SECTION 095423 LINEAR METAL CEILINGS

PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

A. Work of this Section, as shown or specified, shall be in accordance with the requirements of the Contract Documents.

1.2 SECTION INCLUDES

A. Work of this Section includes all labor, materials, equipment, and services necessary to complete the linear metal ceilings as shown on the drawings and/or specified herein, including, but not limited to, the following:

1. Exterior linear metal ceiling system, non-perforated panels, including suspension systems and accessories.

1.3 RELATED SECTIONS

A. Diffusers, grilles and related frames - Division 23.

B. Lighting - Division 26.

1.4 QUALITY ASSURANCE

A. System Description: The system consists of pre-finished aluminum panels, carriers, accessories and provisions for the incorporation of mechanical diffusers and lighting fixtures. The system installations are for interior application.

B. Performance Characteristics: Provide manufacturer's standard system which when installed will provide the following minimum requirements:

1. Flame Spread: 0- 25 per ASTM E 84.
2. Structural Criteria: Install and certify system to comply with structural and wind load requirements of governing codes.
3. Installation Standard for Suspension System: Comply with ASTM C 636.

C. Comply with exterior wind uplift per code.

D. Qualifications of Installers

1. The suspended ceiling subcontractor shall have a record of successful installations of similar ceilings acceptable to the Architect and shall be currently approved by the manufacturer of the ceiling suspension system.
2. For the actual fabrication and installation of all components of the system, use only personnel who are thoroughly trained and experienced in the skills required and completely familiar with the requirements established for this work.

1.5 SUBMITTALS

A. Product Data: Manufacturer’s published literature, including specifications.

B. Shop Drawings: Showing:

1. Reflected Ceiling Plan(s): Indicating metal ceiling layout.
2. Suspension System, Carrier and Component Layout.
3. Details of system assembly and connections to building components.

C. Samples: Submit:

1. Linear Ceiling Panels: Minimum 8-inch piece of each type and finish.
2. Color Samples: Manufacturers standard finishes for Owner’s selection.
3. Suspension system components and moldings/trim.

D. Quality Assurance/ Control Submittals:

1. Test Reports: Certified reports from independent agency substantiating structural compliance to wind loads and other governing requirements.
2. Certificates:
   a. Data substantiating manufacturer and installer qualifications.
   b. Certified data attesting fire rated materials comply with specifications.
3. Manufacturer's Instructions: Detailed installation instructions and maintenance data.

1.6 QUALITY CONTROL

A. Manufacturer/Installer Qualifications

1. Provide metal ceiling system components produced by a single manufacturer with a minimum 5 years' experience in actual production of specified products and with resources to provide consistent quality in appearance and physical properties, without delaying the work.
2. Provide suspension system components produced by a single manufacturer to provide compatible components for a complete metal ceiling system installation.
3. Perform installations using a firm with installers having no less than 3 years of successful experience on projects of similar size and requirements.

B. Regulatory Requirements

1. Fire Rating Performance Characteristics: Install system to provide a flame spread of 0-25, complying with certified testing to ASTM E 84.
2. Installation Standard for Suspension System: Comply with ASTM C 636.
3. Comply with New Jersey code for exterior loads.

C. Mock-Up: Prior to beginning installation erect a mock-up section, where directed, using all system components.

D. Pre-installation Conference: Conduct a conference, prior to start of installation, to review system requirements, shop drawings, and all coordination needs.

1.7 DELIVERY, STORAGE AND HANDLING

A. Deliver system components in manufacturer’s original unopened packages, clearly labeled.

B. Store components in fully enclosed dry space. Carefully place on skids, to damage from moisture and other construction activities.

C. Handle components to prevent damage to surfaces and edges, and to prevent distortion and other physical damage.

1.8 PROJECT/ SITE CONDITIONS

A. Begin system installations only after spaces are enclosed and weather tight (for interior applications only) and after all wet work and overhead work have been completed.

B. Prior to starting installations, allow materials to reach ambient room temperature and humidity intended to be maintained for occupancy.

1.9 EXTRA MAINTENANCE MATERIAL

A. Provide extra material, matching installed material, in manufacturer's original packages clearly labeled.

B. Deliver extra stock and access tools to owner's representative.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Provide Multi-Box Continuous linear metal panel ceiling system manufactured by CertainTeed Architectural; 5015 Oakbrook Parkway, Suite 100, Norcross, GA 30093. Tel: (800) 366-4327; www.CertainTeed.com/Architectural

B. Hunter Douglas Architectural Products, Inc. or approved equal.

2.2 CEILING PANEL MATERIALS

A. Linear metal panel ceiling system for exterior installations:

B. Panel Profile Type: An array selected from the Box Series and Deep Box Series profiles, utilizing Universal Carrier. Formed linear aluminum panels with square edges; thickness per manufacturer recommendation.

1. Pattern: Hotel pattern consisting of any combination of Box 2, 4, 6, and 8 and Deep Box 2, 4, 6, and 8 as indicated on Drawing CS-201
2. Panel length: Standard 12'
3. Closure: Flat Recessed Closure: 5/8" wide roll-formed aluminum hat-shaped closure panel to snap-fit between ceiling panels.
    a. Finish: To match ceiling panel

C. Linear Suspension System:

1. Concealed Carrier: Universal hat-shaped, .038" roll-formed aluminum section with hook-shaped tabs spaced to receive ceiling panels at 2" on-center and 27/32" apart. Support holes spaced 4" on-center. Finish: Factory-applied black enamel.
2. Hanger Wire: 12 gage galvanized carbon steel hanger wire.

3. Suspension support System: Comply with Section 092900.
4. Seismic/Wind Uplift Compression Struts: 1-1/2" deep, 16 Ga., cold-rolled steel "C" channels.

D. Perforations: Non-Perforated #160.

E. Panel Finish:

1. Paint; Crazy Cajun Cypress 8442

a. Decorated Wood-Look Powder Coat

2.3 ACCESSORY MATERIALS

A. Panel End Caps: Formed or milled end caps with matching finish.

B. Panel Splice: Formed aluminum insert designed to snap-fit between ends of two ceiling panels.

1. Finish: To match ceiling panels.

C. Access Door: 2’x2’ aluminum access frame with hinges (at natural break in the pattern) and retainer clip for downward acting access panel to plenum space (one in each cloud).

D. Acoustical Material – interior only: Non-woven black fabric with 1" thick fiberglass, 1-1/2 pcf density batts, polywrapped white finish.

1. Selected NRC Ratings:

a. "Alpha" pattern, non-perforated, open reveal: (.75)

E. Air Distribution Devices: Provide distribution devices that are independently suspended, relocatable, adjustable from below finished ceiling, and capable of being concealed behind (invisible to view) and fully integrated with ceiling system so as to allow no interruption of ceiling components.

F. Lighting Fixtures: (Modular Type "M" or "MT" flange) and HVAC diffusers: Optional.

1. Provide fixtures capable of being fully integrated with ceiling system and requiring no interruption of ceiling components, that are independently suspended, and as selected to conform to lighting criteria specified in Division 26.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and structural framing to which acoustical metal panels attach or abut, with installer present, for compliance with requirements specified in this and other Sections that affect installation and anchorage, and other conditions affecting performance of metal panel ceilings.

B. Verify that all work above ceiling system has been satisfactorily completed prior to start of ceiling installations.

C. Do not start ceiling installations until all unsatisfactory conditions affecting ceiling systems have been corrected.

3.2 PREPARATION

A. Provide layouts for inserts, clips and other support items required to be installed by other trades. Furnish inserts, clips and related items to other trades in a timely manner to preclude construction delays.

B. Coordinate with other trades for proper installation of inserts and related items.

C. Verify ceiling layouts by actual field measurements.

D. Measure each ceiling area and establish layout of acoustical metal pan units to balance border widths at opposite edges of each ceiling. Avoid using less-than-half-width units at borders, and comply with layout shown on reflected ceiling plans.

E. Coordinate all work that penetrates ceiling panels.

F. Survey substrate for wall attachment to assure squareness and proper elevation for wall panel installation.

3.3 INSTALLATION

A. General: Install acoustical metal pan ceilings, per manufacturers shop drawings provided, per manufacturer's written instructions and to comply with publications referenced below.

1. ClSCA "Ceiling Systems Handbook"
2. Standard for Ceiling Suspension System Installations - ASTM C 636
3. Standard for Ceiling Suspension Systems Requiring Seismic Restraint - ASTM E 580
4. IBC (International Building Code) Standard for Seismic Zone for local area

B. Suspend ceiling hangers from building's approved structural substrates and as follows:

1. Install hangers plumb and free from contact with insulation or other objects within ceiling plenum that are not part of supporting structure or of ceiling suspension system.
2. Splay hangers only where required to miss obstructions; offset resulting horizontal forces by bracing, counter-splaying, or other equally effective means.
3. Where width of ducts and other construction within ceiling plenum produce hanger spacings that interfere with location of hangers at spacing required to support standard suspension system members, install supplemental suspension members and hangers in form of trapezes or equivalent devices. Utilize supplemental suspension members and hangers to support ceiling loads within performance limits established by referenced standards and publications.
4. Where used secure wire hangers to ceiling suspension members and to supports above with a minimum of three tight turns. Connect hangers directly either to structures or to inserts, eye screws, or other devices that are secure; that are appropriate for substrate; and that will not deteriorate or otherwise fail due to age, corrosion, or elevated temperatures.
5. Space hangers not more than 48" on-center, along each member supported directly from hangers, unless otherwise indicated; and provide hangers not more than 12" from ends of each member. Supply supporting calculations from licensed Structural Engineer verifying hanger spacing meets all requirements, when spacing exceeds those recommended.
6. Level grid to 1/8" in 10' from specified elevation(s), square and true.
7. Adjust suspension system runners so they are square (within .5 degree from 90 degrees) and securely interlocked with one another. Remove and replace dented, bent, or kinked members.

C. Secure bracing wires to ceiling suspension members and to supports acceptable to Architect/Engineer and/or inspector. Suspend bracing from building's structural members and/or structural deck, as required for hangers, without attaching to permanent metal forms, steel deck, or steel deck tabs (unless directed otherwise).

D. Install edge moldings and trim of type indicated at perimeter of acoustical ceiling area and where necessary to conceal edges of acoustical metal pan. Method of edge trim attachment and design of edge trims to be approved by Architect.

1. Screw attach moldings to substrate at intervals not more than 18" on-center and not more than 6" from ends, leveling with ceding suspension system to a tolerance of 1/8" in 10'. Miter corners accurately and connect securely.
2. Do not use exposed fasteners, including pop rivets, on moldings and trim without prior written approval, or unless detailed otherwise.

E. Scribe and cut acoustical metal panel units for accurate fit at penetrations by other work through ceilings. Stiffen edges of cut units as required to eliminate evidence of buckling or variations in flatness exceeding referenced standards for stretcher-leveled metal sheet.

F. Install acoustical metal panel units in coordination with suspension system.

1. Install panels as shown with array and layout on RCP.
2. Fit adjoining units to form flush, tight joints. Scribe and cut units for accurate fit at borders and around construction penetrating ceiling.

3.4 ADJUST AND CLEAN

A. Adjust components to provide uniform tolerances.

B. Replace all ceiling panels that are scratched, dented or otherwise damaged.

C. Clean exposed surfaces with non-solvent, non-abrasive commercial type cleaner.

END OF SECTION 095423