



Engineering Material Specification

Material Name

Specification Number

**PAINT, WATERBORNE WHEEL PRIMER, ACRYLIC
ENAMEL, CATHODIC ELECTROCOAT**

ESA-M64J24-A

1. SCOPE

The material defined by this specification is a heat curing, water based cathodic electrocoat enamel and associated make-up feed components.

2. APPLICATION

This material was released originally for use as a primer or final coat on steel wheels.

3. REQUIREMENTS

3.1 COMPOSITION

3.1.1 Non-volatile (FLTM BI 2-1)

3.1.1.1 Charging Material, min 53.0 Wt. %

3.1.1.2 Feed Material

3.1.1.2.1 Resin, min 60.0 Wt. %

3.1.1.2.2 Pigment, min 34.0 Wt. %

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

Ford Motor Company, at its option, may conduct IR, ES, and TGA of material/parts supplied to this specification. The spectrum established for initial approval shall constitute the reference standard and shall be kept on file at the designated material laboratory. All samples shall produce spectra that correspond to the reference standard when tested under the same conditions as those specified on the master spectra.

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.

Date	Release No.	Release/Revision
870630	CDR2-171100-C9	Released

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3.3 WEIGHT PER VOLUME AT 22°C (FLTM BI 2-1)

3.3.1	Charging Material, kg/L	1.05 - 1.09
3.3.1.1	Resin	1.01 - 1.05
3.3.1.2	Pigment	1.14 - 1.18

3.4 STABILITY

No more than 5% increase in viscosity after 72 h beyond initial viscosity of materials reduced to 10 - 20% solids.

3.5	THROWING POWER, min (FLTM BI 20-2, Method C)	100.0 mm
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3.6 PANEL PREPARATION (FLTM BI 20-1)

All panels must be coated with zinc phosphate. All panels shall be conditioned for 72 h at $2 \pm 3^{\circ}\text{C}$ or 16 h at $43 \pm 1^{\circ}\text{C}$ prior to testing.

3.7 FILM CHARACTERISTICS

3.7.1	Thickness, mm (FLTM BI 17-1)	0.019 - 0.02
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3.7.2	Salt Spray Resistance, min (FLTM BI 3-1)	360 h
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No more than 3 mm rust or blister creepage from a line scribed to bare metal.

3.7.3	Gloss, min (FLTM BI 10-1, 60°)	50
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3.7.4	Color	Black
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3.7.5	Water Immersion Resistance, min (FLTM BI 4-1)	240 h
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No failure by blistering, peeling or loss of gloss.

3.7.6	Accelerated Weathering, min (FLTM BO 1-1)	400 h
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No more than a 20% loss of gloss after washing panel.