SECTION 092300 - GYPSUM PLASTERING

Revise this Section by deleting and inserting text to meet Project-specific requirements.

Verify that Section titles referenced in this Section are correct for this Project's Specifications; Section titles may have changed.

1. GENERAL
	* + 1. RELATED DOCUMENTS
				1. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
			2. SUMMARY
				1. Section Includes:

Gypsum plastering on expanded-metal lath.

Gypsum plastering on unit masonry.

Gypsum plastering on monolithic concrete.

* + - * 1. Related Requirements:

Retain subparagraph below to cross-reference requirements Contractor might expect to find in this Section but are specified in other Sections.

Section 092613 "Gypsum Veneer Plastering" for gypsum-based veneer plaster applied on gypsum base for veneer plaster, unit masonry, and monolithic concrete.

* + - 1. SUBMITTALS
				1. Submittals for this section are subject to the re-evaluation fee identified in Article 4 of the General Conditions.
				2. Manufacturer’s installation instructions shall be provided along with product data.
				3. Submittals shall be provided in the order in which they are specified and tabbed (for combined submittals).
				4. Product Data: For each type of product.
				5. Sustainable Design Submittals:

Retain "Shop Drawings" paragraph below if Drawings do not show locations and details of control and expansion joints.

* + - * 1. Shop Drawings: Show locations and installation of control and expansion joints, including plans, elevations, sections, details of components, and attachments to other work.
			1. QUALITY ASSURANCE

In-place float, sprayed, and textured finishes vary; requiring a mockup is recommended.

Benchmarks: Build benchmarks to demonstrate aesthetic effects and to set quality standards for materials and execution.

If plaster has integral color or a special mockup requirement, revise first subparagraph below.

Build benchmarks for each substrate and finish texture indicated for gypsum plastering, including accessories.

Size: [**100 sq. ft.**] <**Insert dimension**> in surface area.

Simulate finished lighting conditions for review of benchmarks.

Approval of benchmarks does not constitute approval of deviations from the Contract Documents contained in benchmarks unless Director’s Representative specifically approves such deviations in writing.

* + - 1. DELIVERY, STORAGE, AND HANDLING
				1. Store materials inside under cover, and keep them dry and protected against damage from weather, moisture, direct sunlight, contamination, corrosion, construction traffic, and other causes.
			2. FIELD CONDITIONS
				1. Comply with ASTM C842 requirements or gypsum plaster manufacturer's written recommendations, whichever are more stringent.
				2. Room Temperatures: Maintain temperatures at not less than 55 deg F or greater than 80 deg F for at least seven days before application of gypsum plaster, continuously during application, and for seven days after plaster has set or until plaster has dried.
				3. Avoid conditions that result in gypsum plaster drying out too quickly.

Distribute heat evenly; prevent concentrated or uneven heat on plaster.

Maintain relative humidity levels for prevailing ambient temperature that produce normal drying conditions.

Ventilate building spaces in a manner that prevents drafts of air from contacting surfaces during plaster application and until plaster is dry.

1. PRODUCTS
	* + 1. PERFORMANCE REQUIREMENTS

Retain "Fire-Resistance Ratings" paragraph below if gypsum plastering is part of a fire-resistance-rated assembly. Indicate rating, testing agency, and testing agency's design designations on Drawings. Revise paragraph if fire-resistance rating is determined by prescriptive assemblies or calculation methods allowed by applicable codes.

* + - * 1. Fire-Resistance Ratings: Where indicated, provide gypsum plaster assemblies identical to those of assemblies tested for fire resistance according to ASTM E119 by a qualified testing agency.

Retain "Sound-Transmission Characteristics" paragraph below for STC-rated assemblies. Indicate design designations of specific assemblies on Drawings.

* + - * 1. Sound-Transmission Characteristics: Where indicated, provide gypsum plaster assemblies identical to those of assemblies tested for STC ratings according to ASTM E90 and classified according to ASTM E413 by a qualified testing agency.
			1. EXPANDED-METAL LATH
				1. Expanded-Metal Lath: ASTM C847, cold-rolled carbon-steel sheet with ASTM A653, G60, hot-dip galvanized-zinc coating.

Retain "Paper Backing" subparagraph below if required. Kraft-paper-backed lath is used to reduce plaster "push-through" or "blow-through" waste. Asphalt-saturated and -laminated paper backings are also available but are typically used only for exterior applications with cement plaster. Verify, with manufacturers, that paper backing is available for lath configurations retained below.

Paper Backing: Kraft paper factory bonded to back of lath.

Coordinate lath selections with framing spacing, requirements detailed on Drawings, and installation requirements. See "Expanded-Metal Lath" Article in the Evaluations.

Diamond-Mesh Lath:

Type: [**Flat**] [**Self-furring**].

Weight: [**2.5 lb/sq. yd.**] [**3.4 lb/sq. yd.**].

Flat-rib lath is more rigid than diamond lath. It is unsuitable for contour lathing.

Flat-Rib Lath: Rib depth of not more than 1/8 inch, [**2.75 lb/sq. yd.**] [**3.4 lb/sq. yd.**].

3/8-inch rib lath is often used for studless solid-plaster partitions. If studless solid-plaster partitions are required, specify top and bottom L-runners that support lath in Section 092216 "Non-Structural Metal Framing."

3/8-Inch Rib Lath: [**3.4 lb/sq. yd.**] [**4 lb/sq. yd.**].

If gypsum lath or wire lath is required, insert articles here.

* + - 1. ACCESSORIES
				1. General: Comply with ASTM C841, and coordinate depth of trim and accessories with thicknesses and number of plaster coats required.

If retaining requirements for trims, such as cornerbeads and casing beads that are fabricated from more than one material, indicate locations of each on Drawings.

* + - * 1. Metal Accessories:

Retain "Cornerite" subparagraph below for reinforcing plaster at internal angles of plaster on solid bases and for restrained construction using expanded-metal lath (that is not otherwise lapped); see "Accessories" Article in the Evaluations.

Cornerite: Fabricated from expanded-metal lath with ASTM A653, G60, hot-dip galvanized-zinc coating.

Retain "Striplath" subparagraph below for reinforcing plaster over joints in nonmetallic bases and between dissimilar plaster bases. Striplath also can be applied diagonally to reinforce plaster at corners of door and window openings and other areas of concentrated stress. See "Accessories" Article in the Evaluations.

Striplath: Fabricated from expanded-metal lath with ASTM A653, G60, hot-dip galvanized-zinc coating.

Delete "Cornerbeads," "Casing Beads," "Control Joints," "Expansion Joints," and "Two-Piece Expansion Joints" subparagraphs below if only plastic or aluminum trim is required.

Cornerbeads: Fabricated from [**zinc**] [**or**] [**zinc-coated (galvanized) steel**].

Retain applicable descriptions of cornerbeads in first four subparagraphs below. If more than one type is required and locations do not fit descriptions below, indicate locations on Drawings or by inserting requirements.

Smallnose cornerbead with expanded flanges; use unless otherwise indicated.

Smallnose cornerbead with perforated flanges; use on curved corners.

Smallnose cornerbead with expanded flanges reinforced by perforated stiffening rib; use on columns and for finishing unit masonry corners.

Bullnose cornerbead, radius 3/4-inch minimum, with expanded flanges; use at locations indicated on Drawings.

Casing Beads: Fabricated from [**zinc**] [**or**] [**zinc-coated (galvanized) steel**]; square-edged style; with expanded flanges.

Control Joints: Fabricated from [**zinc**] [**or**] [**zinc-coated (galvanized) steel**]; one-piece-type, folded pair of unperforated screeds in M-shaped configuration; with perforated flanges and removable protective tape on plaster face of control joint.

Expansion Joints: Fabricated from [**zinc**] [**or**] [**zinc-coated (galvanized) steel**]; folded pair of unperforated screeds in M-shaped configuration; with expanded flanges.

Two-Piece Expansion Joints: Fabricated from [**zinc**] [**or**] [**zinc-coated (galvanized) steel**]; formed to produce slip-joint and square-edged reveal that is adjustable from 1/4 to 5/8 inch wide; with perforated flanges.

* + - * 1. Plastic Accessories: Manufactured from high-impact PVC.

Cornerbeads: With perforated flanges.

Retain applicable descriptions of cornerbeads in first two subparagraphs below. If more than one type is required and locations do not fit descriptions below, indicate locations on Drawings or by inserting requirements.

Smallnose cornerbead is recommended by manufacturers for use where a durable corner is required; use on columns and for finishing unit masonry corners.

Smallnose cornerbead; use unless otherwise indicated.

Bullnose cornerbead, radius 3/4-inch minimum; use at locations indicated on Drawings.

Casing Beads: With perforated flanges in depth required to suit plaster bases indicated and flange length required to suit applications indicated.

Square-edge style; use unless otherwise indicated.

Bullnose style, radius 3/4-inch minimum; use at locations indicated on Drawings.

Control Joints: One-piece-type, folded pair of unperforated screeds in M-shaped configuration; with perforated flanges and removable protective tape on plaster face of control joint.

Expansion Joints: Two-piece type, formed to produce slip-joint and square-edged [**1/2-inch**] [**1-inch**] [**1-1/2-inch**] <**Insert dimension**> wide reveal; with perforated concealed flanges.

If applicable, insert requirements for channel reveals, shadow reveals, vented shadow reveals, etc.

* + - * 1. Aluminum Trim: Extruded accessories of profiles and dimensions indicated on Drawings.

Aluminum: Alloy and temper with not less than the strength and durability properties of ASTM B221, Alloy 6063-T5.

Retain first option in "Finish" subparagraph below for mill-finish aluminum. Retain second option if using conversion-coated aluminum, commonly used for field-applied paint finishes.

Finish: [**Mill**] [**Chemical-conversion coating, ASTM D1730, Type B, compatible with field-applied finish coatings specified**] <**Insert requirements for anodic or other factory-applied coatings**>.

* + - 1. MISCELLANEOUS MATERIALS

Water containing salt, alum, or plaster residue accelerates plaster set and may cause efflorescence. Water containing organic or vegetable matter may retard plaster set, cause staining, and interfere with plaster bond.

* + - * 1. Water for Mixing and Finishing Plaster: Potable and free of substances capable of affecting plaster set or of damaging plaster, lath, or accessories.

Retain bonding compound in "Bonding Compound" paragraph below if plaster is adhered to structurally sound interior unit masonry or monolithic concrete.

* + - * 1. Bonding Compound: ASTM C631.
				2. Fasteners for Attaching Metal Lath to Substrates: ASTM C841.

Generally retain "Wire" paragraph below. Wire, in various diameters, is used for tying expanded-metal lath to framing and supports.

* + - * 1. Wire: ASTM A641, Class 1 zinc coating, soft temper, not less than 0.0475-inch diameter unless otherwise indicated.
				2. Sound-Attenuation Blankets: ASTM C665, Type I (blankets without membrane facing), produced by combining thermosetting resins with mineral fibers manufactured from glass, slag wool, or rock wool.

Fire-Resistance-Rated Assemblies: Comply with mineral-fiber requirements of rated assembly.

* + - * 1. Mix Additives: Use gypsum plaster accelerators and retarders from plaster manufacturer if required by Project conditions. Use only additives that manufacturer recommends in writing for use with plaster to which it is added.
			1. BASE-COAT PLASTER MATERIALS

Verify availability of products retained in this article in Project area.

* + - * 1. Lightweight-Gypsum Ready-Mixed Plaster: ASTM C28, with mill-mixed perlite aggregate.
				2. Gypsum Neat Plaster: ASTM C28, for use with job-mixed aggregates.
				3. Gypsum Wood-Fibered Plaster: ASTM C28, for use as is or with the addition of job-mixed sand in up to equal proportions by weight.
				4. High-Strength Gypsum Neat Plaster: ASTM C28, with a minimum, average, dry compressive strength of 2800 psi according to ASTM C472 for a mix of 100 lb of plaster and 2 cu. ft. of sand.
				5. Aggregates for Base-Coat Plasters: ASTM C35, [**sand**] [**and**] [**perlite**].
			1. FINISH-COAT PLASTER MATERIALS

Verify availability of products retained in this article in Project area.

* + - * 1. Gypsum Gaging Plaster: ASTM C28.
				2. Gypsum Ready-Mixed Finish Plaster: Manufacturer's standard, mill-mixed, gaged, interior finish.
				3. High-Strength Gypsum Gaging Plaster: ASTM C28, with a minimum, average, dry compressive strength of 5000 psi according to ASTM C472 for a neat mix.
				4. Gypsum Keene's Cement: ASTM C61.
				5. Lime: ASTM C206, Type S, special finishing hydrated lime.
				6. Lime: ASTM C206, Type N, normal finishing hydrated lime.

Retain "Aggregates for Float Finishes" paragraph below for float finishes. Perlite aggregates in second option below is used over base coats containing perlite.

* + - * 1. Aggregates for Float Finishes: ASTM C35, [**sand**] [**perlite**]; graded according to ASTM C842.

If applicable, insert requirements for plaster colorants here; consult manufacturers for recommendations.

* + - 1. PLASTER MIXES
				1. Mixing: Comply with ASTM C842 and manufacturer's written instructions for applications indicated.
				2. Mix Additives: Use accelerators and retarders, if required by Project conditions, according to manufacturer's written instructions.
1. EXECUTION
	* + 1. EXAMINATION
				1. Examine substrates and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
				2. Proceed with installation only after unsatisfactory conditions have been corrected.
			2. PREPARATION
				1. Protect adjacent work from soiling, spattering, moisture deterioration, and other harmful effects caused by plastering.
			3. INSTALLATION, GENERAL

Revise "Fire-Resistance-Rated Assemblies" paragraph below if fire-resistance rating is determined by prescriptive assemblies or calculation methods allowed by applicable codes.

* + - * 1. Fire-Resistance-Rated Assemblies: Install components according to requirements for design designations from listing organization and publication indicated on Drawings.
				2. STC-Rated Assemblies: Install components according to requirements for design designations from listing organization and publication indicated on Drawings.

Revise "Sound-Attenuation Blankets" and "Acoustical Sealant" paragraphs below to suit Project. If sound-attenuation blankets and acoustical sealant are required in assemblies other than STC-rated assemblies, show locations on Drawings.

* + - * 1. Sound-Attenuation Blankets: Where required, install blankets before installing lath unless blankets are readily installed after lath has been installed on one side.
				2. Acoustical Sealant: Where required, seal joints between edges of plasterwork and abutting construction with acoustical sealant.
			1. INSTALLING EXPANDED-METAL LATH
				1. Expanded-Metal Lath: Install according to ASTM C841.

Retain appropriate lath for each location indicated in six subparagraphs below, or delete subparagraphs if only one type of lath is required or if locations of each type of lath are shown on Drawings. See "Expanded-Metal Lath" Article in the Evaluations.

Partition Framing and Vertical Furring: Install [**flat-diamond-mesh**] [**flat-rib**] lath.

Flat-Ceiling and Horizontal Framing: Install [**flat-diamond-mesh**] [**flat-rib**] lath.

Diamond-mesh lath requires closely spaced supports when used on ceilings.

Curved-Ceiling Framing: Install flat-diamond-mesh lath.

On Solid Surfaces, Not Otherwise Furred: Install self-furring, diamond-mesh lath.

Specify channel studs, if any, and top and bottom L-runners that support metal lath in solid-plaster partitions in Section 092216 "Non-Structural Metal Framing."

Solid-Plaster Partitions: Where supported by channel studs and L-runners, install [**flat-rib**] [**flat-diamond-mesh**] lath.

Studless Solid-Plaster Partitions: Where supported by L-runners, install 3/8-inch rib lath.

* + - 1. INSTALLING ACCESSORIES
				1. General: Install according to ASTM C841.
				2. Cornerbeads: Install at external corners.
				3. Casing Beads: Install at terminations of plasterwork, except where plaster passes behind and is concealed by other work and where metal screeds, bases, or frames act as casing beads.

Retain "Control Joints" paragraph below if control joint locations are not detailed on Drawings.

* + - * 1. Control Joints: Locate as approved by Director’s Representative for visual effect, with spacing between joints in either direction not exceeding the following:

Partitions: 30 feet.

Retain second option in "Ceilings" subparagraph below if ceilings are not isolated from partition construction at perimeters.

Ceilings: [**50 feet** ] [**30 feet** ].

* + - * 1. Aluminum Trim: Install according to manufacturer's written instructions.
			1. PLASTER APPLICATION
				1. General: Comply with ASTM C842.

Do not deviate more than plus or minus 1/8 inch in 10 feet from a true plane in finished plaster surfaces when measured by a 10-foot straightedge placed on surface.

Finish plaster flush with metal frames and other built-in metal items or accessories that act as a plaster ground unless otherwise indicated. Where casing bead does not terminate plaster at metal frame, cut base coat free from metal frame before plaster sets and groove finish coat at junctures with metal.

Provide plaster surfaces that are ready to receive field-applied finishes indicated.

* + - * 1. Bonding Compound: Apply on [**unit masonry**] [**and**] [**concrete**] substrates for direct application of plaster.
				2. Base-Coat Plaster:

Over Expanded-Metal Lath:

Scratch Coat: [**Gypsum neat plaster with job-mixed sand**] [**Gypsum wood-fibered plaster; neat or with job-mixed sand**] [**High-strength gypsum neat plaster with job-mixed sand**] <**Insert requirements**>.

Brown Coat: [**Lightweight-gypsum ready-mixed plaster**] [**Gypsum neat plaster with job-mixed sand**] [**Gypsum neat plaster with job-mixed perlite**] [**Gypsum wood-fibered plaster with job-mixed sand**] [**High-strength gypsum neat plaster with job-mixed sand**] <**Insert requirements**>.

Over Unit Masonry: [**Lightweight-gypsum ready-mixed plaster**] [**Wood-fibered gypsum plaster with job-mixed sand**] [**Gypsum neat plaster with job-mixed sand**] <**Insert requirements**>.

Over Monolithic Concrete: [**Gypsum neat plaster with job-mixed sand**] <**Insert requirements**>.

* + - * 1. Finish Coats:

Gypsum ready-mixed finish plaster is suitable for use only with sanded base coats. High-strength gypsum gaging plaster is unsuitable for use with lightweight-aggregate base coats. Decreasing the proportion of lime in the mix produces a harder, more durable surface but reduces coverage and workability.

Smooth-Troweled Finishes:

Materials: [**Gypsum gaging plaster and lime putty**] [**Gypsum ready-mixed finish plaster**] [**High-strength gypsum gaging plaster and lime putty**] [**Gypsum Keene's cement and lime putty**] <**Insert requirements**>.

Locations: Provide smooth-troweled finish [**unless otherwise indicated**] [**where indicated**] <**Insert locations**>.

Float Finishes:

Materials: [**Gypsum gaging plaster and lime putty**] [**Gypsum Keene's cement and lime putty**] <**Insert requirements**>.

Locations: Provide float finish [**unless otherwise indicated**] [**where indicated**] <**Insert locations**>.

Sprayed Finishes: [**Match Approved sample**] <**Insert requirements**>.

Materials: [**Gypsum ready-mixed finish plaster**] <**Insert requirements**>.

Locations: Provide sprayed finish [**unless otherwise indicated**] [**where indicated**] <**Insert locations**>.

Textured Finishes: [**Match Approved sample**] <**Insert requirements**>.

Materials: [**Gypsum ready-mixed finish plaster**] <**Insert requirements**>.

Locations: Provide textured finish [**unless otherwise indicated**] [**where indicated**] <**Insert locations**>.

* + - * 1. Concealed Plaster:

Where plaster application is concealed behind built-in cabinets, similar furnishings, and equipment, apply finish coat.

Where plaster application is concealed above suspended ceilings and in similar locations, omit finish coat.

Where plaster application is used as a base for adhesive application of tile and similar finishes, omit finish coat.

* + - 1. PLASTER REPAIRS
				1. Repair or replace work to eliminate cracks, dents, blisters, buckles, crazing and check cracking, dry outs, efflorescence, sweat outs, and similar defects and where bond to substrate has failed.
			2. CLEANING AND PROTECTION
				1. Remove temporary protection and enclosure of other work after plastering is complete. Promptly remove plaster from door frames, windows, and other surfaces not indicated to be plastered. Repair floors, walls, and other surfaces stained, marred, or otherwise damaged during plastering.

END OF SECTION 092300