



SECTION 092216

NON-STRUCTURAL METAL FRAMING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Non-Structural Interior Metal (Steel) Framing.

1.2 RELATED SECTIONS

- A. Section 05400 - Cold-Formed Metal Framing for exterior and interior framing.

1.3 DESIGN REQUIREMENTS

- A. Design steel in accordance with American Iron and Steel Institute Publication "Specification for the Design of Cold-Formed Steel Structural Members", except as otherwise shown or specified.
- B. Design loads: As indicated on the Architectural Drawings. 5 PSF minimum design lateral load is required for interior walls by the building code.
- C. Design framing systems to withstand design loads without deflections greater than the following:
 - 1. Lateral deflection of: L/120.
 - 2. Lateral deflection of: L/180.
 - 3. Lateral deflection of: L/240.
 - 4. Lateral deflection of: L/360.
- D. Design framing system to accommodate deflection of primary building structure and construction tolerances.
- E. Fire-Test-Response Characteristics: For fire-resistance-rated assemblies that incorporate non-load-bearing steel framing, provides materials and construction identical to those tested in assembly indicated according to ASTM E119 by an independent testing laboratory. Products used in the assembly shall carry a classification label from the testing laboratory.
- F. Sound Transmission Characteristics [STC]: For gypsum assemblies [wall/ceilings] with STC rated requirements, provide materials and construction methods that are identical to the requirements of either ASTM E 90.

1.4 SUBMITTALS

- A. Studs and Track comply with IBC, ASTM C645/AISI S100 and AISI S220. ASTM C645 for IBC 2009 and 2012. AISI S220 and ASTM C645 for IBC 2015 and 2018
- B. Evaluation Reports: Submit evaluation reports under an independent 3rd party inspection program.
- C. Manufacturers Certification: Submit manufacturers certification of product compliance with codes and standards along with product data sheets.

1.5 QUALITY ASSURANCE

- A. Contractor shall provide effective, full time quality control over all fabrication and erection complying with the pertinent codes and regulations of government agencies having jurisdiction.
- B. Conduct pre-installation meeting to verify project requirements, substrate conditions, and manufacturer's installation instructions.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Notify manufacturer of damaged materials received prior to installing.
- B. Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.
- C. Store materials protected from exposure to rain, snow or other harmful weather conditions, at temperature and humidity conditions per the recommendations of ASTM C754.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: CRACO Mfg., Inc. located at: 1122 Johnson Rd; York, SC 29745; Toll Free Tel: 803-684-5544; Fax: 803-684-2091; Email: technical@cracometals.com; Website: www.cracometals.com

2.2 MATERIALS

- A. Steel: Galvanized Steel meeting or exceeding the requirements of ASTM A 1003.
 - 1. Coating: Galvanized G40 (Z120) coating minimum or equivalent, complying with ASTM C 645.
 - 2. Coating: Galvanized G60 (Z180) coating minimum or equivalent, complying with ASTM C 645.

2.3 COMPONENTS

- A. Nonstructural Studs: Cold-Formed galvanized Steel C-Studs.
Material: Galvanized steel meeting or exceeding the requirements of ASTM A754 for conditions indicated below:
1. Flange Length: 1-1/4 inch (32mm) 125 flange.
 2. Web Depth: 1-5/8 inch (41 mm) 162 depth.
 3. Web Depth: 2-1/2 inch (64 mm) 250 depth.
 4. Web Depth: 3-5/8 inch (92 mm) 362 depth.
 5. Web Depth: 4 inch (102 mm) 400 depth.
 6. Web Depth: 6 inch (152.4 mm) 600 depth.
 7. Web Depth: As indicated on drawings.
 8. Available Steel thickness in mils: 15, 18, 19, 23, 27, 30, 33.
- B. Nonstructural Track: Cold-Formed galvanized steel runner tracks
1. Flange Length: 1-1/4 inch (32 mm) T125 flange.
 2. Web Depth: 1-5/8 inch (41 mm) 162 depth.
 3. Web Depth: 2-1/2 inch (64 mm) 250 depth
 4. Web Depth: 3-5/8 inch (92 mm) 362 depth.
 5. Web Depth: 4 inch (102 mm) 400 depth.
 6. Web Depth: 6 inch (152.4 mm) 600 depth.
 7. Web: Track web to match stud web size.
 8. Available Steel thickness in mils: 15, 18, 19, 23, 27, 30, 33.
- C. Deflection Track: Cold-Formed Deep Leg Runner Slip Track.
1. Leg Length: 2 inch (51 mm) T200 flange.
 2. Leg Length: 2-1/2 inch (63 mm) T250 flange.
 3. Leg Length: 3 inch (76mm) T300 flange.
 4. Leg Length: 3-1/2 inch (89 mm) T350 flange.
 5. Leg Length: As required by design.
 6. Available Steel thickness in mils: 15, 18, 19, 23, 27, 30, 33, 43, 54, 68, 97.
 7. Minimum Material Thickness: As required by design.
 8. Minimum Yield Strength: 33ksi for 18 & 27 mils through 97mils).
 9. Minimum Yield Strength: 50ksi for 15 & 19 mils plus optional for 54mils and up).
 10. Minimum Yield Strength: As required by design.
- D. Deflection Track Alternate: CRACO Slotted Track SLT
1. Size: Web Widths of 2 1/2", 3-5/8", 4", 6", 8", 10.
 2. Available Steel thickness in mils: 33, 43, 54, 68.
 3. Leg Length: 2 1/2 inch
 4. Size: As required by design.
 5. UL listed assembly.
- E. U-Channel (CRC Cold Rolled Channel):
1. Size: 150U50-54 1-1/2 inch (38mm) 54 mils (16ga.).
 2. Size: 075U50-54 3/4 inch (19.1mm) 54 mils (16ga.).
 3. Attach CRC to Steel Studs with BridgeSmart Connector Clips.
 4. Size: As required by design.
- F. Furring Channel: Furring existing walls and suspended ceiling applications.
1. Size: 087F125-15 7/8 inch (22mm) Furring Channel 15 mils (25ga-eq).
 2. Size: 087F125-18 7/8 inch (22mm) Furring Channel 18 mils (25ga).

3. Size: 087F125-23 7/8 inch (22mm) Furring Channel 23 mils (20ga-eq).
 4. Size: 087F125-30 7/8 inch (22mm) Furring Channel 30 mils (20ga).
 5. Size: 087F125-33 7/8 inch (22mm) Furring Channel 33 mils (20ga).
 6. Size: 087F125-43 7/8 inch (22mm) Furring Channel 43 mils (18ga).
 7. Size: 150F125-15 1-1/2 inch (38mm) Furring Channel 15 mils (25ga-eq).
 8. Size: 150F125-18 1-1/2 inch (38mm) Furring Channel 18 mils (25ga).
 9. Size: 150F125-23 1-1/2 inch (38mm) Furring Channel 23 mils (20ga-eq).
 10. Size: 150F125-30 1-1/2 inch (38mm) Furring Channel 30 mils (20ga).
 11. Size: 150F125-33 1-1/2 inch (38mm) Furring Channel 33 mils (20ga).
 12. Size: 150F125-43 1-1/2 inch (38mm) Furring Channel 43 mils (18ga).
 13. Size: 150F125-54 1-1/2 inch (38mm) Furring Channel 54 mils (16ga).
 14. Size: As required by design.
- G. Resilient Channel: Cold-Formed Resilient Channel System to decrease sound transmissions.
1. Size: One Leg 1/2 inch Resilient Channel.
 2. Size: Two Leg 1/2 inch Resilient Channel.
- H. Framing Accessories: Accessories required in this project.
1. Flat Strapping for Backing Strip.
 2. Flat Strapping and bridging for lateral bracing.
 3. L-Angles.
- I. Fasteners: Self-drilling, self-tapping screws; complying with ASTM C 1513 - Standard Specification for Steel Tapping Screws for Cold-Formed Steel Framing Connections.
- J. Touch-Up Paint: Complying with ASTM A 780 - Standard Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings.

PART 3 EXECUTION

3.1 INSPECTION

- A. Inspect supporting substrates and structures for compliance of proper conditions for installation and performance of the cold-formed structural framing.

3.2 PREPARATION

- A. Prepare attachment surfaces so that they are plumb, level, and in proper alignment for accepting the cold-formed structural framing.

3.3 FABRICATION

- A. Prior to fabrication of framing, submit product submittal sheets to the architect or engineer to obtain approval.

- B. Framing components may be preassembled into panels prior to erecting. Prefabricate panels so they are square, with components attached in a manner which prevents racking and minimizes distortion during lifting and transport.
- C. Cut all framing components square for attachment to perpendicular members or as required for an angular fit against abutting members.
- D. Plumb, align and securely attach studs to flanges of both upper and lower runners, except that in the case of interior, non-load bearing walls where studs need not be attached to upper or lower runners.
- E. Splices in members other than top and bottom runner track are not permitted.
- F. Provide temporary bracing where required, until erection is complete.
- G. Runners shall be securely anchored to the supporting structure as shown on the drawings.
- H. Jack studs or short studs shall be installed below windows, above window and door headers, and elsewhere to furnish supports.
- I. Lateral bracing shall be provided by use of gypsum board and gypsum sheathing or by horizontal straps or cold-rolled channels. Bracing shall conform to Section D3 of the AISI North American Specification (NAS).
- J. Provisions for structure vertical movement shall be provided where indicated on the drawings prepared by the engineer of record.
- K. Handling and lifting of prefabricated panels shall be done in a manner so as not to cause distortion in any member.

3.4 INSTALLATION - GENERAL

- A. Reference Installation Standard: ASTM C754.
- B. Install supplemental framing, and blocking to support fixtures, equipment services, heavy trim, grab bars, toilet accessories, furnishings, or similar construction.
- C. Install studs so flanges within framing system point in same direction.
- D. Install tracks 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 or above suspended ceilings. Continue framing around ducts penetrating partitions above ceiling.

3.5 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before substantial completion of final installation.

END OF SECTION