

REVISION OF SECTION 522
ENVIRONMENTAL STAIN (GALVANIZED)

Section 522 of the Standard Specifications is hereby revised for this project to include the following

DESCRIPTION

This work consists of applying an environmentally and animal safe, non-caustic, non-pigment based surface stain to all visible galvanized steel surfaces including galvanized steel supports to achieve the specified color, as shown on the Plans.

MATERIALS

Environmental surface stain shall consist of a clear soluble solution of natural elements and soft buffered organic acids. No pigment based colorants shall be added to achieve the desired color. The stain shall react with the target surface over a period of 7 - 21 days to produce a consistent color and matte finish as approved by the Engineer. The stain shall be resistant to fading in the sun and have a minimum life expectancy of 25 years.

In all situations involving the approval of submittals, the Engineer will coordinate with the CDOT Landscape Architect assigned to the project.

CONSTRUCTION REQUIREMENTS

The Contractor shall submit a copy of the manufacturer's product Safety Data Sheet for all related products (including cleaning agents) together with instructions for application of stain a minimum of 5 days prior to staining the sample section. Proposed methods to control overspray, spillage and protection of adjacent surfaces shall be submitted in writing for approval by the Engineer. Staining shall not begin until written approval of these methods has been received.

- a) *Stain Sample.* The Contractor shall apply stain to a minimum 12 inch sample section of galvanized metal. If staining will occur onsite the Contractor shall stain the sample in the presence of the Engineer. The Contractor shall notify the Engineer and the CDOT Landscape Architect a minimum of 7 days prior to staining the sample section. The Contractor shall prepare and stain the sample section with the same materials, tools, equipment and methods to be used in staining final surfaces. The applied stain shall be allowed to cure for a minimum of 21 days. The sample shall be submitted to the Engineer for approval. The cost of materials and labor necessary to achieve the accepted sample shall be included in the price of the work. In the event more than one sample section is required, each additional sample shall be included in the price of the work. The Contractor shall use the approved sample as the standard of comparison in determining acceptability of staining.
- b) *Stain Application.* Prior to application of the stain onto the metal surface, excessive oils, dirt, and other contaminants shall be cleaned with cleaning agents conforming to the manufacturers recommendations and approved by the Engineer. All surfaces shall be dry before application of stain. Stain shall be applied in accordance with manufacturer's recommendations to achieve a color consistent with the approved sample.

If spray application is used, the Contractor shall follow manufacturer's recommendations. The Contractor shall minimize overspray on undesired surfaces and protect adjacent surfaces from overspray. Spray application shall not be performed under windy or rainy conditions. Stain shall be applied uniformly, free from sags, runs or defects of any kind. Irregularities shall be corrected according to the stain manufacturer's recommendations. Stained surfaces shall be kept dry for a period of 5 days following the application of stain.

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If Immersion application is used, the Contractor shall immerse the structure in a controlled area following manufacturer's recommendations. The Contractor shall minimize splashing, dripping and runoff on surfaces not intended for stain application. The structure shall have a uniform appearance, free from sags, runs or defects of any kind. Irregularities shall be corrected according to the manufacturer's recommendations. Stained surfaces shall be kept dry for a period of 5 days following the application of stain.

Multiple applications, per manufacturers' recommendations, may be required to achieve the color of the approved stain sample.

Final approval of products by the Engineer will occur when stain has achieved the color of the approved stain sample.

All substandard items not achieving the color of the approved stain sample will be rejected.

- c) *Storage of Materials.* Stained surfaces shall be stored properly at the construction yard after delivery, before, and up to, the time of installation. If components stack (e.g. guardrail), spacers shall be placed between rows to allow for necessary airflow. Items shall be stacked perpendicular to the ground sloped to allow for proper drainage. Items shall be elevated so they do not come into direct contact with soil or plant matter. The Contractor shall also conform to other standard storage procedures and manufacturer recommendations regarding storage. It is the responsibility of the Contractor to ensure that all components are stored properly on site.

METHOD OF MEASUREMENT AND BASIS OF PAYMENT

All costs associated with applying environmental stain to galvanized steel surfaces including multiple applications, cleaning surfaces, and preparing stain samples will not be paid for separately but shall be included in the work.

Replacing rejected items including cost of original material, products and labor will not be paid for separately but shall be included in the work.