ENGINEERING MATERIAL SPECIFICATION

Material Name	Specification Number
PRIMER, WATERBORNE CATHODIC ELECTROCOAT, 25 MICROMETRE FILM BUILD, BLACK, LEAD FREE, 175 C BAKING TEMPERATURE, INITIAL FILL	WSK-M64J35-A1
MAKEUP FEED, WATERBORNE CATHODIC ELECTROCOAT, RESIN	WSK-M64J35-A2
MAKEUP FEED, WATERBORNE CATHODIC ELECTROCOAT, PIGMENT, BLACK, LEAD FREE	WSK-M64J35-A3
PRIMER, WATERBORNE CATHODIC ELECTROCOAT, 25 MICROMETRE FILM BUILD, GRAY, LEAD FREE, 175 C BAKING TEMPERATURE, INITIAL FILL	WSK-M64J35-C1
MAKEUP FEED, WATERBORNE CATHODIC ELECTROCOAT, RESIN	WSK-M64J35-C2
MAKEUP FEED, WATERBORNE CATHODIC ELECTROCOAT, PIGMENT, GRAY, LEAD FREE	WSK-M64J35-C3

1. SCOPE

The materials defined by these specifications are non-yellowing cathodic electrocoat primer for nominal 25 micrometre film build and associated make-up feed components. The materials shall not contain lead.

2. APPLICATION

These specifications were released originally for a paint system used as electrocoat primer on vehicle bodies, sheet metal components and small parts. The primer will provide good corrosion resistance, good adhesion and enamel appearance properties.

WSK-M64J35-A1/WSK-M64J35-C1:
This primer is applied directly over zinc phosphated cold rolled steel, electrodeposited zinc or zinc/nickel alloy coated steel and any other type of precoated steel, as well as to aluminum substrates. Typical applications are as follows:

- Visible Exterior Surfaces:
  The electrocoated primer film will be followed by a primer surfacer and an exterior enamel colour coat. The electrocoat primer, primer surfacer and enamel are all baked separately.

- Visible Interior Surface:
  The backed electrocoated primer film is followed by an enamel colour coat.

- Non-visible Interior, Exterior or Underbody Surfaces:
  The baked electrocoated primer film is not usually followed by an additional primer or enamel colour coat.

Date	Release No.	Release/Revision
1993 04 01	EP00E10258813000	Release KW

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WSK-M64J35-A2/WSK-M64J35-C2:
This material is make-up feed material used to replenish the resins of the initial fill electrocoat bath.

WSK-M64J35-A3/WSK-M64J35-C3:
This material is make-up feed material used to replenish the pigments of the initial fill electrocoat bath.

3. REQUIREMENTS

WSK-M64J35-A1/WSK-M64J35-C1:
The cathodic electrocoat primer shall meet all detailed requirements of this specification.

WSK-M64J35-A2/C2/WSK-M64J35-A3/C3:
The make-up feed materials shall meet the requirements of para 3.2 and 3.4.

When feed material is used in production, the resultant primer shall meet all detailed requirements of this specification.

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 continually reduced.

3.2 INFRARED SPECTROPHOTOMETRY AND/OR THERMAL ANALYSIS

Ford Motor Company, at its option, may conduct infrared and/or thermal analysis 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.

3.3 CONDITIONING

All test values indicated herein are based on material conditioned in a controlled atmosphere of 23 +/- 2 C and 50 +/- 5 % relative humidity for not less than 24 h prior to testing and tested under the same conditions unless otherwise specified.

3.4 COMPOSITION

3.4.1	Density (ASTM D 1475)	See Initial Sample +/- 0.02 g/mL
3.4.2	Non-volatile (FLTM BI 120-08)	See Initial Sample +/- 1 %

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3.4.3 Weight Loss after baking (FLTM BI 120-15, 10 minutes at 175 C) — See Initial Sample, +/- 0.5 %

3.4.4 Solvent Emissions, max (ASTM D 3960) — See Initial Sample +/- 1 %

This requirement is as determined by the United States Environmental Protection Agency Reference Method #24 but is only applicable to materials used in the USA.

3.5 STABILITY

3.5.1 Pumping Stability (FLTM BI 120-04 or equivalent equipment) — 7 and 21 days

After 7 and after 21 days of agitation, the bath material shall meet the requirements of this specification.

3.5.2 Storage Stability — 2 months

During the storage between 5 and 32 C temperature the make-up feed materials as supplied shall not settle up or cake insoluble.

3.6 PREPARATION OF TEST PANELS
(FLTM BI 103-02)

Test panels shall be prepared according to FLTM BI 103-02, method B,2, for all investigations with the following coating conditions and film thickness requirements, unless otherwise specified:

Coating class:	I	II	III
Film Thickness:			
E-coat Primer	22 - 25	22 - 25	22 - 25
Primer Surfacer	-	20 - 25	20 - 25
Enamel Topcoat	-	-	40 - 50

3.6.1 Substrates (Ref. Para. 5.1)

Routine investigations:
- Standard Steel Panels (EAO only)
- Production Steel Panels (NAAO only)

Additional for Initial approval only:
- Precoated Steel Panels as used in the plant
- Aluminum, if used in the plant

All substrates except aluminum shall be zinc phosphated and conform to the requirements of WSK-M3P1-C.

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