SECTION 092713 - GLASS-FIBER-REINFORCED GYPSUM FABRICATIONS

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 factory-fabricated, glass-fiber-reinforced gypsum fabrications for interior applications.
			3. SUBMITTALS
				1. Submittals for this section are subject to the re-evaluation fee identified in Article 4 of the General Condition.
				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.

Include construction details, material descriptions, weights, dimensions of individual components and profiles, and finishes.

* + - * 1. Sustainable Design Submittals:
				2. Shop Drawings:

Structural analysis by a Professional Engineer may be required for large or complex fabrications. Insert engineering requirements to suit Project.

Retain option in subparagraph below for glass-fiber-reinforced gypsum fabrications suspended from building structure with wire.

Include plans, elevations, sections, and attachment details[**, including locations of attachments for fabrications suspended by tie wires from structure**].

Detail fabrication and assembly of glass-fiber-reinforced gypsum fabrications.

Indicate requirements for joint treatment.

Retain subparagraph below if project requires units that are fabricated with control joints.

Indicate location of control joints.

* + - * 1. Samples: For each exposed product and for each color and texture specified.

Linear Moldings: 24-inch long section with finished joint. Show complete pattern.

Nonlinear Shapes: [**Full-size unit**] <**Insert requirements**>.

Retain "Coordination Drawings" paragraph below for situations where glass-fiber-reinforced gypsum fabrications are mounted on the ceiling, and where limited space necessitates maximum utilization for efficient installation of different components or if coordination is required for installation of products and materials by separate installers. Coordinate paragraph with other Sections specifying products listed below. Preparation of coordination drawings requires the participation of each trade involved in installations within the limited space.

* + - * 1. Coordination Drawings: Reflected ceiling plans, drawn to scale, on which the following items are shown and coordinated with one another, using input from installers of the items involved:

Revise subparagraphs below to suit Project.

Ceiling suspension system members.

Structural members to which glass-fiber-reinforced gypsum fabrications will be attached and method of attachment.

Items penetrating finished ceiling including the following:

Lighting fixtures.

Air outlets and inlets.

Speakers.

Sprinklers.

Access panels.

<**Insert item**>.

Perimeter moldings.

* + - 1. QUALITY ASSURANCE

Mockups may be required on large or complex projects, especially with repetitive shapes.

* + - * 1. Mockups: Build mockups to set quality standards for fabrication and installation.

Build mockup of each type of glass-fiber-reinforced gypsum fabrication.

Paint mockups to match finish indicated and to comply with requirements specified in Section 099123 "Interior Painting."

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

* + - 1. DELIVERY, STORAGE, AND HANDLING
				1. Comply with ASTM C1467.
			2. FIELD CONDITIONS
				1. Environmental Conditions:

Comply with ASTM C1467.

Do not deliver or install glass-fiber-reinforced gypsum fabrications until building is enclosed, wet-work is complete, and HVAC system is operating and continuously maintaining temperature and relative humidity at levels intended for building occupants.

* + - * 1. Conditioning: Acclimatize glass-fiber-reinforced gypsum fabrications to ambient temperature and humidity of spaces in which they will be installed. Remove packaging and move units into installation spaces not less than 48 hours before installing them.
1. PRODUCTS
	* + 1. GLASS-FIBER-REINFORCED GYPSUM FABRICATIONS
				1. Fabrications: Molded, glass-fiber-reinforced gypsum units complying with ASTM C1381.
				2. Embedments: [**Cold-rolled steel channels with ASTM A653, G60 hot-dip galvanized coating**] [**As standard with glass-fiber-reinforced gypsum fabrication manufacturer and as required for reinforcement and for anchorage to substrates and framing**] <**Insert requirements**>.

Not all manufacturers recommend gloss paint finish or offer more than a smooth paint finish.

* + - * 1. Finish: [**Smooth for paint finish**] [**Smooth for gloss paint finish**] <**Insert finish**>.
			1. AUXILIARY MATERIALS
				1. Adhesives: As recommended in glass-fiber-reinforced gypsum fabrication manufacturer's written instructions.
				2. Steel Drill Screws: ASTM C1002, unless otherwise indicated.

Retain first subparagraph below if glass-fiber-reinforced gypsum fabrications are attached to cold-formed metal framing specified in Section 054000 "Cold-Formed Metal Framing." These screws have drill tips to allow penetration into thicker metal.

Screws complying with ASTM C954 for fastening glass-fiber-reinforced gypsum fabrications to steel members from 0.033 to 0.112 inch thick.

* + - * 1. Joint-Treatment Materials: ASTM C475.

Retain "Control Joints" paragraph below if control joints are required. If retaining, revise if another type of control joint is required. Indicate locations of control joints on Drawings.

* + - * 1. Control Joints: ASTM C1047, one-piece control joint with V-shaped slot and removable strip covering the slot opening.

Material: [**Steel sheet zinc-coated by hot-dip process**] [**Rolled zinc**].

Retain "Tie Wire" paragraph below for glass-fiber-reinforced gypsum fabrications that are suspended from building structure by tie wires attached to embedments in fabrications.

* + - * 1. Tie Wire: ASTM A641, Class 1 zinc coating, soft temper, 0.062-inch diameter wire, or double strand of 0.048-inch diameter wire.
			1. FABRICATION

ASTM C1381 establishes 3/16-inch minimum thickness for glass-fiber-reinforced gypsum units and dimensional tolerances.

* + - * 1. Fabricate glass-fiber-reinforced gypsum units in factory to comply with ASTM C1381, with smooth-finished surfaces; repair hollows, voids, scratches, and other surface imperfections. Fabricate units in lengths and sizes that will minimize number of joints between abutting units.
				2. Embedments: Incorporate embedments into units to develop the full strength of glass-fiber-reinforced gypsum fabrications. Cover embedments with not less than 3/16-inch thickness of glass-fiber-reinforced gypsum composite.
				3. Connection Hardware: Designed and fabricated to support and connect glass-fiber-reinforced gypsum fabrications to hangers, support framing, and substrates.
1. EXECUTION
	* + 1. EXAMINATION
				1. Examine substrates, areas, 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. INSTALLATION

ASTM C1467 establishes requirements for substrate preparation, erection tolerances, and finishing.

* + - * 1. Comply with ASTM C1467.
				2. Install glass-fiber-reinforced gypsum fabrications level, plumb, true, and aligned with adjacent materials. Use concealed shims where required for alignment.
				3. Attach glass-fiber-reinforced gypsum fabrications to framing and substrates with steel drill screws unless otherwise indicated. Do not use pneumatic staple guns. Countersink screw heads below adjoining finished surface.

Predrill fastener holes in units. Clean fastener holes to remove dirt and oil.

Locate fasteners not less than 5/16 inch from edges or ends of units.

Retain "Suspended Systems" paragraph below for installation of glass-fiber-reinforced gypsum fabrications that include embedments for direct suspension from ceiling structure.

* + - * 1. Suspended Systems: Attach suspended glass-fiber-reinforced gypsum fabrications to structure with tie wire at each attachment point indicated on approved Shop Drawings. Comply with requirements for hangers specified in Section 092216 "Non-Structural Metal Framing."
				2. Where glass-fiber-reinforced gypsum fabrications are joined to form composite units, join fabrications with adhesive. Band or brace units together until adhesive cures.

Retain first paragraph below if control joints are required. If retaining, indicate locations on Drawings.

* + - * 1. Install control joints between glass-fiber-reinforced gypsum fabrications where indicated.
				2. Use joint-treatment materials to finish glass-fiber-reinforced gypsum fabrications to produce surfaces ready to receive primers and paint finishes specified in Section 099123 "Interior Painting."

For Level 5 finish in first subparagraph below, ASTM C840 requires an overall skim coat of joint compound, which may be inappropriate for textured or ornamented units. The shape of some units may also make application of a skim coat unfeasible. ASTM C1467 requires Level 5 finish where glass-fiber-reinforced gypsum units are subject to critical lighting or where gloss or semigloss final decoration is scheduled.

Finish glass-fiber-reinforced gypsum fabrications according to ASTM C840 for [**Level 4**] [**Level 5**] and to match surface texture of units.

Repair hollows, voids, scratches, and other surface imperfections on units.

END OF SECTION 092713