

NAVISTAR, INC.		
Material, Parts, and Process Specifications (MPAPS)		NUMBER: MPAPS G-4513
		Former Designation: TMS-4513
Strippable Protective Coatings		CURRENT REV No.: 1801
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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 covers two types of strippable protective coatings which provide temporary protection to painted or unpainted (polished or unpolished) metal surfaces against deterioration, corrosion, abrasion or damage during fabrication, transportation, handling, or storage. Type I is a spray-on coating, while Type II is a film laminated to the metal coil or sheet by manual or automated methods

2.0 SCOPE

This specification covers general requirements for both Types I and II coatings, requirements for uncured sprayable coating solution, performance requirements for the cured sprayable coating, and requirements for the film laminate coating for coils.

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.

ISO 9001/TS 16949 – Quality Management Systems-- Requirements
 CFR Title 29, Part 1910 – Occupational Safety and Health Standards
 NAVISTAR ISQ-001-QM – Integrated Supplier Quality Requirements
 NAVISTAR D-13 – Supplier Packing and Shipping Standard
 NAVISTAR EDS A-16 – Key Control Characteristics (KCC)
 NAVISTAR MPAPS B-50 – Restricted Chemical Substances
 ASTM B117 – Standard Practice for Operating Salt Spray (Fog) Apparatus
 MIL-C-16555 – Coating Compound, Strippable, Sprayable

4.0 REQUIREMENTS

The materials covered by this specification shall be capable of temporarily protecting bare or painted metal and shall be easily removable without damage, residue, or discoloration of the object coated. Unless otherwise specified, all sample preparation and testing related to Type I coating shall be in accordance with the methods described in MIL-C-16555.

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4.1 Type I – Spray-on coating

4.1.1 Uncured Properties

4.1.1.1 Composition

Shall be 30% (by weight) min non-volatile material.

4.1.1.2 Viscosity

Shall be 70-100 Krebs units, when tested at $10 \pm 1^\circ\text{C}$ ($50 \pm 2^\circ\text{F}$).

4.1.1.3 Gelation at Low Temperature

When stored at -29°C (-20°F), solution shall be restorable to a free-flowing consistency for spraying by manual or mechanical stirring at $25 \pm 1^\circ\text{C}$ ($77 \pm 2^\circ\text{F}$).

4.1.1.4 Separation of Pigment

After storing in a closed container for 10 days at room temperature, the pigment shall not separate from the solution in such a manner as to prevent restoration of the coating solution to consistency for satisfactory spraying by manual stirring at $25 \pm 1^\circ\text{C}$ ($77 \pm 2^\circ\text{F}$).

4.1.1.5 Sprayability

The solution shall be supplied in a consistency satisfactory for application with conventional pressure-type spray equipment.

4.1.2 Cured Coating Properties

The minimum coating thickness shall be 0.35 mm (14 mils) and the coatings shall be capable of meeting the following performance tests at this min thickness. In actual use, thinner coatings may be used provided that all the cured coating requirements are satisfied.

4.1.2.1 Tensile Strength

Shall be 3.4 MPa (500 psi) min.

4.1.2.2 Elongation

Shall be 200% min.

4.1.2.3 Low Temperature Flexibility

After conditioning at $-23 \pm 1^\circ\text{C}$ ($-10 \pm 2^\circ\text{F}$), the test specimens shall be capable of bending around a 25 mm (1 in) diameter mandrel without cracking or breaking.

4.1.2.4 Heat Resistance

Coating shall show no evidence of shrinkage, separation from the panel, bubbles, darkening or other visible evidence of degradation. After cooling to room temperature, the coating shall not crack or break on being peeled back from the panel.

4.1.2.5 Water Vapor Transmission

Water vapor transmission rate after exposure to accelerated weathering described below shall be not more than 1.2 grams per $6.45 \times 10^{-2} \text{ m}^2$ (100 in²) per 24 hours.

4.1.2.6 Accelerated Weathering

After exposure to 100 hours standard Weatherometer testing or 100 hours QUV testing, coating shall show no visible evidence of degradation or shrinkage and shall be strippable from the test panel in one continuous sheet.

4.1.2.7 Salt Spray Resistance

The test specimen shall show no evidence of corrosion, and the coating shall show no pinholes or separation from the metal, after testing for 96 hours per ASTM B117.

4.1.2.8 Adhesion

Shall be not less than 87.5 N (0.50 lbf) and not more than 390 N (2.25 lbf) per m (in) width.

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