Ford Engineering Material Specification

Material Name

PAINT, WATERBORNE ANODIC ELECTROCOAT - ACRYLIC ENAMEL

Specification Number

ESA-M62J13-B

1. SCOPE

The material defined by this specification is a heat curing, water based anodic electrocoating acrylic enamel and associative make-up feed components.

2. APPLICATION

This material was released originally for use as a primer and/or final coat for wheels.

3. REQUIREMENTS

3.1 STATISTICAL PROCESS

Suppliers must conform to the requirements of Ford Quality System Standard Q-101. A mutually acceptable Control Plan as described therein is required for material/source approval. Appropriate statistical tools must be used to analyze process/product data so that variation in the final product is continuously reduced.

3.2 COMPOSITION

3.2.1 Non-Volatile
(FLTM BI 2-1)

3.2.1.1 Charging Material Weight, min — 40%

3.2.2 Volatile — Deionized Water

3.3 WEIGHT PER LITRE AT 22°C

3.3.1 Charging Material — 3.75-3.80 kg

3.4 STABILITY
(FLTM BI 16-2)

No more than 5% increase in viscosity after 72 h beyond initial viscosity of material reduced to 7-8% solids.

Date	Release No.	Release/Revision	
			6/3/87
870630	CDR2-171100-C9	Released 73.	6-5-87

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3.5 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 IR spectra and thermograms established for initial approval shall constitute the reference standard and shall be kept on file at the designated material laboratory. All samples shall produce IR spectra and thermograms that correspond to the reference standard when tested under the same conditions.

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.

3.6 THROWING POWER, min
(FLTM BI 20-2°C)

Before Salt Spray	135 mm
After 240 h Salt Spray Exposure	70 mm

3.7 PANEL PREPARATION

Prepare panels per FLTM BI 20-1. When this material under test is specifically for use on other substrates, supplementary tests shall be run, using panels or parts made from the substrate and processed by an approved production method prior to painting. All panels shall be conditioned for 72 h at ± 1°C or 16 h at 43 ± 1°C prior to testing.

3.8 FILM CHARACTERISTICS

3.8.1	Thickness (FLTM BI 17-1)	19-20 µm
3.8.2	Salt Spray Resistance, min (FLTM BI 3-1)	360 h

No more than 3 mm rust or blister creepage from a line scribed to bare metal.

3.8.3	Gloss, min (FLTM BI 110-1, 60°)	70
3.8.4	Color	Black
3.8.5	Water Immersion Resistance, min (FLTM BI 4-1)	240 h

No failure by blistering, peeling, or loss of gloss.

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