FLORIDA DEPARTMENT OF TRANSPORTATION
State Materials Office
5007 NE 39th Avenue
Gainesville, Florida 32609
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FLORIDA METHOD OF TEST FOR FIELD EVALUATION OF STRUCTURAL COATING MATERIALS

Designation: FM 5-591

1. SCOPE

This method delineates outdoor exposure testing utilized to evaluate structural coatings. This Florida Sampling and Test Method (FSTM) is intended to be used in conjunction with ASTM D 714, ASTM D 1654, ASTM D 2244, ASTM D3273, and ASTM D 3274, as prescribed by Section 975 of Florida Department of Transportation, Standard Specifications for Road and Bridge Construction.

2. EQUIPMENT

2.1 Scribing tool meeting the requirements of ASTM D 1654.

2.2 Straight edge, spatula, and putty knife.

2.3 Scale with 1mm resolution.

2.4 A Type 5 Portable pull-off adhesion tester meeting the requirements of ASTM D 4541.

2.5 Epoxy adhesive with 15 minute cure time and self proportioning dispenser.

2.6 BYK colorimeter

2.7 Microscope

3. Field Exposure

Each complete coating system will be subjected to a five year atmospheric exposure test at a location designated by the Director, Office of Materials. All test panels will be placed at an incline 30 degrees plus or minus 5 degrees from the horizontal.

3.1 Structural Steel Coatings:

3.1.1 Four flat and four composite test panels will be submitted by the manufacturer. Three flat test panels and three composite test panels shall be exposed to the environment with the complete coating system applied.

The scribed panels shall be oriented such that water running down the face runs down the scribe longitudinally. The scribe shall penetrate to the substrate steel and compromise all polymeric coatings. The panels shall be exposed for 5 years and then be inspected and photographed in accordance with Section 975. One flat panel and one composite panel of the eight submitted shall be retained in a controlled indoor environment and protected from UV exposure.

3.2 Class 5 Finish Coatings:

3.2.1 Four test panels will be submitted by the manufacturer. Three test panels shall be placed exposed for 5 years and then inspected and photographed in accordance with Section 975. One panel of the four submitted for testing shall be retained in a controlled indoor environment and protected from UV exposure.