1. Section 095100   
   Acoustical Ceilings - USG
   1. PART 1  GENERAL
      1. SECTION INCLUDES
         1. Suspended metal grid ceiling systems.
         2. Acoustical and nonacoustical units.
2. *The paragraph below is optional text*
   * + 1. Supplementary acoustical insulation above ceiling.
       2. Wall angles and shadow moldings.
3. *The paragraph below is optional text*
   * + 1. Special trims and accessories.
     1. RELATED REQUIREMENTS
4. *The paragraph below is optional text*
   * + 1. Section 016116 - Volatile Organic Compound (VOC) Content Restrictions.
5. *The paragraph below is optional text*
   * + 1. Section 031000 - Concrete Forming and Accessories:  Placement of special anchors or inserts for suspension system.
6. *The paragraph below is optional text*
   * + 1. Section 033000 - Cast-in-Place Concrete:  Placement of special anchors or inserts for suspension system.
7. *The paragraph below is optional text*
   * + 1. Section 053100 - Steel Decking:  Placement of special anchors or inserts for suspension system.
       2. Section 072100 - Thermal Insulation.
       3. Section 092116 - Gypsum Board Assemblies:  Acoustical insulation.
       4. Section 095153 - Direct-Applied Acoustical Ceilings.
       5. Section 211300 - Fire-Suppression Sprinkler Systems:  Sprinkler heads.
       6. Section 233700 - Air Outlets and Inlets:  Air diffusion devices.
       7. Section 265100 - Interior Lighting:  Light fixtures.
       8. Section 275116 - Public Address Systems:  Speakers.
       9. Section 284600 - Fire Detection and Alarm:  Fire alarm components.
     1. REFERENCE STANDARDS
        1. ASTM A580/A580M - Standard Specification for Stainless Steel Wire; 2023.
        2. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2023.
        3. ASTM B209/B209M - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate; 2021a.
        4. ASTM C423 - Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method; 2023.
        5. ASTM C635/C635M - Standard Specification for Manufacture, Performance, and Testing of Metal Suspension Systems for Acoustical Tile and Lay-in Panel Ceilings; 2022.
        6. ASTM C636/C636M - Standard Practice for Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-In Panels; 2019.
        7. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2023a.
        8. ASTM E119 - Standard Test Methods for Fire Tests of Building Construction and Materials; 2022.
8. *The paragraph below is optional text*
   * + 1. ASTM E413 - Classification for Rating Sound Insulation; 2022.
       2. ASTM E1264 - Standard Classification for Acoustical Ceiling Products; 2023.
       3. UL (GGG) - GREENGUARD Gold Certified Products; Current Edition.
     1. 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.
           1. Review with affected installers those locations of facility services lines and equipment within ceiling plenum that prevent installation of hangers at spacings compliant with limitations established in referenced standards.  Arrange for each affected mechanical or electrical installer to provide necessary number of additional structural support points for ceiling installer.
        2. Preinstallation Meeting:  Convene one week before starting work of this section.
        3. Sequencing:  Schedule work of affected trades to minimize or eliminate installation conflicts and rework.
           1. Supply hanger clips during steel deck erection.  Supply additional hangers and inserts as required.
           2. Ensure that acoustical ceilings are not installed until building is enclosed, sufficient heat is provided, dust generating activities have terminated, and overhead work is completed, tested, and approved.  Do not install acoustical units until after interior wet work is dry.
     2. SUBMITTALS
        1. See Section 013000 - Administrative Requirements for submittal procedures.
        2. Shop Drawings:  Indicate grid layout and related dimensioning.
        3. Product Data:  Provide data on suspension system components and acoustical units.
        4. Samples:  Two samples [\_\_\_\_\_] by [\_\_\_\_\_] inches ([\_\_\_\_\_] by [\_\_\_\_\_] mm) in size indicating material and finish of acoustical units.
        5. Samples:  Two samples each, [\_\_\_\_] inches ([\_\_\_\_] mm) long of suspension system main runner, cross runner, and perimeter molding.
9. *The paragraph below is optional text*
   * + 1. Manufacturer's Installation Instructions:  Indicate special procedures and perimeter conditions requiring special attention.
       2. Designer's qualification statement.
       3. Installer's qualification statement.
       4. Maintenance Materials:  Furnish the following for Owner's use in maintenance of project.
10. *The paragraph below is optional text*
    * + - 1. See Section 016000 - Product Requirements for additional provisions.
11. *The paragraph below is optional text*
    * + - 1. Extra Acoustical Units:  [\_\_\_\_] sq ft ([\_\_\_\_] sq m) of each type and size.
12. *The paragraph below is optional text*
    * + - 1. Extra Acoustical Units:  Quantity equal to 5 percent of total installed.
      1. QUALITY ASSURANCE
         1. Designer Qualifications for Seismic Design:  Perform under direct supervision of a Professional Structural Engineer experienced in design of this work and licensed in the State in which the Project is located.
         2. Installer Qualifications:  Company specializing in performing work of the type specified and with at least three years of documented experience and approved by manufacturer.
      2. FIELD CONDITIONS
         1. Maintain uniform temperature of minimum 60 degrees F (16 degrees C), and maximum humidity of 40 percent before, during, and after acoustical unit installation.
    1. PART 2  PRODUCTS
       1. CEILING ASSEMBLIES
          1. Refer to [Reflected Ceiling Plans],[Room Finish Schedule] on drawings for additional ceiling assembly information.
          2. Acoustical Ceiling Assembly Type APC-1:
             1. Acoustical Units:  Umbral 3/4", Item No. [22566.5] [22566.205] [22566.99].

Panel Size:  24 inches by 48 inches (2 by 4) panel (609.6 mm by 1219.2 mm).

Panel Edge:  SQ edge.

Color:  [Field Finish] [Flat Black] [Flat White].

Characteristics:  Noise Reduction Coefficient = [0.70] [0.75] Ceiling Attenuation Class = [N/A], Light Reflectance = 0.90 Recycled Content = 68%, Environmental Product Declaration: [N/A], Health Product Declaration: [N/A] GreenGuard Gold: [N/A] EC3 Score: [N/A], ClimaPlus Warranty: YES.

* + 1. Ceiling PERFORMANCE REQUIREMENTS
       1. Design for maximum deflection of 1/360 of span.
       2. Fire-Resistance Rating:  Determined in accordance with test procedures in ASTM E119 and complying with the following:

1. *The paragraph below is optional text*
   * + - 1. UL (FRD) Assembly Design No. [\_\_\_\_].
2. *The paragraph below is optional text*
   * + - 1. ICC-ES Evaluation Report No. [\_\_\_\_\_\_\_\_\_\_].
       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:
3. *The paragraph below is optional text*
   * + - 1. Local authorities having jurisdiction.
4. *The paragraph below is optional text*
   * + - 1. ICC-ES Evaluation Report No. [\_\_\_\_\_\_\_\_\_\_].
     1. Ceiling COMPONENT PRODUCTS
        1. Acoustical Units:
           1. Acoustical Units - General:  ASTM E1264, Fire Class A.

Noise Reduction Coefficient (NRC) rating, Ceiling Attenuation Class (CAC) rating, and Light Reflectance Coefficient (LR) performance for each type of unit specified below, as determined in accordance with ASTM E1264.

Fire Class / Surface Burning Characteristics:  Determined in accordance with test method ASTM E84.

Surface Burning Characteristics:  Unless otherwise indicated, flame spread index of 25 or less, smoke developed index of 50 or less.

* + - * 1. Acoustical Panels:  Mineral fiber with membrane-faced overlay, with the following characteristics:

Classification:  ASTM E1264 Type IV.

Form(s):  Includes the following, as applicable to each product specified.

Form 1 - Nodular.

Form 2 - Water felted.

Pattern(s):  Includes the following, as applicable to each product specified.

E - Lightly textured.

G - Smooth.

Thickness:  As applicable to each product specified.

Recycled Content:  As applicable to selected products.

Material Ingredients Transparency:  Products included in the USG EcoBlueprint Program.

Products:

USG Corporation; Umbral Direct Mount 3/4" Panels:  www.usg.com/ceilings/#sle.

Substitutions:  Not permitted.

* + - 1. Suspension Systems:
      2. Direct Mount System:  Attachment directly to structural deck using hat channels and appropriate fasteners.
         1. Hat-Shaped Metal Channels:  Steel, 22 gauge, 0.0299 inch (0.76 mm), minimum.
         2. Panel Fasteners:  Manufacturer's standard, 1/2-Inch face, #2 square drive screws for sheet metal.

1. *The paragraph below is optional text*

Color:  [black] [custom] [white] [galvanized].

* + 1. ACCESSORIES
       1. Support Channels, Carriers, and Hangers:  Galvanized steel; size and type to suit application and ceiling system flatness requirement specified.
       2. Hat-Shaped Metal Channels:  Steel, 22 gauge, 0.0299 inch (0.76 mm), minimum.
       3. Touch-Up Paint For Concealed Items:  Zinc rich type, as recommended by ceiling system manufacturer.
    2. Fabrication
       1. Shop fabricate ceiling[None - N/A] components to the greatest extent possible.
       2. Fabricate components to allow access to ceiling plenum as required.
  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. Start of installation constitutes acceptance of project conditions.
     2. Preparation
        1. Coordinate the location of hangers with other work.
        2. Provide hanger clips during steel deck erection.  Provide for anticipated additional hangers and inserts as required.

1. *The paragraph below is optional text*
   * + 1. Install ceiling system after major above-ceiling work is complete.
       2. Acclimate wood ceiling materials by removing from packaging in installation area a minimum of 72 hours prior to installation.
     1. INSTALLATION - ACOUSTICAL UNITS
        1. Install acoustical units in accordance with manufacturer's instructions.
        2. Fit acoustical units in place, free from damaged edges or other defects detrimental to appearance and function.
        3. Fit edge trim neatly against abutting surfaces.
        4. Install acoustical units level, in uniform plane, and free from twist, warp, and dents.
        5. Cutting Acoustical Units:
           1. Field cut to fit irregular grid tiles and perimeter edge trim and make cut edges of same profile as factory edges.
           2. Prime and paint field cut edges per installation instructions.
        6. Lay acoustical insulation for a distance of 48 inches (1219 mm) either side of acoustical partitions as indicated.
        7. Install hold-down clips on acoustical units within 20 ft (6 m) of an exterior door.
     2. TOLERANCES
        1. Maximum Variation from Flat and Level Surface:  1/8 inch in 10 feet (3 mm in 3 m).
        2. Maximum Variation from Plumb of Grid Members Caused by Eccentric Loads:  Two degrees.
     3. Cleaning
        1. Clean and touch up minor finish damage.  Remove and replace components that cannot be successfully cleaned and repaired.
2. END OF SECTION