

NAVISTAR, INC.		
Material, Parts, and Process Specifications (MPAPS)		NUMBER: MPAPS G-4113
		Former Designation: TMS-4113
TITLE: Black Electrodeposited Organic Coating for Decorative Interior Applications		CURRENT REV No.: 1608
		DATE: Aug. 2016
WRITTEN/EDITED BY: J. Goldschmidt	APPROVED BY: R. Goluch	SUPERSEDES: Rev. 1002 – Feb 2010
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<i>This specification may involve hazardous materials, equipment, and procedures. This specification does not purport to address all of the safety issues associated with its use. The user is responsible to consult appropriate safety and health practices and to determine the applicability of regulatory limits prior to use.</i>		

**NOTICE: All product supplied to the requirements of
this specification must be free of hexavalent chrome.**

1.0 APPLICATION

This specification covers the requirements for a black electrodeposited organic coating suitable for steel fasteners or other small steel parts used for decorative interior applications and requiring a black semi-gloss finish. (This specification previously covered only black zinc plating.)

2.0 SCOPE

This specification covers the requirements for surface preparation, pre-treatment, e-coat, sealer, and corrosion resistance, and quality, source approval and quality control, and approved sources.

2.1 Restricted Chemical Substances

Effective January 1, 2007, all product supplied to the requirements of this specification must comply with the requirements of the MPAPS B-50 specification.

3.0 REFERENCE DOCUMENTS

Unless otherwise specified, the latest issue of all referenced standards shall apply. The following Specifications, Standards, and Regulations are referenced in this specification.

Quality System Standard ISO 9001 or TS-16949	NAVISTAR Engineering Design Std A-16
CFR Title 29, Part 1910	NAVISTAR MPAPS B-50
NAVISTAR Supplier Packing and Shipping Std. D-13	ASTM B117

4.0 REQUIREMENTS

4.1 Surface Preparation

Prior to coating, the parts shall be thoroughly cleaned and free from rust, scale, oil and other foreign matter detrimental to the final finish. The cleaning operation must be controlled to prevent hydrogen embrittlement especially in those parts which are hardened, cold worked, or subject to high service stresses.

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4.2 Pre-Treatment

A zinc phosphate coating will be applied soon after surface preparation. Minimum phosphate coating mass shall be 6 to 10 g/m².

4.3 E-coat

The zinc phosphate pre-treatment will be followed by a cathodic electrocoat applied via bulk processing. Minimum thickness will be 10 µm.

4.4 Sealer

A water-based corrosion-protection fluid/sealer will be applied after the e-coat process. The sealer shall be dry to the touch.

4.5 Corrosion Resistance

Finished parts must exhibit no corrosion on significant surfaces after salt spray testing per ASTM B117 for 120 hours minimum. *[Significant surfaces are those which are visible and subject to wear or corrosion or both, or surfaces for which the coating is otherwise functionally necessary.]*

5.0 QUALITY

The coating shall be dense and uniform, free from porosity, pinholes and blisters, and substantially free from other defects that may affect the appearance or protective value of the coating. The finish or subsequent processes shall not significantly interfere with the free movement of attached parts, such as SEMS (screw and washer) assemblies.

6.0 QUALIFICATION

Engineering qualification of sources is required in advance of production shipments. Samples shall be accompanied by test data certifying that all requirements of the specification have been met. *Suppliers shall submit samples for approval of finish, luster, color and appearance to the Navistar Industrial Design Group. Upon approval, styling master samples denoting the minimum level of acceptable appearance quality shall be developed and retained by the supplier and the quality department of each using NAVISTAR facility.*

6.1 Quality Control Plan

A Quality Control Plan for products supplied to the requirements of this specification will be established by mutual agreement between NAVISTAR and the supplier. Unless specific exception is noted, the following characteristics, where applicable*, shall be included in the plan as features for management by statistical process control.**



- * Other characteristics for inclusion in the control plan may be specified on the engineering drawing and/or purchase order.
- ** See NAVISTAR Engineering Design Standard A-16

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