

NAVISTAR, INC.		
Material, Parts, and Process Specifications (MPAPS)		NUMBER: MPAPS G-4502
		Former Designation: TMS-4502
TITLE: Painting, Metal or Plated Plastics		CURRENT REV No.: 1704
		DATE: Apr. 2017
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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>		

1.0 APPLICATION

This specification outlines the requirements for painted exterior or interior ornamental parts made of stainless steel, brass, chromium or nickel-plated metals, chromium plated plastics and anodized aluminum.

2.0 SCOPE

This specification covers the general and performance requirements of paint on ornamental parts.

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 MPAPS GT-Paint
CFR Title 29, Part 1910	ASTM B117
NAVISTAR Supplier Packing and Shipping Std. D-13	ASTM G154
NAVISTAR Engineering Design Std. A-16	SAE J2412
NAVISTAR MPAPS B-50	SAE J2527

4.0 REQUIREMENTS

4.0.1 The finished part shall conform to the color and pattern of master samples in the Industrial Design Department, Truck Development and Technology Center and the appropriate Plant Quality Control department.

4.0.2 Parts to be painted shall be clean, dry and free of dirt, rust, oxides, lubricants, etc.

4.0.3 The preferred method on planted and anodized parts is to paint within eight hours after coating. Parts held longer than eight hours or soiled shall be carefully cleaned and etched before painting.

4.1 Initial Adhesion

4.1.1 Method: Crosshatch a minimum area of 320mm² (0.5in²) into 1.6mm (1/16in) squares by cutting with a new razor blade or other sharp instrument. Press Permacel P99 tape (or equivalent) onto the crosshatched area and then remove with a sharp upward motion in a direction 90° to the painted surface.

4.1.2 Required: 90% adhesion, minimum, in crosshatched area.

4.2 Humidity Resistance

4.2.1 Method: Test for 96 hours at 38°C (100°F) and 100% RH.

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4.2.2 Required: No loss of gloss, blistering, or loss of adhesion greater than 1.6mm (1/16in) from an "X" scribed line.

4.3 Salt Spray Resistance

4.3.1 Method: ASTM B117 for 96 hours

4.3.2 Required: No loss of gloss, blistering, or loss of adhesion greater than 1.6 mm (1/16in) from an "X" scribed line.

4.4 Weathering Resistance

4.4.1 Method – Exterior Application: 2400 kJ Xenon ARC exposure per SAE J2527

4.4.2 Optional Method – Exterior Application: 1000 hours QUV-B per ASTM G154 (Cycle 1).

4.4.3 Method – Interior Application: 500 hours Xenon ARC exposure per SAE J2412

4.4.4 Required: Painted parts shall not exhibit any peeling, cracking, loss of adhesion, yellowing or other discolorations.

4.5 Solvent Resistance (Exterior Applications only)

4.5.1 Method: MPAPS GT-Paint method 14A

4.5.2 Required: No loss of gloss, softening or removal.

4.6 Water Resistance

4.6.1 Method: Immerse part for 24 hours at 38±1°C (100±2°F) in distilled or deionized water. Remove, scribe an "X", dry, and apply 3M #710 tape (or equivalent) to scribed area. Remove tape at moderate speed at a 90° angle to the painted surface.

4.6.2 Required: No paint removal beyond 1.6mm (1/16in) from any scribed line and no evidence of blistering.

4.7 Temperature Cycling Test

4.7.1 Method: Expose coated part for two hours at applicable temperature as prescribed below, then return to room temperature. Then expose the part to -30°C (-22°F) for two hours and again return to room temperature. Repeat this cycle ten times for exterior parts or five times for interior parts.

4.7.1.1 Plated plastic - 80°C (180°F)

4.7.1.2 All other parts - 120°C (250°F)

4.7.2 Required: No blistering, peeling, checking or loss of adhesion after the prescribed number of cycles.

5.0 QUALITY

All product supplied shall be clean and free from dirt, oils, sharp edges, or defects harmful to product performance.

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