SECTION 09 22 16
NON-STRUCTURAL METAL FRAMING

SPEC WRITER NOTES:
1. Use this section only for NCA projects.
2. Delete between //----// if not applicable to project. Also delete any other item or paragraph not applicable in the section and renumber the paragraphs.
3. Use this section for wall framing members of 0.9 mm (0.0359-inch) thick bare metal (20 gauge) material or lighter with the exception of rolled steel channels of 1.5 mm (0.0598-inch) thick material, 50 mm (2 inches) or smaller.
4. See Section 05 40 00, COLD-FORMED METAL FRAMING for framing members 1.3 mm (0.0516-inch) thick (18 gauge) or heavier material for use as backup for masonry veneer and load bearing construction.

PART 1 - GENERAL
1.1 DESCRIPTION
This section specifies steel studs wall systems, ceiling or soffit suspended or furred framing, wall furring, fasteners, and accessories for the screw attachment of gypsum board, plaster bases or other building boards.

1.2 RELATED WORK
A. Load bearing framing: Section 05 40 00, COLD-FORMED METAL FRAMING.
B. Support for wall mounted items: Section 05 50 00, METAL FABRICATIONS.
C. Pull down tabs in steel decking: Section 05 36 00, COMPOSITE METAL DECKING.
D. Ceiling suspension systems for acoustical tile or panels and lay in gypsum board panels: Section 09 51 00, ACOUSTICAL CEILINGS// Section 09 29 00, GYPSUM BOARD.

1.3 TERMINOLOGY
A. Description of terms shall be in accordance with ASTM C754, ASTM C11, ASTM C841 and as specified.
B. Underside of Structure Overhead: In spaces where steel trusses or bar joists are shown, the underside of structure overhead shall be the underside of the floor or roof construction supported by beams, trusses, or bar joists.
C. Thickness of steel specified is the minimum bare (uncoated) steel thickness.
1.4 SUBMITTALS
A. Submit in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.
B. Manufacturer's Literature and Data:
   1. Studs, runners and accessories.
   2. Hanger inserts.
   3. Channels (Rolled steel).
   4. Furring channels.
   5. Screws, clips and other fasteners.
C. Shop Drawings:
   1. Typical ceiling suspension system.
   2. Typical metal stud and furring construction system including details around openings and corner details.

1.5 DELIVERY, IDENTIFICATION, HANDLING AND STORAGE
In accordance with the requirements of ASTM C754.

1.6 APPLICABLE PUBLICATIONS
A. The publications listed below form a part of this specification to the extent referenced. The publications are referenced in the text by the basic designation only.
B. American Society For Testing And Materials (ASTM)
   A123-09 ............... Zinc (Hot-dip Galvanized) Coatings on Iron and Steel Products
   A653/A653M-08 .......... Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy Coated (Galvannealed) by the Hot-Dip Process
   A641-09 ............... Zinc-Coated (Galvanized) Carbon Steel Wire
   C11-08 ................. Terminology Relating to Gypsum and Related Building Materials and Systems
   C635-07 ............... Manufacture, Performance, and Testing of Metal Suspension System for Acoustical Tile and Lay-in Panel Ceilings
   C636-08 ............... Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-in Panels
   C645-08 ............... Non-Structural Steel Framing Members
   C754-08 ............... Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products
   C841-03(R2008) ........ Installation of Interior Lathing and Furring
   C954-07 ............... Steel Drill Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Steel Studs from 0.033 in. (0.84 mm) to 0.112 in. (2.84 mm) in Thickness
C1002-07 ............... Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs


PART 2 - PRODUCTS

SPEC WRITER NOTES:
1. Make material requirements agree with applicable requirements specified in the referenced Applicable Publications. Update and specify in both only that which applies to the project.
2. When unusual loading conditions or heights are considered creating a design problem, show spacing, size, configuration and thickness of metal on drawings to identify clearly the exception.
3. Coordinate with Section 05 40 00, COLD-FORMED METAL FRAMING, for unusual loading conditions. Consult manufacturers; literature and Structural Engineer.
4. Do not use only gauges in this specification; define in minimum metric (inch) thickness.
5. Do not combine this section with Section 05 40 00, COLD-FORMED METAL FRAMING.

2.1 STEEL STUDS AND RUNNERS (TRACK)

A. ASTM C645, with flange edges of studs bent back 90 degrees and doubled over to form 3/16 inch wide minimum lip (return) and complying with the following requirements for minimum thickness of base (uncoated) metal and for depth:

1. Minimum base metal thickness: 0.8 mm (0.0329 inch) (33 mil).
2. Depth: As indicated
3. Perforated metal studs of a lighter gauge will not be accepted.

2.2 FASTENERS, CLIPS, AND OTHER METAL ACCESSORIES

A. Provide fasteners of type, material, size, corrosion resistance, holding power, and other properties required to fasten steel framing and furring members securely to substrates involved; complying with the recommendations of gypsum board manufacturers for applications indicated.

SPEC WRITER NOTES: Suspended ceiling systems similar to acoustical panel lay-in grid system may be used to support gypsum board, screw attached, as an option to the

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rigid furring channels. Use only for gypsum board ceilings screw attached. See Par. 3.6.G.

2.3 SUSPENDED CEILING SYSTEM FOR GYPSUM BOARD (OPTION)

A. Conform to ASTM C635 and C754. For materials and sizes

B. Conform to ASTM C641 for wire hangers.

PART 3 - EXECUTION

SPEC WRITER NOTES:
1. Read ASTM C754, coordinate with project specification and drawing requirements.
2. Extend studs to underside of structure overhead for fire partitions, smoke partitions, shafts, and sound rated partitions to allow wall finishes to be carried up to the same height. No exceptions.
4. At existing ceilings studs may terminate at ceiling under certain conditions. Modify specification requirements for anchorage of top runners to suit details shown.
5. Insure partitions are fully detailed for all requirements and types.

3.1 INSTALLATION CRITERIA

A. Examine substrates to which gypsum board assemblies attach or abut, installed hollow metal frames, cast-in-anchors, and structural framing, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of assemblies specified in this section.

3.2 INSTALLING STUDS

A. Install studs in accordance with ASTM C754, except as otherwise shown or specified.

B. Install runners (tracks) at floors, ceilings, and structural walls and columns where gypsum board stud assemblies abut other construction.

1. Extend partition framing full height to structural supports or substrates above suspended ceilings, except where otherwise indicated. Continue framing over frames of doors and openings and frame around ducts penetrating partitions above ceiling to provide support for gypsum board.

C. Install steel studs and furring in sizes and at spacing indicated.

D. Install steel studs so flanges point in the same direction and leading edge or end of each gypsum board panel can be attached to open (unsupported) edges of stud flanges first.

E. Frame door openings to comply with GA-219, and with applicable published recommendations of gypsum board manufacturer, unless otherwise indicated. Attach vertical studs at jambs with screws either directly
to frames or to jamb anchor clips on door frames; install runner track section (for cripple studs) at head and secure to jamb studs.

1. Install two (2) studs at each jamb, unless otherwise indicated.

F. Frame openings other than door openings to comply with details indicated or, if none indicated, as required for door openings. Install framing below sills of openings to match framing required above door heads.

3.3 INSTALLING FURRED AND SUSPENDED CEILINGS OR SOFFITS

A. Install furred and suspended ceilings or soffits in accordance with ASTM C754 or ASTM C841 except as otherwise specified or shown for screw attached gypsum board ceilings and for plaster ceilings or soffits.

B. Install hangers plumb and free from contact with insulation or other objects within ceiling plenum that are not part of supporting structural or ceiling suspension system. Splay hangers only where required to miss obstructions and offset resulting horizontal forces by bracing, counter splaying, or other equally effective means.

C. Where width of ducts and other construction within ceiling plenum produces hanger spacing that interfere with the location of hangers required to support standard suspension system members, install supplemental suspension members and hangers in form of trapezes or equivalent devices. Size supplemental suspension members and hangers to support ceiling loads within performance limits established by referenced standards.

D. Secure wire hangers by looping and wire-tying, either directly to structures or to inserts, eyescrews, or other devices and fasteners that are secure and appropriate for substrate, and in a manner that will not cause them to deteriorate or otherwise fail.

E. Install suspended steel framing components in sizes and at spacing indicated, but not less than that required by the referenced steel framing installation standard.

1. Wire Hangers: 48 inches o.c.
2. Carrying Channels (Main Runners): 48 inches o.c.
3. Furring Channels (Furring Members): 16 inches o.c

F. Installation Tolerances: Install steel framing components for suspended ceilings so that cross-furring or grid suspension members are level to within 1/8 inch in 12 feet as measured both lengthwise on each member and transversely between parallel members.

G. Wire-tie or clip furring members to main runners and to other structural supports as indicated.

H. Grid Suspension System: Attach perimeter wall track or angle where grid suspension system meets vertical surfaces. Mechanically join main beam
and cross-furring members to each other and butt-cut to fit into wall track.

3.7 TOLERANCES

A. Fastening surface for application of subsequent materials shall not vary more than 3 mm (1/8-inch) from the layout line.
B. Plumb and align vertical members within 3 mm (1/8-inch.)
C. Level or align ceilings within 3 mm (1/8-inch.)

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