



**SPECIAL PROVISIONS
FOR
MINERAL SILICATE PAINT FOR CONCRETE**

**Polk County
NHS-080-3(198)128--11-77**

**Effective Date
December 15, 2015**

THE STANDARD SPECIFICATIONS, SERIES 2015, ARE AMENDED BY THE FOLLOWING MODIFICATIONS AND ADDITIONS. THESE ARE SPECIAL PROVISIONS AND THEY SHALL PREVAIL OVER THOSE PUBLISHED IN THE STANDARD SPECIFICATIONS.

150023.01 DESCRIPTION.

This section specifies the requirements for applying a mineral silicate paint over concrete surfaces as noted in the contract documents. The Contractor shall protect surrounding areas, prepare surfaces to be coated and apply the mineral silicate paint in accordance with this specification. Mineral silicate paint shall be applied to the limits shown in the plans.

150023.02 MATERIALS.

A. Approved Manufacturers.

The manufacturer shall have at least 5 years experience producing mineral silicate paint capable of being used on vertical surfaces. The Contractor performing the work of this section shall have at least 3 years experience applying mineral silicate paint or similar coating materials over vertical surfaces.

Approved manufacturers and brands of mineral silicate paint are as follows:

- Keim Mineral Coatings of America: Concretal C Mineral Coating
- Edison Coatings, Inc.: EverKote 300 Mineral Coating
- Cathedral Stone Products: MasonRE Mineral Coating

B. Product.

Mineral silicate paint shall be warranted by the manufacturer as appropriate for the specified application described in the plans.

The mineral silicate paint shall be a low volatile organic content (VOC) material. The coating shall be resistant to weather, humidity, abrasion, acid, alkali, salt spray, ultra-violet rays, and petroleum products and shall allow a minimum of 92% vapor transmission when tested in accordance with ASTM E 96. Product shall be lightfast and have a matte finish. Product shall not peel, flake, or fade from exposure to weather or abrasion.

Provide all coating materials in sealed, original, containers that are properly marked and labeled to allow verification with applicable material safety data sheets, application precautions, and instructions. Labeling shall include the manufacturer's name, type of material, brand name, gloss designation, date of manufacture, shelf life, contract or order number under which the material has been ordered, lot and batch numbers, quantity, handling, thinning, and application instructions.

C. Submittals.

A minimum of 3 weeks prior to commencing production coating of the specified surfaces, provide Product Data Sheets, along with Material Safety Data Sheets (MSDS) for the coating products including primers, thinners and cleaning agents.

Provide written application instructions from the manufacturer, which shall include recommended application equipment, application methods and rates, surface preparation requirements and other applicable manufacturer's recommendations.

Submit paint color samples on 8 1/2 by 11 draw-down cards for each color specified in the plans. Deliver samples to the Iowa DOT, Office of Bridges and Structures, Attn: Aesthetics Coordinator, 800 Lincoln Way, Ames, IA 50010 for review and approval prior to ordering materials.

150023.03 CONSTRUCTION.

A. Project Conditions.

Coordinate schedule for mineral silicate paint application with earthwork, back filling operations, and other adjacent construction. Delay adjacent plantings until mineral silicate paint application is completed. Coordinate work to permit applications without interference from other trades, and without risk of contamination of paint by airborne particles or other debris.

B. Protection of Surfaces and Surrounding Property.

Use protective coverings, shields, or masking as necessary to protect surfaces that are not designated to receive mineral silicate paint. When tarps are used, secure them firmly to avoid being dislodged during heavy winds. If tarps become dislodged, stop work immediately and secure the loose tarps. When sustained winds are 40 miles per hour or above, drop and secure the tarps. Maintain all protective coverings during the entire period the work is being performed, and remove all coverings upon completion of the work.

Use diligence to assure vehicles, structures, buildings, vegetation, equipment, hardware, fixtures, and other materials not designated to receive mineral silicate paint are protected from over spray, spillage, and other damage. Remove over spray to adjacent surfaces in accordance with the manufacturer's recommendations. The Contractor shall be responsible for the cleanup of any spills at no additional cost and to the satisfaction of the Engineer.

When applying coating adjacent to occupied buildings, cover air intakes and air conditioning vents, which could carry odors or fumes into buildings. Coordinate shutdown of air handling equipment with building owners throughout application process. Vents shall remain covered and air handling equipment shall remain inactive until surfaces are visibly dry or until odor has dissipated. Maintain adequate ventilation when working in confined areas.

C. Surface Preparation.

Concrete surfaces shall be at least 14 days old at the time of application, or longer to remain in accordance with the manufacturer's recommendations. The public, the bridge, and all surfaces shall be protected from harm during the cleaning process. Surface cleaning, at a minimum, requires the use of 3,000 psi high-pressure water washing at a flow rate of 3 to 14 gallons per minute. Do not water-blast galvanized or painted metal surfaces. Using lint-free towels, blot dry all bug holes, voids or depressions that contain moisture. Pressure washed surfaces shall be allowed to dry completely in accordance with the manufacturer's recommendations. Surfaces to

be coated shall be clean, dry, and free of oil, dirt, grease, form release agent, efflorescence or any other coating which may inhibit penetration and adhesion of mineral silicate paint. If surface requires additional cleaning prior to applying mineral silicate paint, clean surface in accordance with manufacturer's recommendations. Surface readiness for coating shall be in accordance with the manufacturer's recommendations, including allowable moisture content, surface profile, PH level, etc. Any required caulking adjacent to the work surfaces shall be completed prior to application of coating. Remove cleaning residue and other related debris and leave the work area broom clean.

D. Application.

Application shall be by means of brush, roller or sprayer in accordance with the manufacturer's recommendations. The total number of coats applied shall be in accordance with the manufacturer's recommendations, but with a minimum of two coats of the topcoat color applied. Follow manufacturer's recommendations for drying time between coats.

Apply coating only during dry conditions. Follow manufacturer's recommendations for acceptable atmospheric conditions such as allowable temperature, humidity, dew point, wind, sun exposure, potential future precipitation events, etc., both at the time of application and for the entire curing period established by the manufacturer.

Coating material shall not be diluted in any way except as designated by the manufacturer for the specified application.

1. Spray Application.

Spray application equipment and methods shall be in accordance with the manufacturer's recommendations. Follow manufacturer's recommendations for total minimum dry film thickness.

2. Brush and Roller Application.

Brushes and roller materials and methods shall be in accordance with the manufacturer's recommendations. Follow manufacturer's recommendations for total minimum dry film thickness.

E. Inspection.

The Engineer will inspect all phases of the work to verify that it is in accordance with the requirements of this section. The Contractor shall facilitate this inspection as required, including providing the Engineer with advance notice of scheduled work, allowing ample time for the inspections and access to the work. Inspections may include, but are not limited to, surface preparation, pre-coating cleanliness, coating application, curing, touchup, and final appearance. Do not proceed with subsequent phases of the work until the Engineer has approved the preceding phase.

No drips or runs shall be evident in the painted surface. Paint coverage shall be complete and consistent across the entire painted surface. Correct any surface defects to the satisfaction of the Engineer.

The inspection by the Engineer in no way relieves the Contractor of the responsibility to comply with all requirements of this section. The Contractor shall furnish, until final acceptance of the mineral silicate paint, all equipment and instrumentation needed for self-inspection of all phases of the work to remain in compliance with manufacturer's recommendations and these Special Provisions.

150023.04 METHOD OF MEASUREMENT.

The work of furnishing and applying Mineral Silicate Paint will be based on plan quantities in square yard and will not be measured.

150023.04 BASIS OF PAYMENT.

For the number of square yards of Mineral Silicate Paint for Concrete shown on the plans, the Contractor will be paid the contract unit price per square yards. This payment shall be full compensation for all labor, materials, equipment, services, and incidentals necessary to perform the work of this section.