SECTION 09 22 16

NON-STRUCTURAL METAL FRAMING

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Non-load bearing metal studs and accessories for wall assemblies.

B. Wood Blocking for wall-mounted items.

1.2 RELATED SECTIONS

A. Section 03 35 20 - Polished Concrete

B. Section 05 40 00 - Cold-Formed Metal Framing.

C. Section 07 92 00 Joint Sealants-Sill Sealer below bottom track at exterior walls

D. Section 09 24 00 - Gypsum Plaster: Interior plaster applications.

E. Section 09 29 00 - Drywall: Gypsum interior sheathing.

1.3 REFERENCES

A. AISI - Standard for Cold-Formed Steel Framing General Provisions.

B. AISI - North American Specification (NASPEC) for the Design of Cold-Formed Steel Structural Members - 2001.

C. ASTM A 653 - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) by the Hot-Dip Process.

D. ASTM A 780 - Standard Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings.

E. ASTM A 1003 - Standard Specification for Steel Sheet, Carbon, Metallic- and Nonmetallic-Coated for Cold-Formed Framing Members.

F. ASTM C 645 - Standard Specification for Nonstructural Steel Framing Members - 2006.

G. ASTM C 754 - Standard Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products.

H. ASTM C 1513 - Standard Specification for Steel Tapping Screws for Cold-Formed Steel Framing Connections.

I. ASTM E 84 - Standard Test Method for Surface Burning Characteristics of Building Materials.

J. ASTM E 90 - Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements.

K. ASTM E 119 - Standard Test Methods for Fire Tests of Building Construction and Materials.

L. ASTM E 413 - Classification for Rating Sound Insulation.

M. GA-600 - Fire Resistance Design Manual.

1.4 DESIGN REQUIREMENTS

A. Design steel in accordance with American Iron and Steel Institute Publication "Specification for the Design of Cold-Formed Steel Structural Members" or the North American 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. Shaftwall framing minimum design lateral load is typically 5 - 15 PSF.

C. Design framing systems to withstand design loads without deflections greater than the following:
   1. Interior Non-Load Bearing Walls: Lateral deflection of: L/240. *(for gyp. bd.)*

D. Design framing system to accommodate deflection of primary building structure and construction tolerances.

E. Responsibilities: 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, and displaying a classification label from, an independent testing agency acceptable to the authority having jurisdiction.
   1. Construct fire-resistance-rated partitions in compliance with tested assembly requirements indicated in drawings.
   2. Rated assemblies to be substantiated, from applicable testing using the proposed products, by Contractor.
   3. Both metal framing & wallboard manufacturers must submit written confirmation that they accept the other manufacturer’s product as a suitable component in the assembly. Acceptance is as follows:
      a. If installation of both products is proper, no adverse effect will result in the performance of one manufacturer’s product by the other’s products.
      b. Combining products can be substantiated by required assembly tests.

1.5 SUBMITTALS

A. Submit under provisions of Section 01 33 00.

B. Submit manufacturer's product literature and data sheets for specified products.

C. Manufacturer's certification of product compliance with codes and standards.

1.6 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. Contractor to conduct pre-installation meeting to verify project requirements, substrate conditions, and manufacturer's installation instructions.

1.7 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 section 8.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturers:
   1. ClarkDietrich Building Systems, 9100 Pointe Drive, Suite 210, West Chester, OH. Phone: 513-870-1100. www.clarkdietrich.com, info@clarckdietritrich.com.
   2. Other manufacturers as referenced in this section for specific products.

B. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00.

C. All products to be manufactured by current members of the Steel Stud Manufacturers Association (SSMA), Steel Framing Industry Associates (SFIA), or the Certified Steel Stud Association (CSSA).

2.2 MATERIALS

A. Steel: Galvanized Steel meeting or exceeding the requirements of ASTM A 1003.

   1. Coating: Galvanized G60 (Z180) coating minimum or equivalent, complying with ASTM C 645. **Stud finish MUST be hot dipped galvanized. Galvanneal finish is not acceptable. G60 must be used at all EXTERIOR locations. G40 finish is allowed at interior locations.**

2.3 COMPONENTS

A. Nonstructural Studs:
   1. Flange Length: 1 1/4 inch (32mm) 125 flange.
   2. Web Depth: As indicated on drawings.
   3. Minimum Material Thickness: Gauge as required by stud legend shown on drawings.

4. Punch Outs: 12 inches (305mm) from base and every 48 inches (1219mm) thereafter.

B. Nonstructural Track: Cold-Formed galvanized steel runner tracks
   1. Flange Length: 1 1/4 inch (32 mm) T125 flange.
   2. Web: Track web to match stud web size.
   3. Minimum Material Thickness: Unless noted otherwise on drawings match stud gauge.
   4. Minimum Material Thickness: Track thickness to match wall stud thickness.

C. Deflection Track: Cold-Formed Deep Leg Runner Slotted 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. Minimum Material Thickness: As required by design.
   7. Minimum Yield Strength: 33ksi (227 MPa) (for 33mils through 118mils).
   8. Minimum Yield Strength: 50ksi (345 MPa) (optional for 54mils and up).
   9. Minimum Yield Strength: As required by design.

D. U-Channel (CRC Cold Rolled Channel):

E. Furring Channel: Furring existing walls and suspended ceiling applications.
   1. Size: 087F125-30 7/8 inch (22mm) Furring Channel 30mils (20ga Drywall).
   2. Size: 087F125-33 7/8 inch (22mm) Furring Channel 33mils (20ga Structural).
   3. Size: 150F125-30 1 1/2 inch (38mm) Furring Channel 30mils (20ga Drywall).
   4. Size: 150F125-33 1 1/2 inch (38mm) Furring Channel 33mils (20ga Structural).

F. Framing Accessories: Provide accessories as required in this project.
   1. Flat Strapping for Backing Strip.
   2. Flat Strapping and bridging for lateral bracing.
   3. L-Angles.
   4. SwiftClip Fixed Connection Angles.
   5. Deflection Slip ConnectorsClarkDietrich™ Building Systems-Deflection Clips: Fast Strut™ / Fast Top™ Clips / FastClip™ Slide Clips / QuickClip™ / Slide Clip™ (SD), or approved alternate. Provide clip as required for each situation to compensate for deflection of structure.

G. Fire Blocking: Where fire blocking is required or called for under this section or called for on drawings, provide blocking equal to prefabricated fire blocking manufactured by Metal-Lite, Inc., Placentia, CA (800) 886-6824. Provide blocking same width as metal stud.
   1. As an option to the prefabricated metal blocking, mineral wool fire safing may be provided. Refer to Section 07 84 00 Firestopping.

K. Fasteners: Self-drilling, self-tapping screws; complying with ASTM C 1513 - Standard Specification for Steel Tapping Screws for Cold-Formed Steel Framing Connections.

L. 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 COORDINATION WITH OTHER TRADES

A. It will be a requirement of this section to verify and coordinate work with other trades and specification sections. Do not begin work on concrete slabs on grade or elevated concrete slabs until minimum strength and cure time has been reached.

B. Procedure and preparation for exposed concrete and/or polished concrete floors

1. Concrete floors in whole or in part as shown on drawings, are scheduled to be Polished or Dyed Polished Concrete. No stud walls are to begin installation until concrete slab received initial grind from floor polishing contactor. Refer to Sections 03 35 20 for requirements.
2. Any equipment used on slabs to be sealed or polished, shall meet the requirements of Sections 03 35 20 concerning diapering and tire marks.

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. Fastening of components shall be with welding or with minimum 1 #8 screw both sides of flange. Welds shall conform to the requirements of AWS D.1.1, AWS D.1.3 and AISI Manual Section 4.2. All welds shall be touched up using zinc-rich paint. Wire tying will not be permitted.

G. Cutting of steel framing members may be accomplished with a saw or shear. Torch cutting of load bearing studs will not be permitted.

H. Install headers in all openings in axially loaded walls that are larger than the stud spacing in the wall. Form headers as shown on drawings.

I. Unless shown otherwise on drawings, brace top of metal stud walls to structure above at max. 4'-0" O.C. with minimum 20 gauge stud bracing.

J. Insulation equal to that specified elsewhere shall be provided in all double jamb studs and doubled headers not accessible to insulation contractors.

K. Care should be taken to allow for additional studs at intersections, corners, doors, windows, steel joists, diagonal bracing and as called for in the shop drawings.

3.4 INSTALLATION – DEFLECTION TRACKS AND DEFLECTION SLIDE CLIPS

A. Unless noted otherwise, deflection tracks are to be installed at top of interior and exterior walls terminating directly below and/or attaching to beams joists, roof or floor deck, purlins, or other items subject to deflection.

B. Provide deflection slip connectors attached to stud walls from structure where studs extend vertically past a structural item such as but not limited to a beam or elevated floor edge angle.

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