STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

SUPPLEMENTAL SPECIFICATION 910
OZEU STRUCTURAL STEEL PAINT

July 28, 1998

910.01 Description
910.02 Organic Zinc Prime Coat
910.03 Epoxy Intermediate Coat
910.04 Urethane Finish Coat
910.05 Performance Requirements
910.06 Prequalification
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910.01 Description. This specification covers the formulation and testing of a three coat structural steel paint system consisting of an organic zinc prime coat, an epoxy intermediate coat and a urethane finish coat (OZEU). Material requirements for the respective coats shall be as follows.

910.02 Organic Zinc Prime Coat. The organic zinc prime coat shall consist of a zinc dust filled, two or three-component epoxy polyamide, and selected additives as required:

A. Physical Requirements.

	Minimum
Total Solids, % by weight of paint, ASTM D 2369	70
Pigment, % by weight of total solids, ASTM D 2371	83
Total zinc dust, % by weight of pigment	93
Total zinc, % by weight, of total solids, by calculation	77
Total solids, % by volume, ASTM D 2697	45
Color, greenish gray, approximating FS-595B-34159, Visual comparison	
Pot Life at 25° C (77° F) and 50% Relative Humidity (R.H.), hours	6

By observation of Ford B cup viscosity, pot life is deemed exceeded if the viscosity rose more than 30% or if gelled particles appear in the mix. A one liter (quart) container of mixed material is used.

B. Qualitative Requirements.

Mixing shall conform to Section 5.2, SSPC-Paint 20 using only a high shear (Jiffy) mixer.
Storage life - Section 5.4, SSPC-Paint 20
Mudcracking - Section 5.7, SSPC-Paint 20

C. Material Quality Assurance : Analysis for each component.

1. Three-component systems.
   a. Resin

Nonvolatiles, % by weight	± 2
Density	± 0.02g/mL (± 0.2 lb. per gal.)
Viscosity	± 5 KU or ± 5 sec., Ford Cup

   b. Hardener

Nonvolatiles, % by weight	± 2
Density	± 0.02g/mL (± 0.2 lb. per gal.)
Viscosity	± 5 KU or ± 5 sec., Ford Cup

   c. Zinc

Total Zinc metal, % by weight	± 2

2. Two-component systems.
   a. Zinc/Resin Component

Total Zinc metal, % by weight	± 2
Density	± 2%
Viscosity	Dependent on test
Nonvolatiles, % by weight	± 2

   b. Hardener Component — Variance*

Nonvolatiles, % by weight	± 2
Density	± 0.02g/mL (± 0.2 lb. per gal.)
Viscosity	± 5 KU or ± 5 sec., Ford Cup

* Variance within the mean of the tests of the previously submitted sample for qualification.

910.03 Epoxy Intermediate Coat. The epoxy intermediate coat shall be a two-part product composed of a base component and a curing agent suitable for application over the epoxy-polyamide zinc rich primer.

The base component shall contain an epoxy resin together with color pigments, mineral fillers, gellant, leveling agent, and volatile solvents. The curing agent component shall contain a liquid polyamide resin and volatile solvent. The coating shall also meet the following:

A. Physical Requirements

1. Color: White, meeting or exceeding, FS-595B-37875 as per ASTM E 1347
2. Components: Two, mixed prior to application
3. Volume solids, ASTM D 2697: 50.0% minimum