

**CSU HOUSING & DINING SERVICES TECHNICAL STANDARDS**  
**DIVISION 05 – METALS**  

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A. Architectural Metals:

1. Exterior architectural metals such as handrails or fascias shall be prefinished with coatings or materials that do not require maintenance painting.
2. Exterior steel and iron architectural elements such as stairs, handrails, railings, gates, etc. shall be hot-dip galvanized whether or not a painted surface is the final finish.

B. Welding:

1. Contractor shall ensure that all welders are certified AWS for type and position of welds; current within 6 months.
2. All structural field welds shall be inspected per building code and AWS Standards prior to covering or painting.
3. All shop welds shall be inspected per building code and AWS Standards prior to delivery to the job site.

**05 10 00 – STRUCTURAL METAL FRAMING**

A. Comply with these standards unless more stringent requirements are required by the project and contract documents:

1. AISC "Code of Standard Practice for Steel Buildings and Bridges"
2. AISC "Specifications for the Design, Fabrication, and Erection of Structural Steel for Buildings" including "commentary"
3. AWS "Structural Welding Code - Steel"
4. ASTM Standards:

Steel Plates, Shapes and Bars	ASTM A 36
Cold Formed Steel Tubing	ASTM A 500, Grade B
Fasteners	ASTM A 325 or A 490
Steel Pipe	ASTM A53, Grade B

**05 20 00 – METAL JOISTS**

A. Comply with these standards unless more stringent requirements are required by the project and contract documents:

1. SJI "Standard Specifications, Load Tables and Weight Tables for Steel Joists and Joist Girders" for types of joists indicate
2. ASTM Standards:

Steel:	ASTM A 36
Fasteners:	ASTM A 325 or A 490

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**05 30 00 – METAL DECKING**

A. Comply with these standards unless more stringent requirements are required by the project and contract documents:

1. AISI "North American Specification for the Design of Cold-Formed Steel Structural Members"
2. AWS "Structural Welding Code"
3. SDI "Design Manual for Floor Decks and Roof Decks"
4. ASTM Standards:

Steel for Painted Units	ASTM A1008
Galvanized Units	ASTM A653
Steel Shapes	ASTM A 36
Steel Metal Accessories	ASTM A653, galvanized

**05 40 00 - STRUCTURAL METAL FRAMING**

A. Metal Studs - Structural:

1. 16 gauge and heavier units will be fabricated of structural quality sheet steel with a minimum yield point of 50,000 psi; ASTM A653, A1003 and C955.
2. 18 gauge and lighter units will be fabricated of structural quality sheet steel with a minimum yield point of 33,000 psi; ASTM A653, A1003 and C955.

**05 50 00 - METAL FABRICATIONS**

A. Ladders:

1. Fixed roof access ladders shall be provided for all buildings unless otherwise approved by the University Representative. See the Drawing Appendix for details.
2. A cage or well is required around all ladders over 20 feet high not having other ladder safety devices such as lifelbelts, friction brakes, sliding attachments. See OSHA Standard 1910.27(d)(5) for additional safety device exemptions.
3. The maximum length for unprotected straight ladders is 20 feet. Caged ladders can run in 30 foot sections. Offset ladder sections and landings are required for total lengths greater than the maximum allowed.
4. Ladders or steps are required on roofs with an 18 inch or higher elevation change.
5. Provide safety strip or paint with abrasive grits for roughened surface on ladder rungs to prevent slipping.
6. For special applications see OSHA Standards 1910.27(c)(7) for hatch covers and 1910.27(d)(5) for chimney ladders.
7. Top ladder rung shall be one foot below the top of the roof deck or parapet.
8. OSHA required extension to 30" above roof deck.

**05 70 00 - DECORATIVE METAL**

A. Handrails:

1. Generally shall be made of metal not requiring hand painting, such as hot-dip galvanized steel, stainless steel or aluminum. If painted, the substrate must be hot-dipped steel.
2. Must comply with ANSI A-117.1 “Accessible and Useable Buildings and Facilities” and Americans with Disabilities Act.