

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Steel stairs with concrete-filled treads.
 - 2. Handrails and railings attached to metal stairs.
 - 3. Handrails attached to walls adjacent to metal stairs.
- B. Structural Performance of Handrails and Railing Systems: Engineer, fabricate, and install handrails and railing systems to withstand structural loads without exceeding the allowable design working stress of the materials for handrails, railing systems, anchors, and connections.
- C. Design Requirements: Design of handrail shall prevent climbing or using railing rungs as a ladder. Metal tread stairs are not allowed.
 - 1. Refer to Division 1 CSU Access Compliance Design Standards for specific guidelines for handrail accessibility.

1.2 SUBMITTALS

- A. Product Data: For metal stairs and the following:
 - 1. Prefilled metal-pan stair treads.
 - 2. Paint products.
 - 3. Grout.
- B. Shop Drawings: Show fabrication and installation details for metal stairs. Include plans, elevations, sections, and details of metal stairs and their connections. Show anchorage and accessory items. Provide templates for anchors and bolts specified for installation under other Sections.
 - 1. For installed products indicated to comply with design loads, include structural analysis data signed and sealed by the qualified professional engineer responsible for their preparation.
- C. Samples for Verification: For the following products. Prepare Samples from the same material to be used for the Work.
 - 1. Precast stair treads.

1.3 QUALITY ASSURANCE

- A. Installer Qualifications: Arrange for metal stairs specified in this Section to be fabricated and installed by the same firm.
- B. Professional Engineer Qualifications: A Professional Civil Engineer who is legally qualified to practice in the State of California is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of metal stairs (including handrails and railing systems) that are similar to those indicated for this Project in material, design, and extent.
- C. Defects caused after installation shall be evaluated by campus personnel for suitability and conformance.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Steel – as required by structural engineer.
- B. Treads shall be pre-cast concrete or pan filled concrete.
- C. Risers shall be steel.
- D. Galvanizing shall be required for all stairs exposed to the exterior prior to painting.

PART 3 - EXECUTION

3.1

- A. As required by the structural engineer and code.

END OF SECTION