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- D. Insect Screen: 18 x 16 size aluminum mesh.
- E. Fasteners and Anchors: Stainless steel.
- F. Flashings: Of same material as louver frame, formed to required shape, single length in one piece per location.
- G. Sealant for Setting Sills and Sill Flashing: Non-curing butyl type.
- PART 3 EXECUTION**
- 3.01 EXAMINATION**
- A. Verify that prepared openings are ready to receive this work and opening dimensions are as indicated on shop drawings.
- 3.02 INSTALLATION**
- A. Install louver assembly in accordance with manufacturer's instructions.
- B. Install louvers level and plumb.
- C. Set sill members and sill flashing in continuous bead of sealant.
- D. Install flashings and align louver assembly to ensure moisture shed from flashings and diversion of moisture to exterior.
- E. Secure louver frames in openings with concealed fasteners.
- 3.03 CLEANING**
- A. Strip protective finish coverings.
- B. Clean surfaces and components.

END OF SECTION

DIVISION 09 - FINISHES
SECTION 09216
GYPSUM BOARD ASSEMBLIES

- PART 1 GENERAL**
- 1.01 SECTION INCLUDES**
- A. Performance criteria for gypsum board assemblies.
- B. Metal stud wall framing.
- C. Metal channel ceiling framing.
- D. Acoustic insulation.
- E. Gypsum sheathing.
- F. Gypsum wallboard.
- G. Joint treatment and accessories.
- 1.02 REFERENCE STANDARDS**
- A. AISI S100 - North American Specification for the Design of Cold-Formed Steel Structural Members; 2016, with Supplement (2020).
- B. AISI S220 - North American Standard for Cold-Formed Steel Nonstructural Framing; 2020.
- C. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2025a.
- D. ASTM C475/C475M - Standard Specification for Joint Compound and Joint Tape for Finishing Gypsum Board; 2017 (Reapproved 2022).
- E. ASTM C685 - Standard Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing; 2023.
- F. ASTM C840 - Standard Specification for Application and Finishing of Gypsum Board; 2020.
- G. 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.
- H. 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.
- I. ASTM C1007 - Standard Specification for Installation of Load Bearing (Transverse and Axial) Steel Studs and Related Accessories; 2020.
- J. ASTM C1047 - Standard Specification for Accessories for Gypsum Wallboard and Gypsum Veneer Base; 2019.
- K. ASTM C1177/C1177M - Standard Specification for Glass Mat Gypsum Substrate for Use as Sheathing; 2017.
- L. ASTM C1178/C1178M - Standard Specification for Coated Glass Mat Water-Resistant Gypsum Backing Panel; 2018.
- M. ASTM C1280 - Standard Specification for Application of Exterior Gypsum Panel Products for Use as Sheathing; 2018.
- N. ASTM C1396/C1396M - Standard Specification for Gypsum Board; 2017.
- O. ASTM C1629/C1629M - Standard Classification for Abuse-Resistant Nondecorated Interior Gypsum Panel Products and Fiber-Reinforced Cement Panels; 2023.
- P. ASTM C1658/C1658M - Standard Specification for Glass Mat Gypsum Panels; 2019, with Editorial Revision (2020).
- Q. ASTM D3273 - Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber; 2021.
- R. ASTM E90 - Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements; 2023.
- S. ASTM E413 - Classification for Rating Sound Insulation; 2022.
- T. GA-216 - Application and Finishing of Gypsum Panel Products; 2021.
- 1.03 SUBMITTALS**
- A. Product Data:
1. Provide data on gypsum board, glass mat faced gypsum board, accessories, and joint finishing system.
2. Provide manufacturer's data on partition head to structure connectors, showing compliance with requirements.
- B. Shop Drawings: Include special details associated with fireproofing and acoustic seals. Submit control joint layout for walls and ceilings.
- 1.04 DELIVERY, STORAGE, AND HANDLING**
- A. Store gypsum products and accessories indoors and keep above freezing. Elevate boards above floor, on nonworking supports, in accordance with manufacturer's recommendations.
- B. Store metal products to prevent corrosion.
- PART 2 PRODUCTS**
- 2.01 GYPSUM BOARD ASSEMBLIES**
- A. Provide completed assemblies complying with ASTM C840 and GA-216.
- B. Interior Partitions, Indicated as Sound-Rated: Provide completed assemblies with the following characteristics:
1. Acoustic Attenuation: STC as indicated calculated in accordance with ASTM E413, based on tests conducted in accordance with ASTM E90.
- C. Fire-Resistance-Rated Assemblies: Provide completed assemblies with the following characteristics:
1. Meet requirements of tested, rated assemblies indicated on Drawings with hours of fire resistance indicated on Drawings.
- 2.02 METAL FRAMING MATERIALS**
- A. Nonstructural Steel Framing for Application of Gypsum Board: See Section 092216.
- B. Structural Steel Framing for Application of Gypsum Board: See Section 054000.
- C. Partition Head to Structure Connections: Provide mechanical anchorage devices that accommodate deflection and prevent rotation of studs while maintaining structural performance of partition.
1. Structural Performance: Maintain lateral load resistance and vertical movement capacity required by applicable code, when evaluated in accordance with AISI S100.
2. Material: ASTM A653/A653M steel sheet, SS Grade 50/340, with G60/Z180 hot-dipped galvanized coating.
3. Provide components UL-listed for use in UL-listed fire-resistance-rated head of partition joint systems indicated on drawings.
- D. Deflection and Firestop Track: Intumescent strip factory-applied to track flanges expands when exposed to heat or flames to provide a perimeter joint seal.
- 2.03 BOARD MATERIALS**
- A. Manufacturers - Gypsum-Based Board:
1. CertainTeed Corporation: www.certainteed.com/#file.
2. Georgia-Pacific Gypsum: www.gypgypsum.com/#file.
3. Gold Bond Building Products, LLC provided by National Gypsum Company: www.goldbondbuilding.com/#file.
4. USG Corporation: www.usg.com/#file.
5. Substitutions: See Section 016000 - Product Requirements.
- B. Gypsum Board for Walls and Ceilings:
1. Application: As indicated on drawings.
2. Surface Abrasion: Level 3, minimum, when tested in accordance with ASTM C1629/C1629M.
3. Indentation: Level 1, minimum, when tested in accordance with ASTM C1629/C1629M.
4. Soft Body Impact: Level 1, minimum, when tested in accordance with ASTM C1629/C1629M.
5. Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.
6. Glass Mat-Faced Type: Gypsum wallboard, as defined in ASTM C1658/C1658M.
7. Type: Fire-resistance-rated Type X, UL or WH listed.
8. Thickness: 5/8 inch (16 mm).
9. Edges: Tapered.
10. Glass Mat Faced Products:
- a. Basis of Design: Georgia-Pacific Gypsum; DensArmor Plus Abuse-Resistant: www.gypgypsum.com/#file.
- b. Substitutions: See Section 016000 - Product Requirements.
- C. Backing Board For Wet Areas:
1. Application: Surfaces behind tile in wet areas including shower ceilings and shower surrounds.
2. Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.
3. Glass Mat Faced Board: Coated glass mat water-resistant gypsum backing panel as defined in ASTM C1178/C1178M.
- a. Fire-Resistance-Rated Type: Type X core, thickness 5/8 inch (16 mm).
- D. 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 (13 mm).
3. Edges: Tapered.
- E. Exterior Sheathing Board: Sizes to minimize joints in place; ends square cut.
1. Application: Exterior sheathing, unless otherwise indicated.
2. Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.
3. Glass Mat Faced Sheathing: Glass mat faced gypsum substrate as defined in ASTM C1177/C1177M.
4. Core Type: Regular and Type X, as indicated.
5. Type X Thickness: 5/8 inch (16 mm).
6. Regular Board Thickness: 5/8 inch (16 mm).
7. Edges: Square.
8. Glass Mat Faced Products:
- a. CertainTeed Corporation; GlasRoc Type X Exterior Sheathing: www.certainteed.com/#file.
- b. Georgia-Pacific Gypsum; DensGlass Sheathing: www.gypgypsum.com/#file.
- c. Georgia-Pacific Gypsum; DensGlass Fireguard Sheathing: www.gypgypsum.com/#file.
- d. Gold Bond Building Products, LLC provided by National Gypsum Company; Gold Bond eXP Fire-Shield Sheathing: www.goldbondbuilding.com/#file.
- e. USG Corporation; Securock Brand UltraLight Glass-Mat Sheathing Firecode X 5/8 in. (15.9 mm): www.usg.com/#file.
- f. Substitutions: See Section 016000 - Product Requirements.
- 2.04 GYPSUM BOARD ACCESSORIES**
- A. Acoustic Insulation: ASTM C685; preformed mineral-fiber, friction fit type, unfaced; thickness as required for STC.
- B. Acoustic Sealant: Acrylic emulsion latex or water-based elastomeric sealant; do not use solvent-based non-curing butyl sealant.
- C. Water-Resistive Barrier: See Section 072500.
- D. Finishing Accessories: ASTM C1047, extruded aluminum alloy (6063 T5) or galvanized steel sheet ASTM A924/A924M G90, unless noted otherwise.
1. Types: As detailed or required for finished appearance.
2. Special Shapes: In addition to conventional corner bead and control joints, provide U-bead at exposed panel edges.
- E. 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.
- F. Joint Materials: ASTM C475/C475M and as recommended by gypsum board manufacturer for project conditions.
1. Fiberglass Tape: 2 inch (50 mm) wide, coated glass fiber tape for joints and corners, except as otherwise indicated.

2. Joint Compound: Setting type, field-mixed.
- G. Finishing Compound: Surface coat and primer, takes the place of skim coating.
- H. Screws for Fastening of Gypsum Panel Products to Cold-Formed Steel Studs Less than 0.033 inches (0.84 mm) in Thickness and Wood Members: ASTM C1002; self-piercing tapping screws, corrosion-resistant.
- I. Screws for Fastening of Gypsum Panel Products to Steel Members from 0.033 to 0.112 inch (0.84 to 2.84 mm) in Thickness: ASTM C954; steel drill screws, corrosion-resistant.
- J. Anchorage to Substrate: Tie wire, nails, screws, and other metal supports, of type and size to suit application; to rigidly secure materials in place.
- PART 3 EXECUTION**
- 3.01 EXAMINATION**
- A. Verify that project conditions are appropriate for work of this section to commence.
- 3.02 FRAMING INSTALLATION**
- A. Metal Framing: Install in accordance with ASTM C1007/AISI S220 and manufacturer's instructions.
- B. Suspended Ceilings and Soffits: Space framing and furring members as indicated.
1. Level ceiling system to a tolerance of 1/200.
2. Laterally brace entire suspension system.
- C. Studs: Space studs at 16 inches on center (at 406 mm 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.
3. Partitions Terminating at Structure: Attach top runner to structure, maintain clearance between top of studs and structure, and connect studs to track using specified mechanical devices in accordance with manufacturer's instructions; verify free movement of top of stud connections; do not leave studs unattached to track.
- D. Openings: Reinforce openings as required for weight of doors or operable panels, using not less than double studs at jambs.
- 3.03 ACOUSTIC ACCESSORIES INSTALLATION**
- A. 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.
- B. Sound Isolation Tape: Apply to vertical studs and top and bottom tracks/runners in accordance with manufacturer's instructions.
- C. Acoustic Sealant: Install in accordance with manufacturer's instructions.
1. Place continuous bead at perimeter of each layer of gypsum board.
2. Seal around all penetrations by conduit, pipe, ducts, and rough-in boxes, except where firestopping is provided.
- 3.04 BOARD INSTALLATION**
- A. Comply with ASTM C840, GA-216, and manufacturer's instructions. Install to minimize butt end joints, especially in highly visible locations.
- B. Single-Layer Nonrated: Install gypsum board in most economical direction, with ends and edges occurring over firm bearing.
- C. Double-Layer, Nonrated: Use gypsum board for first layer, placed parallel to framing or furring members, with ends and edges occurring over firm bearing. Use glass mat faced gypsum board at exterior walls and at other locations as indicated. Place second layer perpendicular to framing or furring members. Offset joints of second layer from joints of first layer.
- D. Fire-Resistance-Rated Construction: Install gypsum board in strict compliance with requirements of assembly listing.
- E. Exterior Sheathing: Comply with ASTM C1280. Install sheathing vertically, with edges butt tight and ends occurring over firm bearing.
1. Seal joints, cut edges, and holes with water-resistant sealant.
- F. Installation on Metal Framing: Use screws for attachment of gypsum board except face layer of nonrated double-layer assemblies, which may be installed by means of adhesive lamination.
- 3.05 INSTALLATION OF TRIM AND ACCESSORIES**
- A. Control Joints: Place control joints consistent with lines of building spaces and as indicated.
1. Not more than 30 feet (10 meters) apart on walls and ceilings over 50 feet (16 meters) long.
- B. Corner Beads: Install at external corners, using longest practical lengths.
- C. Edge Trim: Install at locations where gypsum board abuts dissimilar materials and as indicated.
- 3.06 JOINT TREATMENT**
- A. Glass Mat Faced Gypsum Board and Exterior Glass Mat Faced Sheathing: Use fiberglass joint tape, embed and finish with setting type joint compound.
- B. Finish gypsum board in accordance with levels defined in ASTM C840, as follows:
1. Level 5: Walls and ceilings to receive semi-gloss or gloss paint finish and other areas specifically indicated.
2. Level 4: Walls and ceilings to receive paint finish or wall coverings, unless otherwise indicated.
3. Level 2: In utility areas, behind cabinetry, and on backing board to receive tile finish.
4. Level 1: Fire-resistance-rated wall areas above finished ceilings, whether or not accessible in the completed construction.
- C. 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 cantber is maximum 1/32 inch (0.8 mm).
2. Taping, filling, and sanding are not required at base layer of double-layer applications.
- D. Where Level 5 finish is indicated, spray apply high build drywall surfacer over entire surface after joints have been properly treated; achieve a flat and tool mark-free finish.
- 3.07 TOLERANCES**
- A. Maximum Variation of Finished Gypsum Board Surface from True Flatness: 1/8 inch in 10 feet (3 mm in 3 m) in any direction.

END OF SECTION

SECTION 092400
CEMENT PLASTERING

- PART 1 GENERAL**
- 1.01 SECTION INCLUDES**
- A. Cement plastering.
- 1.02 REFERENCE STANDARDS**
- A. ASTM C91/C91M - Standard Specification for Masonry Cement; 2023.
- B. ASTM C150/C150M - Standard Specification for Portland Cement; 2022.
- C. ASTM C206 - Standard Specification for Finishing Hydrated Lime; 2014 (Reapproved 2022).
- D. ASTM C897 - Standard Specification for Aggregate for Job-Mixed Portland Cement-Based Plasters; 2015 (Reapproved 2020).
- E. ASTM C926 - Standard Specification for Application of Portland Cement-Based Plaster; 2023.
- F. ASTM C932 - Standard Specification for Surface-Applied Bonding Compounds for Exterior Plastering; 2006 (Reapproved 2024).
- G. ASTM C1063 - Standard Specification for Installation of Lathing and Furring to Receive Interior and Exterior Portland Cement-Based Plaster; 2023.
- 1.03 SUBMITTALS**
- A. Product Data: Provide data on plaster materials and trim accessories.
- B. Samples:
1. Submit two samples, 12 by 12 inch (305 by 305 mm) in size illustrating finish color and texture.
2. Submit two samples of each type trim accessory.
- C. Installer's Qualification Statement.
- 1.04 QUALITY ASSURANCE**
- A. Installer Qualifications: Company specializing in performing the work of this section with minimum three years documented experience.
- 1.05 MOCK-UPS**
- A. Construct mock-up of exterior wall, 10 feet (3.1 m) long by 10 feet (3.1 m) wide, illustrating surface finish.
1. Locate where directed.
2. Mock-up may remain as part of this work.
- 1.06 FIELD CONDITIONS**
- A. Exterior Plaster Work: Do not apply plaster when substrate or ambient air temperature is 40 degrees F (4 degrees C) or lower, or when temperature is expected to drop below 40 degrees F (4 degrees C) within 48 hours of application.
- PART 2 PRODUCTS**
- 2.01 MANUFACTURERS**
- A. Acceptable Systems:
1. Dryvit Systems, Inc.; Commercial Cement Plaster System 2.
2. Parex USA, Inc.; ArmcoWall Stucco Assembly.
3. Sengery/BASF Wall Systems; Sentry Stucco Wall System.
4. Basis of Design: Sto Corporation; Powerwall.
- 2.02 CEMENT PLASTER APPLICATIONS**
- A. Solid Plaster Base: Concrete masonry and concrete.
1. Plaster Type: Jobsite mixed plaster.
2. Number of Coats: Three.
3. First Coat: Apply to a nominal thickness of 1/4 inch (6 mm).
4. Second Coat: Apply to a nominal thickness of 1/4 inch (6 mm).
5. Finish Coat: Apply to a nominal thickness of 1/8 inch (3 mm).
6. Finish at Foam Bulk-outs: Acrylic.
7. Finish 2: Unless noted otherwise.
- a. Acrylic textured finish.
- b. Basis of Design: Sto Corporation; STOfit Freeform with small shells embedded.
- 2.03 JOBSITE MIXED CEMENT PLASTER**
- A. Materials:
1. Portland Cement: ASTM C150/C150M, Type I.
- a. Finish Coat: Gray color.
2. Masonry Cement: ASTM C91/C91M, Type N.
3. Lime: ASTM C206 Type S.
4. Sand: Clean, well graded, and complying with ASTM C897.
5. Water: Clean, fresh, potable, and free of mineral or organic matter that could adversely affect plaster.
- 2.04 FOAM INSULATION BUILD-OUTS**
- A. Insulation: Molded, rigid cellular expanded polystyrene board insulation complying with ASTM C 578, Type I; manufactured or approved by system manufacturer and meeting EIMA requirements. Insulation shall have air dried and aged for minimum six weeks prior to cutting into finished boards.
1. Density: 0.9 pcf (14.4 kg/cu. m), minimum.
2. Thermal Resistance: Aged "R" value, minimum 3.6 per inch (3.6 deg F x h x sq. ft./Btu at 75 deg F) (0.63 K x sq. m/W at 24 deg C).
3. Surface Burning Characteristics: Maximum 25 flame spread rating with smoke developed less than 450 when tested per ASTM E 84.
4. Compressive Strength at 10% deformation: 10 psi (69 kPa), minimum when tested per ASTM E D1621.
5. Water Vapor Transmission: 1.2 to 3.0 perm-inch when tested per ASTM E 96.
- Thickness: As indicated on drawings.
7. Special Shapes: Provide special shapes as required and as indicated on drawings.
- B. Reinforcing Fabric Mesh: System manufacturer's balanced, alkali-resistant open weave glass fiber fabric treated for compatibility with system materials; provide reinforcing mesh of weights specified.
1. Standard Reinforcing Mesh: Not less than 4.0 oz./sq. yd. (136 g/sq. m).
2. High-Impact Reinforcing Mesh: Not less than 15 oz./sq. yd. (509 g/sq. m).
3. Detail Reinforcing Mesh: Not less than 4 oz./sq. yd. (136 g/sq. m).
4. Corner Reinforcing Mesh: Not less than 7.2 oz./sq. yd. (244 g/sq. m).
- C. Adhesive: System manufacturer's one-component polymer-modified, cement-based high build type formulation designed for indicated use and compatible with stucco material.
- 2.05 ACCESSORIES**
- A. Finishing Accessories: ASTM C1063; rigid plastic, unless noted otherwise.
1. Types: As detailed or required for finished appearance.
2. Special Shapes: Reveals.
- a. Basis of Design: Fry Reglet Corporation.
- b. Profile: As indicated on Drawings.
3. Acceptable Manufacturers: subject to compliance with specified requirements.

- a. Alabama Metal Industries Corporation (AMICO).
- b. Plastic Components, Inc.
- c. Vinyl Corporation.
4. PVC Material: Extruded or molded from weather and ultraviolet resistant grade, lead free, 100-percent virgin polyvinyl chloride (PVC) compounds, formulated and tested for exterior use; meeting ASTM D 1784, cell classification 13244C and ASTM C 1063.
5. Vinyl Stucco Accessories:
- a. Weep Screeds: Foundation type with grounds having weep holes spaced at 3-inches on center, maximum, located in front portion of screed to direct drainage outward. Provide for locations at base of walls.
- b. Control Joints: One-piece, M-type, double-J configuration unperforated screeds with return lipped edges designed for key interlocking into stucco materials and with perforated flanges; provide with removable protective tape.
- c. Corner Beads: Small nose style with perforated flanges.
- d. Casing Beads: Square style with perforated flanges.
- e. Base Screeds, Trim and Similar Items: Manufacturer's standard design as required for Project conditions with grounds of height required to accommodate specified stucco thickness.
6. Fasteners for Attachment of Accessories: Non-corrosive nails or concrete/masonry screws of types and sizes as recommended by accessories manufacturer for substrates encountered.
7. Screws for attachment to masonry or concrete substrates shall be corrosion-resistant-coated passing Kesternich test chamber, DIN 50018 standard, with no indications of red rust or corrosion after minimum 30 wet and dry acidic atmosphere cycles and minimum 1000 hours salt spray testing per ASTM B 117 or type 410 stainless steel.
8. Nails for attachment to concrete or concrete masonry unit substrates shall be hot-dipped galvanized.
- B. Bonding Compound: Provide type recommended for bonding plaster to solid surfaces, complying with ASTM C932.

- PART 3 EXECUTION**
- 3.01 EXAMINATION**
- A. Verify existing conditions are acceptable prior to starting this work.
- B. Verify masonry joints are flush and surfaces are ready to receive work of this section, and that there are no existing bituminous or water repellent coatings on masonry surfaces.
- C. Verify concrete surfaces are flat, honeycombs are filled flush, and surfaces are ready to receive work of this section, and that there are no existing bituminous, water repellent, or form release agent coatings on concrete surfaces that may be detrimental to plaster bond.
- 3.02 PREPARATION**
- A. Dampen masonry surfaces to reduce excessive suction.
- B. Clean concrete surfaces of foreign matter using approved acid solutions, solvents, or detergents, and then rinse surfaces thoroughly with clean water.
- C. Roughen smooth concrete surfaces and apply bonding compound in accordance with manufacturer's written installation instructions.
- D. Apply dash bond coat of plaster to solid bases and moist cure for at least 24 hours before applying first coat of jobsite mixed plaster.
- 3.03 MIXING**
- A. Mix only as much plaster as can be used prior to initial set.
- B. Mix materials dry, to uniform color and consistency, before adding water.
- C. Protect mixtures from frost or freezing temperatures, contamination, and excessive evaporation.
- 3.04 STUCCO PLASTERING ACCESSORIES INSTALLATION**
- A. Comply with ASTM C 1063 and stucco system manufacturer's technical specifications for provision and location of plaster accessories of type indicated.
- B. Install accessories of type indicated at following locations:
1. External corners.
2. Internal corners.
3. Terminations of plaster.
- C. Control Joints: Install at locations indicated on Drawings or, if not indicated, at locations complying with the following criteria and approved by Architect:
- A. Apply plaster in accordance with manufacturer's written instructions and comply with ASTM C926.
- B. Base Coats:
1. Follow guidelines in ASTM C926 and manufacturer's written installation instructions for moist curing base coats and application of subsequent coats.
- C. Finish Coats:
1. Cement Plaster:
- a. Apply with sufficient material and pressure to ensure complete coverage of base to specified thickness.
- b. Apply desired surface texture while mix is still workable.
2. Primer and Acrylic Coatings:
- a. Remove surface contaminants such as dust and dirt without damaging substrate.
- b. Apply primer in accordance with manufacturer's instructions.
- c. Apply finish coating in number of coats and to thickness recommended by manufacturer.
- 3.06 TOLERANCES**
- A. Maximum Variation from True Flatness: 1/4 inch in 10 feet (6 mm in 3 m).
- 3.07 REPAIR**
- A. Patching: Remove loose, damaged or defective plaster and replace with plaster of same composition; finish to match surrounding area.

END OF SECTION

SECTION 093000
TILING

- PART 1 GENERAL**
- 1.01 SECTION INCLUDES**
- A. Tile for floor applications.
- B. Tile for wall applications.
- C. Cementitious backer board as tile substrate.
- 1.02 REFERENCE STANDARDS**
- A. ANSI A108.1a - American National Standard Specifications for Installation of Ceramic Tile in the Wet-Set Method, with Portland Cement Mortar; 2017 (Reaffirmed 2022).
- B. ANSI A108.1b - Installation of Ceramic Tile on a Cured Portland Cement Mortar Setting Bed with Dry-Set, Modified Dry-Set, or Improved Modified Dry-Set Cement Mortar; 2023.
- C. ANSI A108.1c - Contractor's Option: Installation of Ceramic Tile in the Wet-Set Method with Portland Cement Mortar or Installation of Ceramic Tile on a Cured Portland Cement Mortar Setting Bed with Dry-Set, Modified Dry-Set, or Improved Modified Dry-Set Cement Mortar; 2023.
- D. ANSI A108.2 - American National Standard General Requirements: Materials, Environmental and Workmanship; 2019.
- E. ANSI A108.4 - American National Standard Specifications for Installation of Ceramic Tile with Organic Adhesive or Water Cleanable Tile-Setting Epoxy Adhesive; 2023.
- F. ANSI A108.5 - Setting of Ceramic Tile with Dry-Set Cement Mortar, Modified Dry-Set Cement Mortar, EGP (Exterior Glue Plywood) Modified Dry-Set Cement Mortar, or Improved Modified Dry-Set Cement Mortar; 2023.
- G. ANSI A108.6 - American National Standard Specifications for Installation of Ceramic Tile with Chemical Resistant, Water Cleanable Tile-Setting and Grout Epoxy; 2023.
- H. ANSI A108.8 - American National Standard Specifications for Installation of Ceramic Tile with Chemical Resistant Furan Resin Mortar and Grout; 1999 (Reaffirmed 2024).
- I. ANSI A108.9 - American National Standard Specifications for Installation of Ceramic Tile with Modified Epoxy Emulsion Mortar/Grout; 2023.
- J. ANSI A108.10 - American National Standard Specifications for Installation of Grout in Tilework; 2017 (Reaffirmed 2022).
- K. ANSI A108.11 - American National Standard Specifications for Interior Installation of Cementitious Backer Units; 2018.
- L. ANSI A108.12 - Installation of Ceramic Tile with EGP (Exterior Glue Plywood) Modified Dry-Set Mortar; 2023.
- M. ANSI A108.13 - American National Standard for Installation of Load Bearing, Bonded, Waterproof Membranes for Thin-Set Ceramic Tile and Dimension Stone; 2005 (Reaffirmed 2021).
- N. ANSI A108.19 - American National Standard Specifications for Interior Installation of Gauged Porcelain Tiles and Gauged Porcelain Tile Panels/Slabs by the Thin-Bed Method Bonded with Modified Dry-Set Cement Mortar or Improved Modified Dry-Set Cement Mortar; 2020.
- O. ANSI A108.20 - American National Standard Specifications for Exterior Installation of Gauged Porcelain Tiles and Gauged Porcelain Tile Panels/Slabs; 2020.
- P. ANSI A108/A118/A136 - American National Standard Specifications for the Installation of Ceramic Tile (Compendium); 2019.
- Q. ANSI A118.7 - American National Standard Specifications for High Performance Cement Grouts for Tile Installation; 2019.
- R. ANSI A118.9 - American National Standard Specifications for Test Methods and Specifications for Cementitious Backer Units; 2019.
- S. ANSI A118.12 - American National Standard Specifications for Crack Isolation Membranes for Thin-Set Ceramic Tile and Dimension Stone Installation; 2014 (Reaffirmed 2021).
- T. ANSI A118.15 - American National Standard Specifications for Improved Modified Dry-Set Cement Mortar; 2019.
- U. ANSI A137.1 - American National Standard Specifications for Ceramic Tile; 2022.
- V. TCNA (HB) - Handbook for Ceramic, Glass, and Stone Tile Installation; 2023.
- 1.03 ADMINISTRATIVE REQUIREMENTS**
- A. Preinstallation Meeting: Convene a preinstallation meeting one week before starting work of this section; require attendance by affected installers.
- 1.04 SUBMITTALS**
- A. Product Data: Provide manufacturers' data sheets on tile, mortar, grout, and accessories. Include instructions for using grouts and adhesives.
- B. Shop Drawings: Indicate tile layout, patterns, perimeter conditions, junctions with dissimilar materials, control and expansion joints, and setting details.
- C. Samples: Mount tile and apply grout on two plywood panels, minimum 18 by 18 inches (457 by 457 mm) in size illustrating pattern, color variations, and grout joint size variations.
- D. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.
- E. Master Grade Certificate: Submit for each type of tile, signed by the tile manufacturer and tile installer.
- F. Installer's Qualification Statement:
1. Submit documentation of National Tile Contractors Association (NTCA) or Tile Contractors' Association of America (TCAA) accreditation.
2. Submit documentation of completion of apprenticeship and certification programs.
3. Submit documentation of National Stone Institute Accreditation.
- G. Maintenance Data: Include recommended cleaning methods, cleaning materials, and stain removal methods.
- H. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
1. Extra Tile (10 square feet (1 square meters) of each size, color, and surface finish combination.
- 1.05 QUALITY ASSURANCE**
- A. Maintain one copy of ANSI A108/A118/A136 and TCNA (HB) on site.
- B. Manufacturer Qualifications: Company specializing in manufacturing the types of products specified in this section, with minimum five years of documented experience.
- C. Installer Qualifications: Natural Stone Institute (NSI) Accredited Commercial B Contractor (light commercial); www.naturalstoneinstitute.org/#file.
- D. Installer Qualifications:
1. Company specializing in performing tile installation, with minimum of five years of documented experience.
- a. Accredited Five-Star member of the National Tile Contractors Association (NTCA) or Trowel of Excellence member of the Tile Contractors' Association of America (TCAA).
2. Installer Certification:
- a. Ceramic Tile Education Foundation (CTEF): Certified Tile Installer (CTI).
- b. Apprenticeship Program: Installer has achieved Journeyworker status through an apprenticeship with the International Union of Bricklayers and Allied Craftworkers (IUBAC) or a U.S. Department of Labor (DOL)-recognized program.

- c. Advanced Certifications for Tile Installers (ACT): Certification in the installation of membranes and grouts.
- d. International Masonry Training and Education Foundation (IMTEF): Supervisor Certification Program (SCP).
- 1.06 MOCK-UPS**
- A. Construct tile mock-up where indicated on drawings, incorporating all components specified for the location.
1. Minimum Size of Mock-Up: 5 ft (1524 mm) minimum by 1524 mm minimum, for each type of tile.
2. Demolish mock-up when directed by Architect, and remove debris from the site.
- 1.07 DELIVERY, STORAGE, AND HANDLING**
- A. Protect adhesives from freezing or overheating in accordance with manufacturer's instructions.
- 1.08 FIELD CONDITIONS**
- A. Do not install solvent-based products in an unventilated environment.
- B. Maintain ambient and substrate temperature above 50 degrees F (10 degrees C) and below 100 degrees F (38 degrees C) during installation and curing of setting materials.
- PART 2 PRODUCTS**
- 2.01 TILE**
- A. Manufacturers:
1. Basis of Design: As indicated on drawings.
2. Substitutions: See Section 016000 - Product Requirements.
- B. Glazed Wall Tile, Type As Indicated on Drawings: ANSI A137.1 standard grade.
1. Size: As indicated on drawings.
2. Color(s): As indicated on drawings.
3. Trim Units: Matching bullnose, cove, and base shapes in sizes coordinated with field tile.
- C. Porcelain Tile, Type As Indicated on Drawings: ANSI A137.1 standard grade.
1. Size: As indicated on drawings.
2. Thickness: As indicated on drawings.
3. Color(s): As indicated on drawings.
4. Trim Units: Matching bullnose, cove base, and cove shapes in sizes coordinated with field tile.
- 2.02 TRIM AND ACCESSORIES**
- A. Ceramic Trim: Matching bullnose, cove base, and cove ceramic shapes in sizes coordinated with field tile.
1. Applications:
- a. Open Edges: Bullnose.
- b. Inside Corners: Jointed.
- c. Floor to Wall Joints: Cove or straight base, as indicated on drawings.
2. Manufacturers: Same as for tile.
- B. Non-Ceramic Trim: Satin natural anodized extruded aluminum, style and dimensions as indicated on drawings, for setting using tile mortar or adhesive.
1. Applications:
- a. Open edges of wall tile.
- b. Wall corners, outside and inside.
- c. Expansion and control joint.
2. Manufacturers:
- a. Basis of Design: Profitlite: www.profitlite.com.
- b. Schluter-Systems: www.schluter.com/#file.
- c. Substitutions: See Section 016000 - Product Requirements.
- 2.03 SETTING MATERIALS**
- A. Provide setting and grout materials from same manufacturer.
- B. Manufacturers:
1. ARDEX Engineered Cements: www.ardexamericas.com/#file.
2. Custom Building Products: www.custombuildingproducts.com/#file.
3. LATICRETE International, Inc.: www.laticrete.com/#file.
4. Substitutions: See Section 016000 - Product Requirements.
- C. Improved Latex-Portland Cement Mortar Bond Coat: ANSI A118.15.
1. Applications: Use this type of bond coat where indicated, and where no other type of bond coat is indicated.
2. Products:
- a. ARDEX Engineered Cements; S 28: www.ardexamericas.com/#file.
- b. Custom Building Products; Prism Color Consistent Grout: www.custombuildingproducts.com/#file.
- c. LATICRETE International, Inc. MULTIMAX LITE: www.laticrete.com/#file.
- d. Substitutions: See Section 016000 - Product Requirements.
- 2.04 GROUTS**
- A. Provide setting and grout materials from same manufacturer.
- B. Manufacturers:
1. ARDEX Engineered Cements: www.ardexamericas.com/#file.
2. Custom Building Products: www.custombuildingproducts.com/#file.
3. LATICRETE International, Inc.: www.laticrete.com/#file.
4. Substitutions: See Section 016000 - Product Requirements.
- C. High Performance Polymer Modified Grout: ANSI A118.7 polymer modified cement grout.
1. Applications: Use this type of grout where indicated and where no other type of grout is indicated.
2. Use unsanded grout for joints 1/8 inch (3.2 mm) wide and larger; use unsanded grout for joints less than 1/8 inch (3.2 mm) wide.
3. Color(s): As indicated on drawings.
4. Products:
- a. ARDEX Engineered Cements; ARDEX FL: www.ardexamericas.com/#file.
- b. Custom Building Products; Prism Color Consistent Grout: www.custombuildingproducts.com/#file.
- c. LATICRETE International, Inc. LATICRETE PERMACOLOR Grout: www.laticrete.com/#file.
- d. Substitutions: See Section 016000 - Product Requirements.
- 2.05 MAINTENANCE MATERIALS**
- A. Tile Sealant: Gummable, silicone, siliconized acrylic, or urethane sealant; moisture and mildew resistant type.
1. Applications: Between tile and plumbing fixtures.
2. Color(s): As selected by Architect from manufacturer's full line.
3. Products:
- a. ARDEX Engineered Cements; ARDEX SX: www.ardexamericas.com/#file.
- b. Custom Building Products; Commercial 100% Silicone Caulk: www.custombuildingproducts.com/#file.
- c. LATICRETE International, Inc. LATICRETE LATASIL: www.laticrete.com/#file.
- d. Substitutions: See Section 016000 - Product Requirements.
- B. Grout Sealer: Liquid-applied, moisture and stain protection for existing or new Portland cement grout.
1. Composition: Water-based, colorless silicone.
2. Color(s): As selected by Architect from manufacturer's full line.
- C. Grout Release: Temporary, water-soluble pre-grout coating.
1. Products:
- a. Custom Building Products; Aqua Mix Grout Release: www.custombuildingproducts.com/#file.
- b. Substitutions: See Section 016000 - Product Requirements.
- 2.06 ACCESSORY MATERIALS**
- A. Concrete Floor Slab Crack Isolation Membrane: Material complying with ANSI A118.12; not intended as waterproofing.
1. Crack Resistance: No failure at 1/8 inch (3.2 mm) gap, minimum.
2. Fluid or Trowel Applied Type:
- a. Material: Synthetic rubber or acrylic.
- b. Thickness: 20 mils (0.5 mm), maximum.
3. Products:
- 1) LATICRETE International, Inc. LATICRETE Blue 92 Anti-Fracture Membrane: www.laticrete.com/#file.
- 2) Substitutions: See Section 016000 - Product Requirements.
- B. Backer Board: Cementitious type complying with ANSI A118.9; high density, glass fiber reinforced, 7/16 inch (11 mm) thick; 2 inch (51 mm) wide coated glass fiber tape for joints and corners.
1. Products:
- a. Custom Building Products; WonderBoard Lite Backerboard: www.custombuildingproducts.com/#file.
- b. Substitutions: See Section 016000 - Product Requirements.
- PART 3 EXECUTION**
- 3.01 EXAMINATION**
- A. Verify that wall surfaces are smooth and flat within the tolerances specified for that type of work, are dust-free, and are ready to receive tile.
- B. Cementitious Subfloor Surfaces: Verify that substrates are ready for tiling installation by testing