

**SECTION 09 53 23**  
**ACCOUSTICAL CEILING SUSPENSION SYSTEMS**

**1.1 SUMMARY**

- A. Section Includes: Provide metal suspension system for acoustical panel ceilings including but not limited to:
  - 1. exposed metal suspension systems for acoustical panel ceilings.

**1.2 REFERENCES**

- A. Abbreviations and Acronyms:
  - 1. CISCA: Ceilings & Interior Systems Construction Association; [www.cisca.org](http://www.cisca.org).
- B. Reference Standards:
  - 1. ASTM A653/A653M Standard Specification for Steel Sheet, Zinc-Coated(Galvanized) or Zinc-Iron Alloy-Coated Galvannealed by the Hot-Dip Process
  - 2. ASTM C635/C635M Standard Specification for Manufacture, Performance, and Testing of Metal Suspension Systems for Acoustical Tile and Lay-in Panel Ceilings
  - 3. ASTM C636/C636M Standard Practice for Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-In Panels
  - 4. ASTM C754 Standard Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products
  - 5. ASTM C841 Standard Specification for Installation of Interior Lathing and Furring

**1.3 SUBMITTALS**

- A. Product Data: Submit sheets listing dimensions, load carrying capacity and standard compliance.
- B. Samples: Submit samples of main tee and cross tee with couplings.

**1.4 MAINTENANCE MATERIAL SUBMITTALS**

- A. Supply additional material equal to [ ]% of ceiling area. Additional material should match products installed and have the appropriate labels and identification.
- B. Supply extra materials that match Products installed and are packaged with protective covering for storage and identified with labels describing contents.

**1.5 QUALITY ASSURANCE**

- A. Single-Source Responsibility: Provide acoustical panel units and grid components by a single manufacturer.

**1.6 DELIVERY, STORAGE, AND HANDLING**

- A. Protect system components from excessive moisture in shipment, storage, and handling. Deliver in unopened bundles and store in a dry place with adequate air circulation. Do not deliver material to building until wet conditions such as concrete, plaster, paint, and adhesives have been completed and cured to a condition of equilibrium.

**1.7 WARRANTY**

- A. Manufacturer Warranty: Submit a written warranty executed by manufacturer for a period of 40 years from date of Substantial Performance, agreeing to repair or replace suspension system components that fail or are compromised within the specified warranty period. Failed or compromised parts can include, but are not limited to:
  - 1. Rusting or defects directly made by the manufacturer.

**PART 2 - PRODUCTS**

**2.1 MANUFACTURERS**

- A. Chicago Metallic Double Web [Intermediate] [Heavy] Duty Non-Fire Rated Ceiling Suspension System manufactured by ROCKFON, 4849 South Austin Avenue, Chicago, IL 60638. 1-800-323-7164; [www.rockfon.com](http://www.rockfon.com).

**2.2 MATERIALS**

- A. Basic Steel Material and Finish: Commercial quality, CS Type A to ASTM A653/A653M, hot-dip galvanized to not less than Z275 (G90 zinc coating designation).
- B. Main Tees and Cross Tees: All suspension main tee and cross tee components are manufactured from commercial quality steel with factory punched cross tee slots, hanger holes, and integral bayonet-style end couplings. The main tees are capped with steel capping affixed to a flange and is coated with factory applied baked-on enamel paint.
  - 1. Structural Classification Standard: ASTM C635/C635M Heavy Duty.
  - 2. Colour: Standard white unless otherwise noted.
  - 3. Specified Product: "Chicago Metallic 200 Snap-Grid™ (15/16) Exposed" by ROCKFON.
- C. Perimeter Treatment Components:
  - 1. Angle Moldings: Manufactured from 0.530 mm (0.020") thick steel and finished identical to main tees and cross tees.
  - 2. Channel Moldings: Manufactured from 0.455 mm (0.018") thick steel with factory applied standard white baked-on enamel paint finish.
  - 3. Shadow Line Moldings: Manufactured from 0.530 mm (0.020") thick steel with 19 mm (3/4") and 9 mm (3/8") hemmed edge and finished with factory applied standard baked-on enamel paint.

**PART 3 - EXECUTION**

**3.1 EXAMINATION**

- A. Examine substrates, areas and conditions, including structural framing to which metal acoustical ceiling suspension assemblies attach or abut, with installer present, for compliance with requirements specified in this and other Sections affecting ceiling installation and anchorage and with requirements for installation tolerances and other conditions affecting performance of metal acoustical ceiling suspension assemblies.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

**3.2 INSTALLATION**

- A. Install metal acoustical ceiling suspension assemblies to comply with ASTM C636/C636M and seismic design requirements indicated, according to manufacturer's written instructions and CISCA's "Ceiling Systems Handbook."
- B. Main Tees: Installed 1220 mm 48" on centre, by direct suspension from existing structure in accordance with ASTM C754 and ASTM C841 with not less than 2.642 mm (12 ga min) steel hanger wires, wrapped tightly 3 full turns, spaced 1220 mm 48" on centre along component length.
- C. Cross Tees:
  - 1. Installed perpendicular to main tees 610 mm (24") on centre to form 2 by 2 modules.
  - 2. Installed adjacent to each unsupported side of recessed fixtures.
- D. Shadow Line Moldings: Installed on vertical surfaces, intersecting suspension components by appropriate method in accordance with industry accepted practice.
- E. Additional Hanger Wires: Wrapped tightly 3 full turns to structure and components at locations where imposed loads could cause deflection exceeding 1/360 span.
- F. Lighting fixtures installed shall not rely on ceiling grid for support. Fixtures shall be independently supported by 12 ga min. wire tied to structure at diagonal ends.

**3.3 REPAIR**

- A. Remove damaged or compromised components; replace with undamaged components.

**END OF SECTION**

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