

Division 5

05 100 **STRUCTURAL METAL FRAMING**

- A. Reference Standards: The latest publications of the following standards establish the minimum requirements when not otherwise specified in this section:
1. American Institute of Steel Construction (AISC), "Specification for the Design, Fabrication, and Erection of Structural Steel for Buildings."
 2. American Institute of Steel Construction (AISC), "Code of Standard Practice for Steel Buildings and Bridges."
 3. American Welding Society (AWS), "Structural Welding Code, D1.1."
 4. Steel Joist Institute (SJI), "Standard Specifications and Load Tables."
- B. The Subcontractor for the erection of structural steel shall be required to provide an affidavit, at the completion of the job, to the effect that the structural steel frame is plumb and level within the normal tolerances specified by code, or the more stringent tolerances specified in the Specifications, if applicable.
- C. The General Contractor shall provide a certified survey by a registered Civil Engineer showing the exact location of the centers of the columns at their top most level, exactly as installed. This information shall be incorporated into the "as built" drawings.
- D. Ferrous metals should be avoided on the exterior of buildings. All necessary exterior steel and interior steel in damp or humid locations will be hot-dipped galvanized after fabrication, i.e., exterior window lintels, support framing, etc.
- E. All shop and field welding shall be by the electric arc method and in accordance with the applicable code.
- F. Torch cutting will not be permitted in the field.
- G. Shop paint all steel not to be galvanized with a rust inhibitive primer. Consideration should be given to high performance primers and topcoat finishes for exposed interior steel.

05 300 **METAL DECKING**

- A. Reference Standards: The latest publication of the following standards shall establish the minimum requirements when not otherwise specified in this section:
1. Steel Deck Institute (SDI), "Steel Deck Institute Design Manual."
- B. Galvanized metal is the only material to be used for metal decks, floor slabs and roofs decks. Prime painted decks are not acceptable.

05.500 METAL FABRICATIONS

- A. Reference Standards: The latest publication of the following standards shall establish the minimum requirements when not otherwise specified in this section:
1. National Association of Architectural Metal Manufacturers (NAAMM), "Pipe Railing Manual."
 2. National Association of Architectural Metal Manufacturers (NAAMM), "Metal Bar Grating Manual."
- B. Ventilation shafts penetrating the roof shall be equipped with antipersonnel screening to prevent unauthorized access to the building.
- C. All exterior miscellaneous steel shall be galvanized and prime painted, ready for field finishing, or shall be shop painted.
- D. Rails shall not terminate with open ends. Where end caps or post caps are required, they should be permanently fastened by welding or with rivets or screws, which cannot be easily removed.
- E. Stairs: Composite metal pan and concrete stairs shall be avoided at or near any high traffic entrances, because water tracked in by pedestrians during the winter months may contain salt, which penetrates the concrete and corrodes the pans to the point of requiring replacement. All galvanized steel or all reinforced concrete stairs are preferred.
- F. Handrails: Stainless steel, aluminum or color-galvanized steel are the preferred handrail materials for all public exterior and interior spaces, and for exterior roof access steps, handrails, and ladders. Hot-dipped galvanized may be used in mechanical rooms, for incidental handrails and guards around mechanical equipment when the mechanical equipment support is hot-dipped galvanized, and other non-public spaces.
1. Painted steel balusters and top railing may be used at low traffic areas. They will be properly prepared and finished with a high performance coating.
 2. Rails shall be oval or round. Handrails of rectangular cross sections are not acceptable.
 3. Where rails change direction, the corner shall be made with as large a radius as possible.
 4. Exterior steps should have railings at open sides and a center railing, if required by applicable code, and shall be securely anchored.

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5. Wall mounted rails will be secured into solid structural materials. Coordinate blocking in stud partitions with other trades.
 6. Do not paint over misc. steel with galvanized finish.
 7. Bolted flange floor mounting is not acceptable.
 8. Aluminum handrails will be heli-arc'd welded, and stainless steel will be fusion welded, including field assembly. In no case shall any welds show on the finished handrails. All splices will be precisely machined and free from burrs to form a hairline joint. All fittings which are fabricated from more than one piece shall be of welded construction.
- G. All exterior areaway gratings and required structural support shall be stainless steel, aluminum, or galvanized steel. Areaways shall have a ledge formed integral with the concrete structure to support the perimeter of the grating in lieu of any shelf angles. Gratings at grade level areaways will be bolted down from below.
1. Other exterior gratings required for mechanical equipment access, will be hot-dipped galvanized to match the mechanical equipment support.
 2. Catwalk gratings will not be supported on suspended ceilings.
- H. Nosings of grating stair treads shall be cast abrasive or abrasive coated.
- I. Unless required otherwise, all grating will be bolted or welded to its supporting structure.

05 800 EXPANSION CONTROL

- A. Exterior expansion joint covers shall consist of a floating cover plate and fixed holders on each side of the joint. The fixed holders shall have continuous backer extrusions and snap-on covers. The unit will show no exposed fasteners. At full extension, the exposed face shall not be greater than 5", and the thickness not greater than 3/4".
- B. Interior floor to floor expansion joint covers shall be all metal having no rubberized cork, urethane, vinyl, or other joint fillers. The base member shall be designed to set the cover plate flush with the surrounding flooring, and have secure anchorage.