

# SOUTHEASTERN METALS (SEMCO)

## DIAMOND STEEL FRAMING

### SPECIFICATION DATA

#### SECTION 09111 NON-LOAD-BEARING STEEL FRAMING

*# Specifier: Notation (#) means that text following is a specifier's note or sample.*

*#Verify that Section titles referenced in this Section are correct for this Project's Specifications; Section titles may have changed.*

### PART 1 - GENERAL

#### 1.01 Related Documents

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

#### 1.02 Summary

A. This Section includes non-load-bearing steel framing members for the following applications:

*# Adjust list below to suit Project*

1. Interior framing systems (e.g., supports for partition walls, framed soffits, furring, etc.).
2. Interior suspension systems (e.g., supports for ceilings, suspended soffits, etc.).

B. Related Sections include the following:

*# List below only products and construction that the reader might expect to find in this Section but are specified elsewhere.*

1. Division 5 Section "Cold-Formed Metal Framing" for exterior and interior load-bearing and exterior non-load-bearing wall studs; floor joists; roof rafters and ceiling joists; and roof trusses.

*# Delete first subparagraph below if no Z-shaped furring.*

2. Division 7 Section "Building Insulation" for insulation installed with Z-shaped furring members.
3. Division 7 Section "Fire-Resistive Joint Systems" for head-of-wall joint systems installed with non-load-bearing steel framing.
4. Division 9 Section "Gypsum Plaster" for metal lath supported by non-load-bearing steel framing.
5. Division 9 Section "Portland Cement Plaster" for metal lath supported by non-load-bearing steel framing.
6. Division 9 Section "Gypsum Board Shaft-Wall Assemblies" for non-load-bearing metal shaft-wall framing, gypsum panels, and other components of shaft-wall assemblies.

### 1.03 Submittals

A. **Product Data:** For each type of product indicated.

### 1.04 Quality Assurance

*#Retain paragraph below where framing is part of fire-resistance-rated assemblies. Indicate design designations of specific assemblies on Drawings.*

**A. Fire-Test-Response Characteristics:** For fire-resistance-rated assemblies that incorporate non-load-bearing steel framing, provide materials and construction identical to those tested in assembly indicated according to ASTM E 119 by an independent testing agency.

*# Retain paragraph below where framing is part of STC-rated assemblies. Indicate design designations of specific assemblies on Drawings.*

**B. STC-Rated Assemblies:** For STC-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E 90 and classified according to ASTM E 413 by an independent testing agency.

## PART 2 - PRODUCTS

### 2.01 Non-Load-Bearing Steel Framing – General

A. Basis-of-Design Product: The design for non-load-bearing steel framing is based on Southeastern Metals Mfg. Co. Subject to compliance with requirements, provide the named product or a comparable product by one of the following:

1. <Insert manufacturer's name>.
2. **Steel Sheet Components:** Comply with ASTM C 645 requirements for metal, unless otherwise indicated.

*# See "Corrosion Protection of Steel Framing" Article in the Evaluations for a discussion of corrosion-resistant coatings on components.*

**3. Protective Coating:** [ASTM A 653/A 653M, G40 (Z120), hot-dip galvanized] [ASTM A 653/A 653M, G60 (Z180), hot-dip galvanized] [manufacturer's standard corrosion-resistant] zinc coating, unless otherwise indicated.

### 2.02 Suspension System Components

*# Delete this Article if no suspended or furred ceilings or soffits.*

**A. Tie Wire:** ASTM A 641/A 641M, Class 1 zinc coating, soft temper, 0.0625-inch- (1.59-mm-) diameter wire, or double strand of 0.0475-inch- (1.21-mm-) diameter wire.

**B. Hanger Attachments to Concrete:**

*# Retain anchors or powder-actuated fasteners below for hanger attachment to concrete decks. Coordinate with hangers specified and verify safety factors with Project's structural engineer.*

**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] [Postinstalled, chemical anchor] [Postinstalled, expansion anchor].

**2. Powder-Actuated Fasteners:** Suitable for application indicated, fabricated from corrosion-resistant materials with clips or other devices for attaching hangers of type indicated, and capable of sustaining, without failure, a load equal to [10] times that imposed by construction as determined by testing according to ASTM E 1190 by an independent testing agency.

**C. Wire Hangers:** ASTM A 641/A 641M, Class 1 zinc coating, soft temper, 0.162-inch (4.12-mm) diameter.

*# Retain hanger paragraph above or below, or insert requirements to suit Project. Verify requirements of authorities having jurisdiction. If more than one type of hanger is required, indicate locations of each on Drawings.*

**D. Flat Hangers:** Steel sheet, [in size indicated on Drawings] [1 by 3/16 inch (25.4 by 4.76 mm) by length indicated] <Insert size>.

**E. Carrying Channels:** Cold-rolled, commercial-steel sheet with a base-metal thickness of 0.0538 inch (1.37 mm) and minimum 1/2-inch- (12.7-mm-) wide flanges.

**1. Depth:** [As indicated on Drawings] 3/4 inch (19 mm) [2-1/2 inches (64 mm)] [2 inches (51 mm)] [1-1/2 inches (38 mm)].

**2.03 Installation – General**

**A. Installation Standard:** ASTM C 754.

*# Standards listed in four subparagraphs below include framing installation requirements not in ASTM C 754. Retain applicable subparagraphs to suit Project.*

**1. Gypsum Plaster Assemblies:** Also comply with requirements in ASTM C 841 that apply to framing installation.

**2. Portland Cement Plaster Assemblies:** Also comply with requirements in ASTM C 1063 that apply to framing installation.

**3. Gypsum Veneer Plaster Assemblies:** Also comply with requirements in ASTM C 844 that apply to framing installation.

**4. Gypsum Board Assemblies:** Also comply with requirements in ASTM C 840 that apply to framing installation.

**B.** Install supplementary framing, and blocking to support fixtures, equipment services, heavy trim, grab bars, toilet accessories, furnishings, or similar construction.

**C.** Install bracing at terminations in assemblies.

*# Detail control and expansion joints on Drawings.*

**D.** Do not bridge building control and expansion joints with non-load-bearing steel framing members. Frame both sides of joints independently.

## 2.04 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.

**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, countersplaying, 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.

**3. Wire Hangers:** Secure by looping and wire tying, either directly to structures or to inserts, eye screws, or other devices and fasteners that are secure and appropriate for substrate, and in a manner that will not cause hangers to deteriorate or otherwise fail.

**4. 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.

*# Delete inapplicable construction types below.*

*# Delete first subparagraph below if steel roof deck can carry ceiling loads; verify with structural engineer. In 2002, SDI changed its recommendation against suspending loads from roof deck. It deleted commentary in SDI Publication No. 30 that stated,*

*"Suspended ceilings, light fixtures, ducts, or other utilities shall not be supported by the steel deck."*

5. Do not attach hangers to steel roof deck.
6. Do not attach hangers to permanent metal forms. Furnish cast-in-place hanger inserts that extend through forms.
7. Do not attach hangers to rolled-in hanger tabs of composite steel floor deck.
8. Do not connect or suspend steel framing from ducts, pipes, or conduit.

# Furring channels must be wire tied to supports in most fire-resistance-rated assemblies. Verify requirements of fire-resistance-rated assemblies and revise paragraph below to suit Project.

**D. Fire-Resistance-Rated Assemblies:** Wire tie furring channels to supports.

# Retain paragraph below for seismic bracing and revise to include specific provisions to suit Project.

**E. Seismic Bracing:** Sway-brace suspension systems [with hangers used for support] <Insert requirements>.

# Grid suspension systems are suitable for use with gypsum board. They might not be acceptable for gypsum veneer plaster; consult gypsum veneer plaster and grid suspension system manufacturers before specifying them.

**F. Grid Suspension Systems:** Attach perimeter wall track or angle where grid suspension systems meet vertical surfaces. Mechanically join main beam and cross-furring members to each other and butt-cut to fit into wall track.

# Example tolerance below is based on ASTM C 636 for acoustical ceilings.

**G. Installation Tolerances:** Install suspension systems that are level to within [1/8 inch in 12 feet (3 mm in 3.6 m)] <Insert tolerance> measured lengthwise on each member that will receive finishes and transversely between parallel members that will receive finishes.

## 2.05 Installing Framed Assemblies

# Retain first paragraph below if studs will abut dissimilar metals at exterior walls or exterior masonry walls that may become damp.

- A. Where studs are installed directly against exterior masonry walls or dissimilar metals at exterior walls, install isolation strip between studs and exterior wall.
- B. Install studs so flanges within framing system point in same direction.
- C. 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.

# Indicate locations and details of slip-type and fire-rated head joints on Drawings. See "Crack Control" Article in the Evaluations.

1. **Slip-Type Head Joints:** Where framing extends to overhead structural supports, install to produce joints at tops of framing systems that prevent axial loading of finished assemblies.
2. **Door Openings:** Screw vertical studs at jambs to jamb anchor clips on door frames; install runner track section (for cripple studs) at head and secure to jamb studs.

# Usually retain subparagraph below. For heavy doors, 200 to 300 lb (91 to 136 kg) that are up to 48 inches (1219 mm) wide, GA-600 recommends using 0.0312-inch- (0.79-mm-) thick studs. Design framing for doors more than 48 inches (1219 mm) wide, double doors, and extra-heavy doors to meet loading conditions.

- a. Install two studs at each jamb, unless otherwise indicate
  - i. Install cripple studs at head adjacent to each jamb stud, with a minimum 1/2-inch (12.7-mm) clearance from jamb stud to allow for installation of control joint in finished assembly.

# Retain subparagraph below if suspended ceilings cannot withstand forces generated by opening and closing doors.

- ii. Extend jamb studs through suspended ceilings and attach to underside of overhead structure.

# Delete first subparagraph below if no framed openings other than doors, or revise to suit Project. Fully detail framing for large openings on Drawings.

3. **Other Framed Openings:** Frame openings other than door openings the same as required for door openings, unless otherwise indicated. Install framing below sills of openings to match framing required above door heads.
4. **Fire-Resistance-Rated Partitions:** Install framing to comply with fire-resistance-rated assembly indicated and support closures and to make partitions continuous from floor to underside of solid structure.

# Indicate locations and details of firestop track on Drawings.

5. **Sound-Rated Partitions:** Install framing to comply with sound-rated assembly indicated.
6. **Curved Partitions:**
  - a. Bend track to uniform curve and locate straight lengths so they are tangent to arcs.
  - b. Begin and end each arc with a stud, and space intermediate studs equally along arcs. On straight lengths of not less than 2 studs at ends of arcs, place studs 6 inches (150 mm) o.c.

**D. Direct Furring:**

1. Screw to wood framing.
2. Attach to concrete or masonry with stub nails, screws designed for masonry attachment, or powder-driven fasteners spaced 24 inches (610 mm) o.c.

**E. Z-Furring Members:**

1. Erect insulation (specified in Division 7 Section "Building Insulation") vertically and hold in place with Z-furring members spaced [24 inches (610 mm)] [600 mm] o.c.
2. Except at exterior corners, securely attach narrow flanges of furring members to wall with concrete stub nails, screws designed for masonry attachment, or powder-driven fasteners spaced 24 inches (600 mm) o.c.
3. At exterior corners, attach wide flange of furring members to wall with short flange extending beyond corner; on adjacent wall surface, screw-attach short flange of furring channel to web of attached channel. At interior corners, space second member no more than 12 inches (300 mm) from corner and cut insulation to fit.

*# Paragraph below is based on recommendation in GA-216 for wood framing.*

**F. Installation Tolerance:** Install each framing member so fastening surfaces vary not more than 1/8 inch (3 mm) from the plane formed by faces of adjacent framing.

**END OF SECTION 09111**