

SECTION 09548

WIDE PANEL METAL CEILING SYSTEMS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Wide panel metal ceiling systems consisting of:
  - 1. Suspension carrier systems and accessories.
  - 2. Galvanized panels with beveled edges.
  - 3. Aluminum panels with beveled edges.
  - 4. Galvanized panels with recessed joints.
  - 5. Aluminum panels with recessed joints.

1.2 RELATED SECTIONS

- A. Division 15 Sections: Mechanical air grilles, diffusers, and fire sprinklers.
- B. Division 16 Sections: Lighting fixtures.

1.3 REFERENCES

- A. ASTM C 636 - Practice for Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-In Panel Ceilings.
- B. \_\_\_\_\_.

1.4 SYSTEM DESCRIPTION

- A. Design Requirements: Prefinished metal panels, suspension carrier system, and accessories, including provisions for the incorporation of mechanical diffusers and lighting fixtures.
- B. System installations are for:
  - 1. Interior applications.
  - 2. Exterior applications.
  - 3. Interior and exterior applications.
- C. Performance Requirements: Provide the following minimum requirements for the manufacturer's standard installed system:
  - 1. Flame Spread: 0-25, per ASTM E 84.
  - 2. Noise Reduction Coefficient (NRC): 0.70 minimum for perforated panels.

## 1.5 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Product Data: Manufacturer's catalog data, detail sheets, specifications, and printed installation instructions.
- C. Shop Drawings: Prepared specifically for this project, showing:
  - 1. Reflected ceiling plan(s), indicating metal ceiling layout, ceiling mounted items, and penetration locations.
  - 2. Suspension carrier system and component layout.
  - 3. Details of system assembly and connection to building components.
- D. Samples:
  - 1. Specified Wide Metal Panels: Minimum of one actual size panel of each type and finish required by the project.
  - 2. Color Samples: Manufacturer's standard colors (finishes) for Architect's selection.
  - 3. Suspension Carrier System Components and Molding/Trim: Minimum 12 inch (305 mm) length of each type required.

## 1.6 QUALITY ASSURANCE

- A. Manufacturer Qualifications:
  - 1. Metal Ceiling System Components: Minimum 3 years experience in actual production of specified products, with resources to provide consistent quality in appearance and physical properties without delaying the work.
  - 2. Suspension Carrier System Components: Single manufacturer providing compatible components for a complete metal ceiling system installation.
- B. Installer Qualifications: Firm with installers having not less than 3 years successful experience on projects of similar size and requirements.
- C. 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. Suspension System Installation Standard: ASTM C 636.
- 3. \_\_\_\_\_.

- D. Mock-Up: Before beginning installation, erect a mock-up section where directed, using all system components.
- E. Pre-Installation Conference: Before beginning installation, conduct a conference 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 and protect from damage due to 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 weathertight, and after all wet work and overhead work have been completed.
- B. Before starting installations, allow materials to reach ambient room temperature and humidity intended to be maintained for occupancy.
- C. Existing Conditions:
  - 1. \_\_\_\_\_.
  - 2. \_\_\_\_\_.

1.9 EXTRA MAINTENANCE MATERIALS

- A. Furnish matching replacement units in manufacturer's original packages, clearly labeled.
  - 1. 1 percent of each type installed on the Project.
  - 2. \_\_\_\_ percent of each type installed on the Project.
- B. Deliver extra materials and access tools to Owner's representative.

PART 2 PRODUCTS

## 2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Hunter Douglas Architectural Products, Inc., 5015 Oakbrook Parkway, Suite 100, Norcross, GA 30093; ASD. Tel: (800) 366-4327
- B. Requests for substitutions will be considered in accordance with provisions of Section 01600.
- C. Substitutions: Not permitted.
- D. Provide all wide panel metal ceiling systems from a single manufacturer.

## 2.2 CEILING PANEL MATERIALS

- A. Wide Panel, Type 300C: Fabricated to provide a beveled edge joint between panels when installed with suspension system specified.
  - 1. Material: Roll-formed aluminum, 0.028 inch (0.7 mm) thick, 11.811 inches (300 mm) wide.
  - 2. Material: Galvanized steel, 0.024 inch (0.6 mm) thick, 11.811 inches (300 mm) wide.
  - 3. Face: Perforated.
    - a. Non-woven blanket.
    - b. Acoustic blanket.
    - c. Non-woven blanket and acoustic blanket.
  - 4. Face: Solid, non-perforated.
- B. Wide Panel, Type 300A: Fabricated to provide a 0.39 inch (10 mm) wide by 1.25 inch (31 mm) deep recessed joint between panels when attached to carriers.
  - 1. Material: Roll-formed aluminum, 0.028 inch (0.7 mm) thick, 11.417 inches (290 mm) wide.
  - 2. Material: Galvanized steel, 0.024 inch (0.6 mm) thick, 11.417 inches (290 mm) wide.
  - 3. Face: Perforated.
    - a. Non-woven blanket.
    - b. Acoustic blanket.
    - c. Non-woven blanket and acoustic blanket.
  - 4. Face: Solid, non-perforated.
- C. Panel Length: \_\_\_ feet \_\_\_ inches (\_\_\_\_\_ m).
- D. Panel Style: Non-perforated.
- E. Panel Style: Perforated.
  - 1. Pattern: 0.06 inch (1.5 mm) diameter by 0.12 (3 mm) staggered centers (23 percent open area).

2. Pattern: 0.08 inch (2.0 mm) diameter by 0.20 (5 mm) staggered centers (15 percent open area).

F. Panel Finish:

1. Interior: Tone White.
2. Interior: Gloss White.
3. Interior: Polar White.
4. Interior: Cotton White.
5. Interior: Ivory.
6. Interior: Elephant Gray.
7. Interior: Bright Silver.
8. Interior: Natural.
9. Exterior Non-Perforated: Lighthouse White.
10. Exterior Non-Perforated: Pure White.
11. Exterior Non-Perforated: Natural.

### 2.3 SUSPENSION SYSTEM MATERIALS

- A. Concealed Carrier Suspension System: Formed, inverted V-shaped 2.45 inches (62 mm) high carrier sections; pre-punch carrier sections that are to receive ceiling panels, with prongs for snap attachment and support of panel side edges.
  1. Material: 0.040 inch (0.95 mm) thick roll-formed aluminum.
  2. Material: 0.040 inch (0.95 mm) thick galvanized steel.
  3. Provide manufacturer's standard metal carrier suspension system components, including splices, connector wire clips, hanger rods and adjustment springs, PVC closing pieces, and trim for panel end attachment to wall.
- B. Exposed Lay-On Suspension System: Formed exposed, inverted T-shaped galvanized steel sections with flanges to receive and support ends of ceiling panels.
  1. Provide manufacturer's standard metal inverted T-bar suspension system components, including splices, connectors, hanger wire, or hanger rods and adjustment springs, and edge trim.
- C. Concealed Clip-In Suspension System: 1-1/2 inch (38 mm) deep, 16 gage (1.5 mm) galvanized steel "C" channel primary runners with manufacturer's cross connector clamps, to which are attached secondary inverted V-shaped formed clip-in style galvanized steel runners 1-1/2 inch (38 mm) high, 0.024 inch (0.6 mm) thick to receive the ceiling panels.

1. Provide manufacturer's standard metal clip-in suspension system components, including runner and rail splices and connectors, wall and ceiling brackets, locking clips, hanger rods and adjustment springs, and edge trim.
- D. Exposed C-Grid Suspension System: Formed L-shaped crossbrace members and flat laid, exposed C-shaped galvanized steel runner sections, 0.049 inch (1.25 mm) thick, 3.937 inches (100 mm) wide, 1.181 inches (30 mm) high, to receive lay-on ceiling panels.
1. Grid Shape: Parallel.
  2. Grid Shape: Square.
  3. Provide manufacturer's standard metal C-grid suspension system components, including grid splices, suspension hanger members, grid suspension shoes and hanger lug sections, wall support brackets, locking clips, and C-grid cross connectors.
- E. Seismic Struts: \_\_\_\_\_.

#### 2.4 ACCESSORY MATERIALS

- A. Edge Trim: Manufacturer's standard aluminum edge trim moldings.
1. L-shaped profile.
  2. Reveal shaped profile.
- B. Edge Trim: Manufacturer's standard steel edge trim moldings.
1. L-shaped profile.
  2. Reveal shaped profile.
- C. Acoustical Material: Black finish, no surface printing.
1. Blankets: Minimum 1 inch (25 mm) thick, 1-1/2 pcf (24.03 kg per cubic m) fiberglass batts.
  2. Non-Woven Acoustic Tissue: 0.008 inch (0.2 mm) thick.
  3. NRC Rating: Not less than 0.70 for in-place material over perforated metal ceiling panels.
- D. Air Distribution Devices: Independently suspended, relocatable, adjustable from below finished ceiling, capable of being fully integrated with ceiling system.
- E. Lighting Fixtures: Capable of being fully integrated with ceiling system and requiring no interruption of ceiling components, independently suspended and as

selected to conform to lighting criteria specified in Division 16.

## PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Examine areas receiving wide panel metal ceiling system for conditions that might adversely affect the installation.
- 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.
  - 1. Establish ceiling layout to balance borders and minimize out-of-square conditions. Coordinate all work that penetrates ceiling panels.

### 3.3 INSTALLATION

- A. Install wide panel metal ceiling system in accordance with manufacturer's printed installation instructions, submittals, applicable industry standards, and governing regulatory requirements for the work.
- B. Suspension System:
  - 1. Comply with requirements of ASTM C 636.
  - 2. Support hangers securely from building structure using hanger rods or wires directly attached to

- structure, or to inserts or other devices with eye-screws, by looping and wire-tying.
- C. Install seismic struts at exterior locations, spacings to comply with structural requirements of governing codes.
  - D. Install acoustical material above ceiling panels to comply with manufacturer's instructions.
  - E. Install ceiling panels and trim pieces with neat, tight joints and to comply with approved details.
    - 1. Cut panels as necessary to fit at borders and other penetrations; install panel splices to comply with manufacturer's instructions.
    - 2. Install end trim and edge molding trim at perimeter of wide panel metal ceiling system and at other locations where required to conceal edges of ceiling.
  - F. Install air distribution devices and lighting fixtures at indicated locations.
    - 1. Support devices and fixtures from building structure above, independent from ceiling suspension system.

#### 3.4 ADJUSTING AND CLEANING

- 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