

**SECTION 09 22 16  
NON-STRUCTURAL METAL FRAMING**

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**REFERENCE STANDARDS**

- A. ASTM A641/A641M - Standard Specification for Zinc-Coated (Galvanized) Carbon Steel Wire; 2019 (Reapproved 2025).
  - B. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2023.
  - C. ASTM C645 - Standard Specification for Nonstructural Steel Framing Members; 2018.
  - D. ASTM C754 - Standard Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products; 2020.
- ASTM C840 - Standard Specification for Application and Finishing of Gypsum Board; 2023.

**PART 1 - GENERAL**

**1.01 GENERAL REQUIREMENTS**

- A. The Contractor is referred to the Contract Documents which include the "Bid Document," the "Contract Drawings"; the "Specifications"; "General Conditions", " Special Conditions ", "Special Notice to Contractors Summary Form" latest edition; the "Form of Proposal", "Amendments to General Conditions", and all amendments and addenda, all of which govern the Work of this Contract.

**1.02 SUMMARY**

- A. Work Included: The Work of this Section shall include but not be limited to the following:
  - 1. Non-load-bearing steel framing systems for interior partitions.
  - 2. Suspension systems for interior ceilings and soffits.

**1.03 SUBMITTALS**

- A. Product Data: For each type of product indicated.
  - 1. Studs and Runners: Provide documentation that framing members' certification is according to SIFA's "Code Compliance Certification Program for Cold-Formed Steel Structural and Non-Structural Framing Members."
- B. Shop Drawings
  - 1. Submit a table of proposed stud thickness and depth and the corresponding height of the stud along with the partition thickness (type). Provide selected manufacturers load tables clearly showing the selected stud, thickness and limiting height for the partition type.
  - 2. Submit locations where suspended grid system is proposed. Include all associated details of interface with surrounding construction and details related thereto.
  - 3. Submit details and extent of reinforcing, blocking and support for items that will be attached to metal faming.

**PART 2 - PRODUCTS**

**2.01 PERFORMANCE REQUIREMENTS**

- A. Horizontal Deflection: For wall assemblies, limited to 1/240 (use 1/360 for wall assemblies finished with plaster, stone tile or other non-flexible materials) of the wall height based on horizontal loading of 5 lbf/sq. ft.
  - 1. Where gages (thickness) of studs are indicated they are minimum gages (thickness). Increase the thickness of the stud to comply with the deflection criteria without increasing the partition thickness.
- B. Design framing systems in accordance with American Iron and Steel Institute Publication S220 "North American Specification for the Design of Cold-Formed Steel Framing – Non-Structural Members", except as otherwise shown or specified.

## **2.02 NON-LOAD-BEARING STEEL FRAMING, GENERAL**

- A. Framing Members, General: Comply with ASTM C754 for conditions indicated.
  - 1. Steel Sheet Components: Comply with ASTM C645 requirements for metal, unless otherwise indicated.
  - 2. Protective Coating: ASTM A653/A653M, G40, hot-dip galvanized, excluding equivalents, unless otherwise indicated.

## **2.03 SUSPENSION SYSTEM COMPONENTS**

- A. Tie Wire: ASTM A641/A641M, Class 1 zinc coating, soft temper, 0.0625-inch- diameter wire, or double strand of 0.0475-inch- diameter wire.
- B. Hanger Attachments to Concrete:
  - 1. Anchors: Fabricated from corrosion-resistant materials with holes or loops for attaching wire hangers and capable of sustaining, without failure, a load equal to 5 times that imposed by construction as determined by testing according to ASTM E 488 by an independent testing agency.
    - a. Type: Cast-in-place anchor, designed for attachment to concrete forms.
- C. Hanger Rods: 1/2 inch diameter, mild steel, zinc coated or protected with rust-inhibitive paint.
- D. Flat Hangers: Steel sheet, 1 by 3/16 inch by length indicated.
- E. Carrying Channels: Cold-rolled, commercial-steel sheet with a base-metal thickness of 0.0538 inch and minimum 1/2-inch- wide flanges.
  - 1. Depth: As indicated on Drawings or 1-1/2 inches.
- F. Furring Channels (Furring Members):
  - 1. Cold-Rolled Channels: 0.0538-inch bare-steel thickness, with minimum 1/2-inch- wide flanges, 3/4 inch deep.
  - 2. Steel Studs: ASTM C645.

### **A. MINIMUM BASE-METAL THICKNESS: 0.0179 INCH.**

### **B. DEPTH: AS INDICATED ON DRAWINGS.**

- 1. Hat-Shaped, Rigid Furring Channels: ASTM C645, 7/8 inch deep.
  - a. Minimum Base Metal Thickness: As indicated on Drawings or 0.0179 inch

## **4.02 STEEL FRAMING FOR FRAMED ASSEMBLIES**

- A. Refer to general requirements for framing members for the following items.
- B. Steel Studs and Runners: ASTM C645.
  - 1. Minimum Base-Metal Thickness: 0.0179 inch or to suite size per manufacturer standard.
  - 2. Depth: As indicated on Drawings.
- C. Reinforcing, Flat Strap and Backing Plate: Steel sheet for blocking and bracing in length and width indicated.
- D. Minimum Base-Metal Thickness: 0.0179 inch.
  - 1. Hat-Shaped, Rigid Furring Channels:

### **ASTM 645.**

- 1. Minimum Base Metal Thickness: 0.0179 inch.
- 2. Depth: As indicated on Drawings.
  - a. Cold-Rolled Furring Channels: 0.0538-inch bare-steel thickness, with minimum 1/2-inch- wide flanges.
- 3. Depth: As indicated on Drawings.
- 4. Furring Brackets: Adjustable, corrugated-edge type of steel sheet with minimum bare-steel thickness of 0.0312 inch.
- 5. Tie Wire: ASTM A641/A641M, Class 1 zinc coating, soft temper, 0.0625-inch- diameter wire, or double strand of 0.0475-inch- diameter wire.

### **1) AUXILIARY MATERIALS**

- B. General: Provide auxiliary materials that comply with referenced installation standards.
  - 1. Fasteners for Metal Framing: Of type, material, size, corrosion resistance, holding power, and other properties required to fasten steel members to substrates.
- C. Isolation Strip at Exterior Walls: Provide one of the following:
  - 1. Asphalt-Saturated Organic Felt: ASTM D 226, Type I (No. 15 asphalt felt), nonperforated.
  - 2. Foam Gasket: Adhesive-backed, closed-cell vinyl foam strips that allow fastener penetration without foam displacement, 1/8 inch thick, in width to suit steel stud size.

### **PART 3 - EXECUTION**

#### **6.01 EXAMINATION**

- A. Examine areas and substrates, with Installer present, and including welded hollow-metal frames, cast-in anchors, and structural framing, for compliance with requirements and other conditions affecting performance.
  - 1. Proceed with installation only after unsatisfactory conditions have been corrected.
    - 1) PREPARATION
- B. Suspended Assemblies: Coordinate installation of suspension systems with installation of overhead structure to ensure that inserts and other provisions for anchorages to building structure have been installed to receive hangers at spacing required to support the Work and that hangers will develop their full strength.
  - 1) INSTALLATION, GENERAL
- C. Installation Standard: ASTM C754, except comply with framing sizes and spacing indicated.
  - 1. Gypsum Board Assemblies: Also comply with requirements in ASTM C840 that apply to framing installation.
- D. Install supplementary reinforcing, framing, and blocking to support fixtures, equipment services, heavy trim, grab bars, toilet accessories, furnishings, handrails or similar construction.
- E. Install bracing at terminations in assemblies.
- F. Do not bridge building control and expansion joints with non-load-bearing steel framing members. Frame both sides of joints independently.

#### **6.02 INSTALLING SUSPENSION SYSTEMS**

- A. Install suspension system components in sizes and spacings indicated on Drawings, but not less than those required by referenced installation standards for assembly types and other assembly components indicated.
  - 1. Where grid suspension systems are proposed, prior approval by the NYCHA's Representative is required.
- B. Isolate suspension systems from building structure where they abut or are penetrated by building structure to prevent transfer of loading imposed by structural movement.
- C. Suspend hangers from building structure as follows:
  - 1. Install hangers plumb and free from contact with insulation or other objects within ceiling plenum that are not part of supporting structural or suspension system.
    - a. Splay hangers only where required to miss obstructions and offset resulting horizontal forces by bracing, counter-splaying, or other equally effective means.
  - 2. Where width of ducts and other construction within ceiling plenum produces hanger spacings that interfere with locations of hangers required to support standard suspension system members, install supplemental suspension members and hangers in the form of trapezes or equivalent devices.
    - a. Size supplemental suspension members and hangers to support ceiling loads within performance limits established by referenced installation standards.
  - 3. Hanger Rods and Flat Hangers: Secure to structure, including intermediate framing members, by attaching to inserts, eye screws, or other devices and fasteners that are secure and appropriate for structure and hanger, and in a manner that will not cause hangers to deteriorate or otherwise fail.

4. Do not attach hangers to steel roof deck.
  5. Do not attach hangers to permanent metal forms. Furnish cast-in-place hanger inserts that extend through forms.
  6. Do not attach hangers to rolled-in hanger tabs of composite steel floor deck.
  7. Do not connect or suspend steel framing from ducts, pipes, or conduit.
- D. Installation Tolerances: Install suspension systems that are level to within 1/8 inch in 12 feet measured lengthwise on each member that will receive finishes and transversely between parallel members that will receive finishes.
- 1) INSTALLING FRAMED ASSEMBLIES
- E. Where studs are installed directly against exterior masonry walls or dissimilar metals at exterior walls, install isolation strip between studs and exterior wall.
  - F. Install studs so flanges within framing system point in same direction.
  - G. Install tracks (runners) at floors and overhead supports. Extend framing full height to structural supports or substrates above suspended ceilings, except where partitions are indicated to terminate at suspended ceilings. Continue framing around ducts penetrating partitions above ceiling.
  - H. Installation Tolerance: Install each framing member so fastening surfaces vary not more than 1/8 inch from the plane formed by faces of adjacent framing.

**END OF SECTION 09 22 16**