1. Section 095400
Specialty Ceilings - USG
	1. PART 1  GENERAL
		1. SECTION INCLUDES
			1. Specialty ceiling panels and systems.
			2. Metal suspension system.
		2. RELATED REQUIREMENTS
2. *The paragraph below is optional text*
	* + 1. Section 016116 - Volatile Organic Compound (VOC) Content Restrictions.
3. *The paragraph below is optional text*
	* + 1. Section 031000 - Concrete Forming and Accessories:  Placement of special anchors or inserts for suspension system.
4. *The paragraph below is optional text*
	* + 1. Section 033000 - Cast-in-Place Concrete:  Placement of special anchors or inserts for suspension system.
5. *The paragraph below is optional text*
	* + 1. Section 053100 - Steel Decking:  Placement of special anchors or inserts for suspension system.
6. *The paragraph below is optional text*
	* + 1. Section 072100 - Thermal Insulation.
			2. Section 095100 - Acoustical Ceilings - USG:  Metal suspension systems.
		1. REFERENCE STANDARDS
			1. ASCE 7 - Minimum Design Loads and Associated Criteria for Buildings and Other Structures; Most Recent Edition Cited by Referring Code or Reference Standard.
			2. ASTM A580/A580M - Standard Specification for Stainless Steel Wire; 2018.
			3. ASTM A492 - Standard Specification for Stainless Steel Rope Wire; 1995 (Reapproved 2019).
			4. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2022.
			5. ASTM B209/B209M - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate; 2021a.
			6. ASTM C635/C635M - Standard Specification for Manufacture, Performance, and Testing of Metal Suspension Systems for Acoustical Tile and Lay-in Panel Ceilings; 2022.
			7. ASTM C636/C636M - Standard Practice for Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-In Panels; 2019.
			8. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2023.
			9. ASTM E580/E580M - Standard Practice for Installation of Ceiling Suspension Systems for Acoustical Tile and Lay-in Panels in Areas Subject to Earthquake Ground Motions; 2022.
			10. ASTM E1264 - Standard Classification for Acoustical Ceiling Products; 2022.
		2. ADMINISTRATIVE REQUIREMENTS
			1. Coordination:  Coordinate work of this section with installation of mechanical and electrical components and with other construction activities affected by work of this section.
			2. Preinstallation Meeting:  Convene one week before starting work of this section.
			3. Sequence work to ensure ceilings are not installed until building is enclosed, dust generating activities have terminated, and overhead work is completed.
		3. SUBMITTALS
			1. See Section 013000 - Administrative Requirements for submittal procedures.
			2. Shop Drawings:  Indicate grid layout and related dimensioning, attachment of specialty ceiling panels to grid, accessory attachments, junctions with other ceiling finishes, and mechanical and electrical items installed in the ceiling.
			3. Product Data:  Provide data on specialty ceiling components and suspension system components.
			4. Samples:  Two full size samples illustrating material and finish of specialty ceiling components.
			5. Samples:  Two samples each, [\_\_\_\_] inches ([\_\_\_\_] mm) long, of suspension system main runner, cross runner, and perimeter molding.
			6. Test Reports:  Certified test data from an independent test agency verifying that panels meet specified requirements for fire, acoustical, and seismic performance.
			7. Manufacturer's Installation Instructions:  Indicate special procedures and perimeter conditions requiring special attention.
			8. Designer's qualification statement.
			9. Manufacturer's qualification statement.
			10. Installer's qualification statement.
			11. Maintenance Materials:  Furnish the following for Owner's use in maintenance of project.
				1. See Section 016000 - Product Requirements for additional provisions.
				2. Specialty Ceiling System Components:  Provide a quantity equal to 2 percent of total product installed.
		4. QUALITY ASSURANCE
			1. Designer Qualifications for Seismic Design:  Under direct supervision of a Professional Structural Engineer experienced in design of this Work and licensed at the State in which the Project is located.
			2. Manufacturer Qualifications:  Company specializing in manufacturing the products specified in this section with minimum three years documented experience.
			3. Installer Qualifications:  Company specializing in performing the work of this section.
				1. Minimum [\_\_\_\_\_\_\_\_\_\_] years documented experience.
				2. Approved by ceiling manufacturer.
		5. MOCK-UP
			1. Provide [\_\_\_\_] feet ([\_\_\_\_] m) by [\_\_\_\_] feet ([\_\_\_\_] m) mock-up including ceiling panels, suspension members, trim, and installation accessories.
			2. See Section 014000 - Quality Requirements for additional requirements.
			3. Locate where directed.
			4. Mock-up may remain as part of the work.
		6. DELIVERY, STORAGE, AND HANDLING
			1. Deliver specialty ceiling components to project site in original, unopened packages.
			2. Store in fully enclosed space, flat, level and off the floor.
		7. FIELD CONDITIONS
			1. Do not install specialty ceiling system until wet construction work is complete and permanent heat and air conditioning is installed and operating.
	1. PART 2  PRODUCTS
		1. Specialty CEILING ASSEMBLIES
			1. Refer to [Room Finish Schedule] [Reflected Ceiling Plans] and [Room Finish Schedule] [Reflected Ceiling Plans] on drawings for additional ceiling assemblies information.
			2. Specialty Ceiling Assembly Type [SC-1]:
				1. Panels:  Translucents Canopies, Item No. [\_\_\_\_\_].

Color:  [[Ivory Taipei] [Lipstick Meander] [Luna Ice] [Oyster Linen] [Rain] [Rhythm] [Silver Spun] [Stardust] [Take II] [White Fiberoptic] [White Mesh] [Agave] [Blush] [Calypso] [Cornflower] [Glacier] [Graphite] [Gunmetal] [Honeydew] [Lago] [Lemon] [Mimosa] [Mulberry] [Nutmeg] [Olive] [Olivewood] [Orchid] [Pacific] [Periwinkle] [Pomegranate] [Sahara] [Santorini] [Seaglass] [Spice] [Sunflower] [Sunset]].

Flat Panel Sizes:  [24 by 72 inches (2 by 6) (610 mm by 1829 mm)] [[\_\_] inches by [\_\_] inches ([\_\_] mm by [\_\_] mm)].

* + - * 1. Specialty Suspension System:  [Direct Suspension] .
		1. Performance Requirements:
			1. Design for maximum deflection of 1/360 of span.
1. *The paragraph below is optional text*
	* + 1. Seismic Performance:  Ceiling systems designed to withstand the effects of earthquake motions determined according to ASCE 7 for Seismic Design Category D, E, or F and complying with the following:
2. *The paragraph below is optional text*
	* + - 1. Local authorities having jurisdiction.
3. *The paragraph below is optional text*
	* + - 1. ICC-ES Evaluation Report No. [\_\_\_\_\_\_\_\_\_\_].
			1. Surface Burning Characteristics:  Flame spread index of 25 or less, smoke developed index of 450 or less, when tested in accordance with ASTM E84.
		1. COMPONENT Products
			1. Panels:
				1. Preformed Curved Canopy Panels: Translucent panels with four pre-drilled support points per panel.
4. *The paragraph below is optional text*

Material:  Acrylic.

1. *The paragraph below is optional text*

Material:  Polycarbonate.

1. *The paragraph below is optional text*

Material:  Rigid vinyl, thermoformed.

1. *The paragraph below is optional text*

Material:  Polyethylene terephthalate (PET or PETG); PVC-free.

Color:   [As indicated] [As selected from manufacturer's standard colors].

Accessories:  Provide manufacturer's standard [mounting hardware] [attachment devices] and [mounting hardware] [attachment devices].

Products:

USG Corporation; Translucents Canopies: www.usg.com/ceilings/#sle.

Substitutions:  Not permitted.

* + 1. Accessories
			1. Suspension Wire and Rope:  Size and type as required for application[, seismic requirements,] [None - N/A] and ceiling system flatness requirement specified.
				1. Exposed (To View) Suspension:
1. *The paragraph below is optional text*

Suspension Wire:  Steel, annealed, [galvanized] [plain] finish, [12 gage, 0.0808 (2.05 mm)] [9 gage, 0.1144 inch (2.91 mm)] [[\_\_\_] gage, [\_\_\_] inch ([\_\_\_] mm)] diameter.

Suspension Rope:  1/32 inch (0.8 mm) stainless steel rope wire complying with ASTM A492, with [wire crimp] [attachment plate] , [wire crimp] [attachment plate] , or [wire crimp] [attachment plate] connection.

* + 1. Fabrication
			1. Shop fabricate ceiling components to the greatest extent possible.
	1. PART 3  EXECUTION
		1. EXAMINATION
			1. Verify existing conditions before starting work.
			2. Verify that layout of hangers will not interfere with other work.
			3. Verify that field measurements are as indicated on shop drawings.
			4. Do not begin installation until after interior wet work is dry.
			5. Start of installation constitutes acceptance of project conditions.
		2. Preparation
			1. Coordinate the location of hangers with other work.
1. *The paragraph below is optional text*
	* + 1. Provide hanger clips during steel deck erection.  Provide additional hangers and inserts as required.
			2. Install after major above-ceiling work is complete.
			3. Layout ceiling components in pattern according to reflected ceiling plan and as shown on shop drawings.
		1. INSTALLATION - Suspension System
			1. Install suspension system in accordance with ASTM C636/C636M and manufacturer's instructions and as supplemented in this section.
			2. Install hangers and inserts coordinated with overhead work.  Provide additional hangers and supports as required.
			3. Rigidly secure system, including integral mechanical and electrical components, for maximum deflection of 1:360.
			4. Locate system on room axis according to reflected ceiling plan.
			5. Suspension System, Non-Seismic:  Hang suspension system independent of walls, columns, ducts, pipes and conduit.  Where carrying members are spliced, avoid visible displacement of face plane of adjacent members.
2. *The paragraph below is optional text*
	* + 1. Seismic Suspension System, Seismic Design Category C:  Hang suspension system independent of walls, columns, ducts, pipes and conduit.  Maintain a 3/8 inch (9 mm) clearance between grid ends and wall.
3. *The paragraph below is optional text*
	* + 1. Seismic Suspension System, Seismic Design Categories D, E, F:  Hang suspension system with grid ends attached to the perimeter molding on two adjacent walls; on opposite walls, maintain a 3/4 inch (19 mm) clearance between grid ends and wall.
			2. Where ducts. facility services, or equipment prevent the regular spacing of hangers, reinforce the nearest affected hangers and related carrying channels to span the extra distance.
			3. Do not support components on main runners or cross runners if weight causes total dead load to exceed deflection capability.
			4. Support fixture loads using supplementary hangers located within 6 inches (152 mm) of each corner, or support components independently.
			5. Do not eccentrically load system or induce rotation of runners.
			6. Edge Moldings:  Install at intersection of ceiling and vertical surfaces and penetrations, using components of maximum length, set level. Provide edge moldings at junction with other ceiling finishes. Miter corners. Provide preformed edge closures to match bullnosed cornered partitions.
				1. Use longest practical lengths.
				2. Assemble corners according to manufacturer's instructions corners to backer angles according to manufacturer's instructions.
		1. INSTALLATION - SPECIALTY CEILING Units
			1. Install in accordance with manufacturer's instructions.
			2. Fit components in place, free from damaged edges or other defects detrimental to appearance and function.
			3. Cut to fit irregular grid and perimeter moldings.
				1. Shape and finish field-cut edges as recommended by manufacturer to match profile of factory edges and finish.
			4. Fit edge trim neatly against abutting surfaces.
			5. Install specialty units level, in uniform curvilinear plane, and free from twist, warp, and dents.
			6. Hang specialty units from suspension grid by engaging torsion springs into main tees.
			7. Where round obstructions occur, provide preformed closures to match perimeter molding.
			8. Bend hold-down tabs onto each panel to retain panels tight to grid system; comply with fire rating requirements, and where required by manufacturer.
		2. TOLERANCES
			1. Maximum Variation from Indicated Planes:  1/8 inch in 10 feet (3 mm in 3 m).
			2. Maximum Variation from Plumb of Grid Members Caused by Eccentric Loads:  2 degrees.
		3. Cleaning
			1. Clean and touch up minor finish damage.  Remove and replace components that cannot be successfully cleaned and repaired.
4. END OF SECTION