Ford Motor Company

ENGINEERING MATERIAL SPECIFICATION

Material Name	Specification Number
CLEANER, BODY SHEET METAL, MULTI-COMPONENT, BUILDER, POWDER	**WSS-M5B409-A1**
CLEANER, BODY SHEET METAL, MULTI-COMPONENT, SURFACTANT, POWDER	**WSS-M5B409-A2**
CLEANER, BODY SHEET METAL, MULTI-COMPONENT, BUILDER, LIQUID	**WSS-M5B409-A3**
CLEANER, BODY SHEET METAL, MULTI-COMPONENT, SURFACTANT, LIQUID	**WSS-M5B409-A4**

1. SCOPE

This specification defines the requirements of a multi-component cleaner used in the zinc-manganese phosphate system.

2. APPLICATION

This specification was released originally for cleaners used in a zinc-manganese phosphate system. The cleaners are for iron, steel, zinc or zinc alloy coated steel, zinc, or aluminum parts where maximum paint adhesion and corrosion resistance are required. The cleaner provides a clean grease-free surface for phosphating and subsequent painting, and improves adhesion of the paint film. The cleaner has more than one component consisting of builder or surfactant packages.

3. REQUIREMENTS

3.1 STANDARD REQUIREMENTS FOR PRODUCTION MATERIALS

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

3.2 MASS SPECTROSCOPY

Ford Motor Company, at its option, may conduct mass spectroscopy and/or other analysis of material/parts supplied to this specification. The analyses established for initial approval shall constitute the reference standard and shall be kept on file at the designated material laboratory. All samples shall produce the same analyses that correspond to the reference standard when tested under the same conditions.

Date	Action	Revisions	
2002 08 28	Revised	Updated and renumbered	
1998 10 19	Revised	Revised Para 3.4.2	N Chamberlain
1998 06 24	Activated	A. Reilly	N. Chamberlain

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3.3 COMPOSITION

Supplier must maintain the following characteristics to a maximum tolerance of +/- 5 % of the initial sample or as reported with the initial sample. Report all other essential components with the initial sample and maintained as part of the Control Plan as required in para 3.1.

3.3.1	Density, kg/L at 25 °C (ASTM D 1475)	Initial Sample +/- 5 %
3.3.2	Chemical Composition	
	Builder Component (WSS-M5B409-A1/A3)	Initial Sample +/- 5 %
	Surfactant Component (WSS-M5B409-A2/A4)	Initial Sample +/- 5 %

3.4 RESISTANCE PROPERTIES

The material defined by this specification must meet the requirements of WSS-M14P18-A.

3.5 MATERIAL COMPATIBILITY

The material must be compatible with all related materials, i.e., electrocoats, sealers, and adhesives. The supplier of this material shall keep abreast of changes in technology of related materials which may affect the compatibility and performance of this product. The supplier shall notify the appropriate Ford Product Materials Engineering Office in writing when incompatibility is anticipated.

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