

3520
Zinc-Rich Paint Systems

3520.1 SCOPE

This Specification covers paint systems consisting of a zinc-rich primer, an intermediate coat and an aliphatic polyurethane finish coat.

3520.2 REQUIREMENTS

A Zinc-Rich Primer

A1 General

The zinc-rich primer shall be a multi-component primer capable of being spray applied in accordance with the manufacturer's instructions and applications guide. After thorough mixing the primer shall be strained through a 30-60 mesh screen or a double layer of cheesecloth so that there are no un-dispersed agglomerates of zinc remaining after mixing. The primer shall be formulated to produce a distinct contrast with blast cleaned steel and with the subsequent intermediate coat.

A2 Pigment

The pigment shall consist primarily of metallic zinc powder meeting the requirements of ASTM D 520. Other materials added to the pigment for tinting shall be inert, shall be in minimal quantities, and shall not reduce the effectiveness of galvanic protection.

A3 Finished Primer

The finished primer shall meet the following requirements:

Zinc portion, percent of total solids.....75.0 min

Pot life at 25°C (77°F). 4 min hours

Density of VOC, max.420 g/L (**3.5 pounds per gallon**)

Slip coefficient of cured primer.....not less than 0.33

Cure Time for Recoating, (Note 1).....24 max hours

Note 1 - When applied at 75 µm (**3 mils**) dry-film thickness at 25°C (77°F) and 50 percent RH.

3520.3 APPROVED EPOXY ZINC-RICH SYSTEMS

Only Mn/DOT Approved Zinc-Rich Paint systems shall be used. The 3520 Approved Products List, Acceptance Criteria and Qualification Procedure can be accessed on the Office of Materials website.

A Epoxy Zinc-Rich System

The epoxy zinc-rich system shall consist of a epoxy zinc-rich primer, an epoxy or urethane intermediate coat and an aliphatic urethane finish coat.

B Inorganic Zinc-Rich System

The Inorganic Zinc-Rich System shall consist of solvent-based inorganic zinc-rich primer, an epoxy or urethane intermediate coat and an aliphatic urethane finish coat.

C Moisture-Cure Zinc-Rich System

The Moisture -Cure Zinc-Rich System shall consist of moisture-cure zinc-rich primer, an urethane intermediate coat and an aliphatic urethane finish coat.

3520.4 COLOR

The finish coat colors shall be chosen from the Federal Standard 595B colors and have a semi-gloss finish. Finish coat color or colors shall be specified in the Special Provisions of the specifications. Color "Draw Down" samples shall be submitted to the Chemical Laboratory for verification of the finish coat color.

3520.5 PACKAGING AND LABELING

Multi-component paints shall be packaged in separate containers or kits to provide proper mixing proportions when the entire container is used. Manufacturer shall supply a materials safety data sheet with each shipment of paint.

3520.6 INSPECTION, SAMPLING, AND TESTING3501

When requested, manufacturer shall submit certified samples of paints to be used on the Department projects. Sample size shall be 0.5 L (**1 pint**). Testing shall be carried out according to appropriate Mn/DOT, AASHTO, ASTM, and Federal test methods.