

Part 1 General**1.1 Summary**

- .1 Unless otherwise indicated, follow the standards below when specifying metal fabrication work. These standards are not intended to restrict or replace professional judgment.

1.2 Design Requirements

- .1 Specify that stairs used for fire escapes shall be metal grating.
- .2 Ornamental Stairs: More flexibility can be expected concerning stairs with major aesthetic impact. The Architectural Advisory Committee must review the design of such stairs.
- .3 Exterior metal fabrication in public areas shall be stainless steel type 304 and for all exterior locations exposed to salt (i.e. handrails, stairs, etc.) shall be stainless steel type 316.
- .4 Guards with rail-type horizontal bars are not permitted under any circumstances.
- .5 Exterior painted guardrails shall be painted stainless steel type 304. (See Execution).
- .6 Stainless steel: stainless steel elements to be installed outdoors have to be "passivated" beforehand.
- .7 For some non-public areas (i.e. rear of buildings, etc.) galvanized steel could be used. Validate with the Project Manager.

Part 2 Products**2.1 Preferred Products**

- .1 For products with Environmental Product Declarations (EPDs) that may contribute to LEED® v4 MR Credit Building and Disclosure Optimization – Environment Product Declarations, refer to:
 - .1 UL Environment <http://productguide.ulenvironment.com/>
 - .2 For sealants with health product declarations (HPDs) and/or manufacturer inventories that meet the requirements for LEED® v4 MR Credit Building Product Disclosure and Optimization – Material Ingredients, refer to the following websites:
 - .1 Declare Product Database www.living-future.org/declare-products
 - .3 Materials that are locally sourced (extracted, manufactured, and purchased) within 160 km (100 miles) are preferred and will increase cost values for credit calculations in the Materials and Resources Building Product Disclosure and Optimization credits.

2.2 Grout and Anchoring Cement

- .1 For handrails set in sleeves or core drilled holes in concrete paving, use non-shrink, erosion resistant grout. Depth of core must be no less than 4-inches deep and of a diameter no less than 1-inch wider than outside pipe diameter.

2.3 Isolation Coating

- .1 Specify to isolate aluminium from following components, by means of bituminous paint:
 - .1 Dissimilar metals
 - .2 Concrete, mortar, and masonry

2.4 Finishes

- .1 Specify one shop coat of primer for all metal items, with exception of galvanized, stainless steel or concrete encased items.
- .2 Specify galvanized finish for all exterior exposed steel structures.
- .3 Alternatively, bronze, anodized aluminum may be used with the approval of the Architectural Advisory Committee.
- .4 Refer to **09 91 26** Painting, for low VOC directives.

**Part 3 Execution**

- .1 For painted stainless steel #304, follow these instructions:
 - .1 Once the elements are welded and ready to paint, sandblast the stainless steel elements, followings SSPC-SP6 (NACE3) standards, with maximum thickness of 2.5 mils. The sandblasting machine must only be used on aluminum or stainless steel elements, in order to avoid contamination to the elements.
 - .2 For painting method and number of coats, see section **09 91 26** Painting.
 - .3 Provide a sample of the finish product for approval before beginning the work.

END OF SECTION