

DIVISION 05 – METALS

05 1200 - STRUCTURAL STEEL FRAMING

A. Structural Steel

1. All structural steel shall meet appropriate ASTM specifications.
2. Fabrication and erection shall conform to the requirements of the “American Institute of Steel Construction”, Specifications for the Design, Fabrication and Erection of Structural Steel for Buildings.
3. Specify welding to be done only by certified/qualified welders and in conformance with all requirements of the American Welding Society.
4. Specify shop painting or galvanizing of all steel except that to be encased in concrete or where welds are to be made. Field touch-up after erection.
5. Provide shop drawings.
6. Indicate design stresses on structural drawings.

B. Open Web Joists

1. Follow Steel Joist Institute standards.
2. Specify adequate bridging.
3. Specify shop paint and touch-up after erection.
4. Provide shop drawings.

C. Metal Decks

1. Require conformance with Metal Roof Deck Institute Standards and requirements of American Iron and Steel Institute's "Specifications for the Design of Light Gage Cold Formed Steel Structural Members".
2. Specify methods of erection, connections and fasteners.
3. Provide shop drawings.

05 4000 - COLD FORMED METAL FRAMING

A. Structural Steel Studs

1. Drawings shall include sufficient framing information to describe the wall construction particularly at openings and other atypical conditions.
2. Drawings shall include details (ie: expansion joints, control joints, etc.) necessary to compensate for structural and thermal movement.

05 5000 - METAL FABRICATIONS

- A. Provide shop drawings.
- B. Provide necessary shop and field painting.
- C. Where dissimilar metals are used next to each other, provide separation or coating to prevent electrolytic action from damaging either material.
- D. Provide for all loose lintels and other miscellaneous and related items.

05 5100 - METAL STAIRS

- A. Steel stairs shall be fully designed and detailed.
- B. Where treads are to be steel, they shall have a non-slip walking surface. Expanded metal landings and treads shall not be used on public access stair, but are acceptable in controlled maintenance areas.
- C. Pan type treads shall receive concrete or other fill material, provide slip-resistant nosings or abrasive surface. On exterior stairs, pan type shall not be used because the potential for long term deterioration.
- D. Equipment rooms shall have stairs that meet Code requirements, with a maximum riser height of 7 inches and minimum tread depth of 11 inched. Approval from Facilities Management is required for variations.
- E. If stairs are to be painted, a fire retardant system will apply.

05 5110 - METAL LADDERS

- A. No vertical ladders or alternating tread lifts will be permitted.

05 5213 – PIPE AND TUBE RAILINGS

- A. Provide guardrails and handrails in compliance with the Current Building Code.
- B. All metal railing members shall not contain sharp edges and all welds shall be ground smooth.
- C. Design handrails to project beyond top and bottom steps or ramps as required by or ramps as required by the Codes.
- D. Design handrails with smooth contours and return ends to wall or support.
- E. Design for rigid and durable anchorage with special consideration to exterior installations.
- F. For interior public ramps, stairs, and balconies, finish materials for handrails and guardrails shall be approved by Facilities Management.

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- G. For exterior public ramps, stairs, and balconies, finish materials for handrails and guardrails shall be galvanized or shall match existing finish.
- H. For areas with existing guardrails, new guardrails shall match existing guardrail materials and detailing, provided new guardrails will meet code.

05 5305 – METAL GRATINGS AND FLOOR PLATES

- A. Metal gratings and floor plates shall be recommended by designer, selected for appropriate applications, and approved by UND Facilities Management.

05 7000 - DECORATIVE METAL

- A. Provide shop drawings
- B. The Architect shall include a separate specification section identifying the fabricator to be adequately qualified to produce Ornamental and Architectural grade elements.
- C. All Architectural grade metal design elements are to be properly developed and delineated to insure a high construction quality and durability.
- D. For permanent exterior shading devices, provide and detail adequate structural support for the installation.
- E. Consult with UND PM for security and aesthetic requirement for Security Screens or Grillage for each Project.

05 7113 – FABRICATED METAL SPIRAL STAIRS

- A. Spiral stairs shall not be permitted.