

Division 5
Metal



SECTION 05400 - COLD-FORMED METAL FRAMING

PART 1 - GENERAL

1.1 SUMMARY

- A. Provide cold-formed metal framing units:
 - 1. Exterior steel stud-walls.
 - 2. Interior non-load bearing steel-stud walls.
 - 3. Steel trusses.

1.2 SUBMITTALS

- A. Product Data: Submit manufacturer's product data and installation instructions for each material and product used.
- B. Shop Drawings: Submit shop drawings indicating material characteristics, details of construction, connections, and relationship with adjacent construction.
 - 1. Shop drawings shall be prepared and stamped by a qualified engineer licensed in the jurisdiction of the project.
- C. Engineering Certification: Submit for approval engineering certification of deflection criteria.

1.3 QUALITY ASSURANCE

- A. Comply with governing codes and regulations. Provide products of acceptable manufacturers, which have been in satisfactory use in similar service for three years. Use experienced installers. Deliver, handle, and store materials in accordance with manufacturer's instructions.
- B. Standards: AISI, Specification for Design of Cold-Formed Steel Structural Members.
- C. Fabrication Tolerances: 1/8 inch in 10 feet.
- D. Erection Tolerances: 1/16 inch from true position.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Cold-Formed Metal Framing Materials:

1. Wall Framing: C-shaped non-load-bearing steel studs.
2. Units 16 gauge (.0598 inch) and heavier: ASTM A 653, yield point 50,000.
3. Units 20 gauge (.0329 inch): ASTM A 653, yield point 33,000 psi.
4. Finish: Galvanized, ASTM A 653, G60.

B. Framing Accessories:

1. Supplementary framing.
2. Bracing, bridging, and solid blocking.
3. Web stiffeners.
4. Deflection track and vertical side clips.
5. Stud kickers and girts.
6. Anchors, clips, and fasteners.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install materials and systems in accordance with manufacturer's instructions and approved submittals. Install materials and systems in proper relation with adjacent construction. Coordinate with work of other sections.
- B. Comply with requirements of ASTM C 1007 for installation of steel studs and accessories and Metal Lath/Steel Framing Association Lightweight Steel Framing Systems Manual.
- C. Restore damaged components. Protect work from damage.

END OF SECTION

SECTION 05500 - METAL FABRICATIONS

PART 1 - GENERAL

1.1 SUMMARY

A. Provide the following metal fabrications:

1. Ladders (including elevator pit ladders).
2. Loose steel lintels.
3. Shelf and relieving angles.
4. Miscellaneous framing and supports for overhead doors and grilles.
5. Miscellaneous framing and supports for elevator hoisting machines and sheaves.
6. Miscellaneous framing and supports for elevator door sills.
7. Steel framing and supports for countertops.
8. Pipe bollards.

1.2 SUBMITTALS

- A. Product Data: Submit manufacturer's product data and installation instructions for each material and product used.
- B. Shop Drawings: Submit shop drawings indicating material characteristics, details of construction, connections, and relationship with adjacent construction.
 1. Shop drawings shall be prepared and stamped by a qualified engineer licensed in the jurisdiction of the project.

1.3 QUALITY ASSURANCE

- A. Comply with governing codes and regulations. Provide products of acceptable manufacturers, which have been in satisfactory use in similar service for three years. Use experienced installers. Deliver, handle, and store materials in accordance with manufacturer's instructions.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Ferrous Materials:

1. Steel Plates, Shapes and Bars: ASTM A 36.
2. Steel Pipe, Galvanized Finish: ASTM A 53.

3. Reinforcing Bars: ASTM A 615, Grade 60.
4. Concrete Inserts: Threaded or wedge type.
5. Zinc-Coating: Hot-dip galvanized coating for materials in exterior assemblies or exterior walls.

B. Fasteners:

1. Bolts and Nuts: Hexagon head type, ASTM A 307, Grade A.
2. Lag Bolts: Square head, FS FF-B-561.
3. Drilled-In Expansion Anchors: FS FF-S-325.
4. Zinc-Coating: Fasteners in exterior assemblies or exterior walls.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Take field measurements prior to preparation of shop drawings and fabrication. Do not delay job; allow for cutting and fitting if field measurement not practical.
- B. Form work true to line with sharp angles and edges. Weld continuously, grind flush and make smooth on exposed surfaces.
- C. Install work plumb and level with hairline joints and ground flush welds.
- D. Lintels: Provide sizes indicated with 8" bearing at each end.
- E. Touch-up damaged coatings with shop primer and galvanize repair paint.
- F. Paint items scheduled in accordance with painting section.

END OF SECTION

SECTION 05530 - GRATINGS

PART 1 - GENERAL

1.1 SUMMARY

- A. Provide metal gratings, frames and supports.

1.2 SUBMITTALS

- A. Product Data: Submit manufacturer's product data and installation instructions for each material and product used.
- B. Shop Drawings: Submit shop drawings indicating material characteristics, details of construction, connections, and relationship with adjacent construction.

1.3 QUALITY ASSURANCE

- A. Comply with governing codes and regulations. Provide products of acceptable manufacturers, which have been in satisfactory use in similar service for three years. Use experienced installers. Deliver, handle, and store materials in accordance with manufacturer's instructions.
- B. Heavy-Duty Metal Bar Grating Standard: NAAMM MBG 532 "Heavy Duty Metal Bar Grating Manual."

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Expanded Metal Gratings:
 - 1. Material: Mill finish stainless steel.
- B. Stainless Steel:
 - 1. Bar Stock: ASTM A 276, Type 302, 304, or 316.
 - 2. Plate: ASTM A 666, Type 302, 304, or 316.
 - 3. Sheet: ASTM A 666, Type 304 or Type 316.
 - 4. Expanded Metal: ASTM F 1267, Class 3.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Take field measurements prior to fabrication, where possible. Form to required shapes and sizes with true, straight edges, lines and angles.
- B. Install materials and systems in accordance with manufacturer's instructions and approved submittals. Install materials and systems in proper relation with adjacent construction. Coordinate with work of other sections.
- C. Coordinate with work of other sections; provide inserts and templates as needed. Install work plumb and level with uniform appearance.
- D. Restore damaged finishes and protect work.

3.2 SCHEDULE

- A. Parking garage ramp: Removable french drain, refer to construction drawings.
- B. Fan shafts: Removable grate, refer to construction drawings.

END OF SECTION

SECTION 05720 - ORNAMENTAL HANDRAILS AND RAILINGS

PART 1 - GENERAL

1.1 SUMMARY

- A. Provide ornamental handrails and railings:
 - 1. Aluminum ornamental handrails and railing systems.

1.2 SUBMITTALS

- A. Product Data: Submit manufacturer's product data and installation instructions for each material and product used.
- B. Shop Drawings: Submit shop drawings indicating material characteristics, details of construction, connections, and relationship with adjacent construction.
- C. Samples: Submit two representative samples of each material specified indicating visual characteristics and finish. Include range samples if variation of finish is anticipated.

1.3 QUALITY ASSURANCE

- A. Comply with governing codes and regulations. Provide products of acceptable manufacturers, which have been in satisfactory use in similar service for three years. Use experienced installers. Deliver, handle, and store materials in accordance with manufacturer's instructions.
- B. Handrail and Railing Structural Performance: In accordance with the 2001 Florida Building Code.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Manufacturers: Ametco Manufacturing, Arden Architectural Specialties, Julius Blum & Co., Blumcraft of Pittsburgh, Livers Bronze, Milgo/Bufkin, Zephyr Metals or approved equal.
- B. Aluminum:
 - 1. Extruded Bar and Tube: ASTM B 221, alloy 6063 T5/T52.

2. Finish: Baked enamel.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Take field measurements prior to fabrication, where possible. Form to required shapes and sizes with true, straight edges, lines and angles. Provide light-tight, hairline joints.
- B. Install materials and systems in accordance with manufacturer's instructions and approved submittals. Install materials and systems in proper relation with adjacent construction. Coordinate with work of other sections.
- C. Coordinate with work of other sections; provide inserts and templates as needed. Install work plumb and level with uniform appearance.
- D. Restore damaged finishes and protect work.

END OF SECTION