

SECTION 055100
METAL STAIRS

1. GENERAL

- 1.01 **GENERAL CONDITIONS** The General Conditions, Supplementary General Conditions and all Sections of Division 1 shall apply to each and every contract and contractor, person or persons supplying material, labor or entering into the work directly or indirectly.
- 1.02 **STANDARDS** Comply with the provisions of the following codes, standards and specifications, except as otherwise shown or specified.
- A. AISC, "Specifications for the Design, Fabrication and Erection of Structural Steel for Buildings", and including the "Commentary of the AISC Specification".
 - B. AISI, "Specification for the Design of Cold-Formed Steel Structural Members".
 - C. AWS, "Code for Welding in Building Construction".
 - D. Qualifications for Welding Work: Quality welding processes and welding operators in accordance with AWS "Standard Qualification Procedure".
- 1.03 **SCOPE** This section includes all labor, materials, equipment and related services necessary for the fabrication, delivery and installation of the work shown on the drawings and or specified herein, including but not limited to the following:
- A. Steel stair system including all required supports and attachments for the stair system which are not part of other metal systems in other sections of these specifications.
- 1.04 **RELATED WORK SPECIFIED ELSEWHERE**
- A. Structural Steel Faming 051200
 - B. Metal Fabrications 055100
- 1.05 **FIELD MEASUREMENTS:** Take field measurements prior to preparation of shop drawings and fabrication, to ensure proper fitting of the work. However, do not delay job progress; allow for trimming and fitting wherever the taking of field measurements before fabrication might delay the work.
- 1.06 **SHOP ASSEMBLY:** Preassemble items in the shop to the greatest extent possible, so as to minimize field splicing and assembly of units at the project site. Disassemble units only to the extent necessary for shipping and handling limitations. Clearly mark units for reassembly and coordinated installation.
- 1.07 **MANUFACTURER'S DATA:** For information only, submit to the Architect 3 copies of manufacturer's specifications, load tables, dimension diagrams, anchor details and installation instructions for products to be used in the fabrication of steel stair work, including paint products.
- 1.08 **SUBMITTALS:**
- A. Submit shop drawings for the fabrication and erection of all assemblies of miscellaneous metal work, which are not completely shown by the manufacturer's data sheets. Include plans and elevations at not less than 1"=1'0" scale and include details of sections and connections at not less than 3"=1'-0" scale. Show anchorage and accessory items. Furnish templates and setting diagrams for anchor installation as required. Fabrication before approval of shop drawings shall be done at the risk of this Subcontractor.

- B. LEED Submittal:
1. Product Data for Credit MR 4.1 and Credit MR 4.2: For products having recycled content, documentation indicating percentages by weight of postconsumer and preconsumer recycled content.
 - a. Include statement indicating costs for each product having recycled content.

2. MATERIALS

2.01 STRUCTURAL STEEL FOR STAIRS

- A. Steel plates, Angles, Shapes, Bars, Stair Stringers and Fascias: ASTM A-36 steel.
- B. Subreads and Risers and Intermediate Platforms: 12 gauge (minimum) steel.

2.02 FASTENERS, INSERTS AND ANCHORAGES

- A. Standard Bolts and Nuts: ASTM A 307 Grade A regular hexagon head.
- B. FS FF-B-561, square head type with expansion shield.
- C. Lock Washers: FS-FF-W-84, helical spring type carbon steel.

3. EXECUTION

3.01 SHOP PAINTING: Apply shop prime to all metal using a first quality zinc-dust primer as approved by Architect. Prepare and apply in strict accordance with manufacturer's printed instructions. Touch up all field welds with same prime as shop coat after grinding smooth and flush with surrounding surfaces. All metal under this Section to be finish painted under Section 099123.

3.02 INSPECTION: Erector must examine the areas and conditions under which steel stair items are to be erected. Notify the Architect in writing of conditions detrimental to the proper completion of the work. Do not proceed with the work until satisfactory conditions have been corrected.

3.03 FABRICATION AND ERECTION

- A. Workmanship: Use materials of the size and thickness shown, or if not shown, of the required size and thickness to produce adequate strength of minimum live load of 100 pounds per square foot and durability in the finished product for the intended use. Work to the dimensions shown or accepted on shop drawings.
- B. Form exposed work true to line and level with accurate angles and surfaces and straight sharp edges. Ease exposed edges to a radius of approximately 1/32" unless otherwise shown. Form bent-metal corners to the smallest radius possible without causing grain separation or otherwise impairing the work.
- C. Weld corners and seams continuously and in accordance with the recommendations of AWS. Grind exposed welds smooth and flush, to match and blend adjoining surfaces.
- D. Form exposed connections with hairline joints which are flush and smooth, using concealed fasteners wherever possible. Use exposed fasteners of the type shown or, if not shown, use Phillips flathead (countersunk) screws and bolts.

- E. Provide for anchorage coordinated with the supporting structure and the progress schedule. Fabricate and space anchoring devices as required to provide adequate support for the intended use of the work.
- F. Weld permanent connections: Do not use screws or bolts where they can be avoided; where used, heads shall be countersunk, screwed up tight, and nicked to prevent loosening.
- G. Provide holes and connections for the work to be built into adjoining construction.
- H. Provide brackets and bearing surfaces as required to anchor and contain the stairs on the supporting structure.
- I. Provide closure plates.
- J. Erect stair work to line, plumb, square and true with runs registering with floor and platform levels.
- K. Metal Pan Units: Form metal pans of 0.1084" thick structural steel sheets (12 gauge). Shape pans to conform to the configuration shown on the drawings. Allow for 2" fill on treads and 3" fill on intermediate platforms. Tread and riser brackets shall be 1-1/4" x 3/16" angles, welded to stringers. Headers on channels shall be bolted or welded to stringers.

END OF SECTION