



Engineering Material Specification

Material Name

PAINT - WATER BORNE CATIONIC
ELECTROCOAT PRIMER
WATER BORNE CATIONIC
ELECTROCOAT RESIN MAKEUP
FEED
WATER BORNE CATIONIC
ELECTROCOAT PIGMENT MAKEUP
FEED
FLOW CONTROL ADDITIVE

Specification Number

ESA-M64J19-B1
ESA-M64J19-B2
ESA-M64J19-B3
ESA-M64J19-B4

1. SCOPE

The materials defined by these specifications are heat curing, water-based cationic electrocoat primer and associated makeup feed materials.

2. APPLICATION

These specifications were released originally for material used for frames to provide maximum corrosion protection.

3. REQUIREMENTS

3.1 COMPOSITION (FLTM BI 2-1)

	Non-Volatile	Volatiles	
		Solvent	Deionized Water
ESA-M64J19-B1	21 ± 1%	less than 6%	Remainder
ESA-M64J19-B2	36 ± 1%	less than 11%	Remainder
ESA-M64J19-B3	41 ± 2%	less than 11%	Remainder
ESA-M64J19-B4	12 ± 1%	less than 89%	---

3.2 INFRARED SPECTROPHOTOMETRY (IR), EMISSION SPECTROSCOPY (ES), AND THERMOGRAVIMETRIC ANALYSIS (TGA)

Ford Motor company, at its option, may conduct infrared spectrophotometry, emission spectroscopy, and/or thermogravimetric analysis of material/parts supplied to these specifications. The spectrum established for initial approval shall constitute the reference standard and shall be kept on file at Central Laboratory. All samples shall produce spectra that correspond to the reference standard when tested under the same conditions as those specified on the master spectrum.

Date	Release No.	Release/Revision	Approval
1985-03-14	C102-897050-C11	3.4.4 Revised	<i>[Signature]</i> 2/25/85
1981 07 02	CAL2-892187-C4	Metricated & Retyped	
1977 11 17	AH2-303	Released	

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ESA-M64J19-B2	IR
ESA-M64J19-B3	IR,ES
Cured Film	IR, TGA

Prepare the IR sample by scraping the cured paint from a test panel and mixing with infrared quality potassium bromide. Pulverize the sample with a mortar and pestle or a mechanical mixer to a homogeneous powder and press into a pellet with a hydraulic press at 11.7 MPa. Place the pellet in the infrared beam and scan.

3.3 THROWING POWER

Panels shall be prepared per FLTM BI 20-2C with the following exceptions: The substrates used shall be unpolished cold rolled steel, standard cold rolled steel, PTQ steel or SAE 950 steel panels. All substrates shall be zinc phosphated prior to painting.

3.3.1 Throw Power Requirements

All types of steel panels shall withstand 240 h salt spray. The minimum millimetres of protection before and after salt spray are as follows:

	<u>Before</u>	<u>After</u>
Cold Rolled	330	330
PTQ	330	330
SAE 950	330	330

Do not scribe the test panels prior to salt spray exposure.

3.4 FILM PROPERTIES (Prepare panels per FLTM BI 20-1)

3.4.1	Thickness (FLTM BI 17-1)	0.020 - 0.025 mm
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3.4.2	Salt Spray Resistance, min (FLTM BI 3-1)	1000 h
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No more than 3.2 mm rust or blister creepage from a line scribed to bare metal.

3.4.3	Adhesion (FLTM BI 6-1)	No flaking or chipping
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3.4.4	Chip Resistance (FLTM BI 7-1)	Not to exceed Fig. 2
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or

(SAE J 400), max	4B
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