



PERFORMANCE, PRIMER COATING, WATERBORNE CATHODIC ELECTROCOAT

WSS-M2P182-A

1. SCOPE

This specification defines the performance of electrocoat paint finishes for best appearance and highest durability on automotive parts.

2. APPLICATION

This specification was released originally to define paint performance for cathodic electrocoated paint, cathodic electrocoated vehicle bodies and exterior metal parts.

3. REQUIREMENTS

3.0 STANDARD REQUIREMENTS FOR PRODUCTION MATERIALS

Material suppliers and part producers must conform to the Company's Standard Requirements For Production Materials (WSS-M99P1111-A).

3.4 PREPARATION OF TEST PANELS

Coating System I - Electrocoat Only
Coating System II - Electrocoat and Primer Surfacer
Coating System III - Total Paint System

3.4.1 Substrates

Auto body steel, aluminum, pre-coated or electroplated zinc or zinc alloy coated steel and zinc die casting or as specified on Engineering documents.

3.4.2 Substrate Condition

The surface to be coated must be cleaned by an automated process to ensure the absence of oil or alkaline residues, fingerprints, corrosion, dirt, moisture, and other foreign materials.

3.4.3 Coating Material

3.4.3.1 Zinc Phosphate (All Panels)

Zinc phosphate coating per WSS-M3P1-D for cold rolled steel, pre-coated, electroplated zinc or zinc alloy coated steel and zinc die castings.

Aluminum when processed alone should use chromium oxide coating per WSK-M6P2-B. If steel and aluminum parts are processed concurrently, apply zinc phosphate per WSS-M3P1-D. Do not exceed the aluminum tolerance of the process. Steel and aluminum parts are to meet all requirements of both WSS-M3P1-D and this specification.

Date	Action	Revisions
2003 08 19	Revised	Para 3.0 inserted; Para 3.1, 3.2, 3.3, 3.8, 4 deleted
1998 03 24	Activated	N. Chamberlain



Documents

Document Sharing Hub



3.4.3.2 Cathodic Electrocoat (Coating System I)

Ford Engineering approved current production materials or material under evaluation. Film thickness requirements are based on current product requirements or direction of materials engineer. Baking requirements at 10 minutes at 165, 175 and 200 °C metal temperature.

3.4.3.3 Electrocoat and Primer Surfacer (Coating System II)

Ford Engineering approved current production materials.

3.4.3.4 Total Paint System (Coating System III)

Ford Engineering approved current production materials.

3.4.4 Finished Parts (As required)

Testing must be conducted on actual production parts. Where part dimensions limit equipment access, representative panels run through the production processes may be substituted for production parts.

These panels shall be processed together with parts and shall be representative of the parts with respect to substrate, phosphate coating, primer thickness, sanding, enamel thickness, and processing.

3.5 RESISTANCE PROPERTIES

3.5.1	Adhesion, max (FLTM BI 106-01, Procedure B)	Coating System I - Grade 0 Coating System II & III - Grade 1
-------	---	---

3.5.2	Stone Chip Resistance, max (FLTM BI 157-06)	Coating System I - Grade 9 Coating System II - Grade 7 Coating System III - Grade 5
-------	---	---

3.5.3	Water Immersion (FLTM BI 104-01)	240 h
-------	-------------------------------------	-------

No blistering, loss of gloss or loss adhesion accepted.

3.5.4	Salt Spray (FLTM BI 103-01; Coating System I and III; not for Precoated Steel)	960 h
-------	--	-------

Perform test on iron and steel substrates only. Scribe panels after painting with two diagonal lines from corner to corner diagonally. Scribe to the bare metal.

Failure is blisters, rust or loss of adhesion exceeding 3 mm from scribe line.