SECTION 1802

ORGANIC ZINC PRIMER FOR STRUCTURAL STEEL

1802.1 DESCRIPTION

This specification covers organic zinc primer for use on structural steel.

1802.2 REQUIREMENTS

a. General.

(1) The coating is either a single component or multi-component type that cures without the use of a separate curing solution. It must be well ground, free of caking, skins, gelation and excessive settling with a shelf life for each component of no less than 12 months. Formulate the paint with a tint that provides distinct color contrast with the blast cleaned metal surfaces and the finish coat. The VOC content of the coating must comply with the current national rule for industrial maintenance coatings.

(2) The manufacturer is responsible for the formulation. Once established, the formulation may not be changed without prior notification to and approval of the KDOT.

b. Pigment. Use a finely divided zinc powder as the pigment. Pigments must contain no toxic heavy metals.

c. Mixed Paint.

(1) Zinc in the dried film, % by weight ..... 77 minimum

(2) Cyclic Corrosion/UV Exposure Test, 3000 hours

(a) Scribe Corrosion 7-10

(b) Unscribed Area 9-10

d. Packaging. Package the organic zinc primer such that when mixed according to the manufacturer's instructions, a complete container of each component is utilized.

1802.3 TEST METHODS

a. Zinc in the Dried Film.

(1) Single Component Primer

Pigment ..... ASTM D 2371

Total Solids of the Whole Paint, Non-Volatile Zinc Oxide ..... ASTM D 2369

Calculations:

ZnO x 0.8034 = Total Zinc

(% Pigment x Total Zinc)/Total Solids = Zinc in Dried Film

(2) Multi-Component Primer

Total Solids of Liquid Portion, Non-Volatile Zinc Oxide ..... ASTM D 2369

The manufacturer will provide percent pigment by the mix ratio.

Calculations:

ZnO x 0.8034 = Total Zinc

(100 - % Pigment)(Non-volatile) + % Pigment = Total Solids

(% Pigment x Total Zinc)/Total Solids = Zinc in Dried Film

b. Cyclic Corrosion/UV Exposure. ..... ASTM D 5894 and KTMR-30

(1) Scribe Corrosion ..... ASTM D 1654

(2) Unscribed Area ..... ASTM D 1654

1802.4 PREQUALIFICATION

a. Prequalification of the organic zinc primer is required. Manufacturers desiring prequalification should submit a 1 gallon sample to the Engineer of Tests. Manufacturers will be notified when testing is completed. A list of prequalified materials will be maintained by the Bureau of Materials and Research.

b. Testing and evaluation by KDOT may be waived if complete testing has been performed on the identical product by AASHTO National Transportation Product Evaluation Program (NTPEP) or another state DOT. Forward an official copy of the test report along with evidence that the product referenced is identical to that submitted for prequalification, to the Engineer of Tests for evaluation.

c. All liquid components will be "fingerprinted" using infrared spectroscopy for use in screening future verification samples to ensure that materials submitted for use are of an identical formulation as originally approved.

1802.5 BASIS OF ACCEPTANCE

Prequalification as specified in **subsection 1802.4.**
Receipt and approval of a Type C certification as specified in **DIVISION 2600**.
Visual observation of performance on the project.