints to comply with manufacturer's instructions for type of application indicated.
- C. Installation: Comply with ANSI A108.1 and 108.4 through A108.10, as applicable for type of tile, setting materials, grout, and methods of installation indicated. Comply with manufacturer's instructions for application of proprietary materials.
- D. Joint Pattern: Use grid pattern with 1/16-inch-wide joints unless otherwise indicated.
- E. Expansion, Control, Contraction, and Isolation Joints: As indicated.
 1. Seal tile joints with elastomeric sealants to comply with Division 7 Section "Joint Sealers."
 2. Sealing tile joints is specified in Division 7 section "Joint Sealers."
- F. Edge Strips: Provide at exposed edge of tile meeting carpet, wood, or resilient flooring, unless otherwise indicated.
- G. Cleaning: Upon completion of placement and grouting, clean all ceramic tile surfaces so they are free of foreign matter.
 1. Remove latex-portland cement grout residue from tile as soon as possible.
 2. Unglazed tile may be cleaned with acid solutions only when permitted by tile and grout manufacturer's printed instructions but no sooner than 14 days after installation. Protect metal surfaces, cast iron, and vitreous plumbing fixtures from effects of acid cleaning. Flush surface with clean water before and after cleaning.
 3. Remove temporary protective coating, by method recommended by coating manufacturer that is acceptable to brick and grout manufacturer. Trap and remove coating to prevent it from clogging drains.
 - 4.

END OF SLV SECTION 09300

SECTION 09512 - ACOUSTICAL TILE CEILINGS

1.1 GENERAL

- A. Submittals: In addition to product data for each type of acoustical panel and suspension system required, submit the following:
1. Full-size samples of each tile type, pattern, and color required.
 2. Set of 12-inch- (300-mm-) long samples of concealed suspension system members.
 3. Set of 12-inch- (300-mm-) long samples of exposed moldings for each color and system type required.

1.2 PRODUCTS

- A. 2x2 Suspended Acoustical Tile & Grid: Designer Minatone No. 690 as manufactured by Armstrong World Industries or approved equal.
1. Size: 24"x24"x3/4" angled tegular lay-in.
 2. Suspension System: Prelude 15/16" Exposed Tee grid.
- B. Suspension System Attachment Devices: Size for 5 times the design load indicated in ASTM C 635, Table 1, Direct Hung unless otherwise indicated.
1. Powder-Actuated Fasteners in Concrete: Fastener system fabricated from corrosion-resistant materials, with clips or other accessory devices for attachment of hangers, and with capability to sustain, without failure, a load equal to 10 times that imposed by ceiling construction, as determined by testing per ASTM E 1190, conducted by a qualified testing agency.
- C. Wire Hangers, Braces, and Ties: Provide wires complying with the following requirements:
1. Zinc-Coated Carbon Steel Wire: ASTM A 641 (ASTM A 641M), Class 1 zinc coating, soft temper.
 2. Size: Select wire diameter so that its stress at 3 times the hanger design load (ASTM C 635, Table 1, Direct Hung) will be less than the yield stress of wire, but provide not less than 0.106-inch- (2.69-mm-) diameter wire.
- D. Sheet-Metal Edge Moldings and Trim: Type and profile indicated, or if not indicated, manufacturer's standard moldings for edges and penetrations that fit acoustical tile edge details and suspension systems indicated; formed from sheet metal of same material and finish as that used for exposed flanges of suspension system runners.

1.3 EXECUTION

- A. General: Install acoustical tile ceilings to comply with publications referenced below per manufacturer's instructions and CISCA "Ceiling Systems Handbook."
1. Standard for Ceiling Suspension System Installations: Comply with ASTM C 636.
 2. CISCA Recommendations for Acoustical Ceilings: Comply with CISCA "Recommendations for Direct-Hung Acoustical Tile and Lay-In Panel Ceilings."
 3. U.B.C. Standard for Ceiling Suspension Systems: U.B.C. Standard No. 47-18.

- B. Suspend ceiling hangers as follows:
1. Secure wire hangers to ceiling suspension members and to supports above. Connect hangers either directly to structures or to inserts, eye screws, or other devices that are secure, that are appropriate for substrate, and that will not deteriorate or otherwise fail due to age, corrosion, or elevated temperatures.
 2. Space hangers not more than 48 inches (1200 mm) o.c. along each member supported directly from hangers, unless otherwise shown; and provide hangers not more than 8 inches (200 mm) from ends of each member.
- C. Install edge moldings and trim of type indicated at perimeter of acoustical ceiling area and where necessary to conceal edges of acoustical tiles.
- D. Install suspension system runners so they are square and securely interlocked with one another. Remove and replace dented, bent, or kinked members.
- E. Install acoustical tiles in coordination with suspension system. Place splines or suspension system flanges into kerfed edges so that tile-to-tile joints are closed by double lap of material.
1. Fit adjoining tile to form flush, tight joints. Scribe and cut tile for accurate fit at borders and around penetrations through tile.
 2. Hold tile field in compression by inserting leaf-type, spring-steel spacers between tile and moldings, spaced at 12 inches (305 mm) o.c.

END OF SECTION 09512

SECTION 09678 - RESILIENT WALL BASE AND ACCESSORIES

1.1 GENERAL

- A. Submittals: In addition to product data submit the following.
 - 1. Samples in manufacturer's standard sizes, but not less than 12 inches long, of each different color and pattern of product specified.
 - 2. Maintenance data for products specified in this Section, to include in Operating and Maintenance Manual specified in Division 1.
- B. Extra Materials: Deliver to Owner not less than 10 linear feet for each 500 linear feet or fraction thereof, in roll form of each different material, style and color of resilient wall base installed.

1.2 PRODUCTS

- A. Vinyl Wall Base: Products complying with FS SS-W-40, Type II, provide products from one of the following:
 - 1. Roppe Group III, 700 Series Wall Base with standard toe, 4" ht. and 1/8" thk.
 - 2. Prior Approved Equal.
- B. Vinyl Accessories: Products complying with requirements specified in Vinyl Accessory Product Data Sheet at end of this Section.
- C. Concrete Slab Primer: Nonstaining type as recommended by flooring manufacturer.
- D. Trowelable Underlayments and Patching Compounds: Latex-modified, portland-cement-based formulation provided or approved by flooring manufacturer for applications indicated.
- E. Adhesives: Water-resistant type recommended by manufacturer to suit resilient flooring product and substrate conditions indicated.

1.3 EXECUTION

- A. Examine areas where installation of products specified in this Section will occur, with Installer present, to verify that substrates and conditions are satisfactory for installation and comply with manufacturer's requirements.
 - 1. Concrete Subfloors: Verify that concrete slabs comply with ASTM F 710 before beginning installation.
- B. Preparation: Comply with manufacturer's installation specifications to prepare substrates indicated to receive products specified in this Section.
- C. Installation: Install products specified in this Section using methods indicated according to manufacturer's installation directions.

1. Apply resilient wall base to walls, columns, pilasters, casework, and other permanent fixtures in rooms or areas where base is required. Install wall base in lengths as long as practicable.
 2. Tightly adhere wall base to substrate throughout length of each piece, with continuous contact of base with horizontal and vertical substrates.
 3. On masonry surfaces or other similar irregular substrates, fill voids along top edge of resilient wall base with manufacturer's recommended adhesive filler material.
 4. Form corners on job from straight pieces of maximum lengths possible.
 5. Place resilient accessories so they are butted to adjacent materials of type indicated and secure with adhesive. Install reducer strips at edges of flooring that otherwise would be exposed.
- D. Cleaning: Clean products specified in this Section after installation and 4 days prior to date scheduled for inspections intended to establish date of Substantial Completion. Apply protective polish according to resilient accessory manufacturer's directions.

END OF SECTION 09678

