

NAVISTAR INC.		
TMS (TRUCK MATERIAL SPECIFICATION)		NUMBER: TMS-4510
TITLE: Coating, Weld Through, Corrosion Resistant, Hot Melt		CURRENT REV No.: 0912 DATE: December 2009
WRITTEN/EDITED BY: Materials Engineering	APPROVED BY: Materials Engineering	SUPERSEDES: Rev. B-1, September 2000
PRINTED COPIES OF THIS DOCUMENT MUST BE VERIFIED FOR CURRENT REVISION		
<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>		
Change Notice: Replaced "International Truck and Engine Corporation" with "Navistar, Inc." per corporate directive; added CEMS B-50 requirement; removed reference to TT-C-520 Army specification due to obsolescence; editorial changes.		
Reference: File 30-13G	Keywords: Rust Preventative; Hot Melt	

1.0 APPLICATION

This specification covers a weld through thermoplastic (hot melt) rust preventative suitable for hot, airless spray application on bare steel or galvanized steel in areas which cannot be adequately protected after build-up. This material shall be exposed to a temperature of 120°C (250°F) for 30 minutes after application to obtain maximum corrosion protection. This may be achieved during a paint bake cycle.

2.0 SCOPE

This specification covers the general requirements, property and performance requirements, and approved sources and quality control.

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 CEMS B-50 specification.

3.0 REFERENCE DOCUMENTS

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

Quality System Standard ISO 9001 or TS-16949	ASTM B 117
CFR Title 29, Section 1910	ASTM D 92
NAVISTAR Manufacturing Std. MS-D-13	SAE J243
NAVISTAR Eng. Design Std. A-16	
NAVISTAR CEMS B-50	
NAVISTAR TMS-9543	

This document is restricted and may not be sent outside Navistar Inc. or reproduced without permission from Corporate Technical Standards. Suppliers are required to assume all patent liability. ©2009 Navistar Inc.

DECEMBER 2009

NUMBER: TMS-4510	TITLE: Coating, Weld Through, Corrosion Resistant, Hot Melt	REVISION: 0912
----------------------------	---	--------------------------

4.0 REQUIREMENTS

4.1 General

4.1.1 Color

Shall be black when applied in thickness of 0.20 mm (0.008 in) min.

4.1.2 Odor

Shall be inoffensive.

4.2 Property Requirements

4.2.1 Flash Point

Test per ASTM D 92 Cleveland Open Cup. Shall be 190°C (375°F) min.

4.2.2 Application Temperature

Shall be capable of spray application between 101-107°C (215-225°F).

4.3 Performance Requirements

The following tests shall be performed on polished steel panels suitably coated. Products approved for this application shall be capable of passing these tests with a min coating thickness of 0.18 mm (0.007 in).

4.3.1 High Temperature Flow

Spray the compound on three degreased 4"x12" steel panels to give a dry-film thickness as stated above. Draw parallel lines spaced 1/2 inch apart across the width of the surface. Suspend the panel in a vertical position in an oven at 175°C (350°F) for 30 minutes. There shall be no observable evidence of creep or flow.

4.3.2 Salt Spray Resistance

Test per ASTM B 117. Scribed panels tested for 750 hours shall exhibit no evidence of corrosion. Maximum allowable creepage shall be 3 mm (0.12 in).

4.3.3 Environmental Exposure Resistance

Scribed panels subjected to 10 cycles, as indicated below, shall exhibit no blistering, peeling, lifting, blooming, sagging, cracking, or other surface defects.

4.3.3.1 Environmental Test Cycle

1. 16 hours humidity (100% RH)
2. 2 hours at -18°C (0°F)
3. 2 hours at room temperature
4. 4 hours at 70°C (158°F)

4.3.3.2 Wash-off Resistance

Panels exposed to the listed solutions shall exhibit no evidence of removal or degradation of the coating.

4.3.3.2.1 Phosphate solution - dip for 10 minutes in clean water at 65°C (150°F) followed by dipping in a phosphate solution at 65°C (150°F) for 10 minutes.

4.3.3.2.2 Hot water - pour 0.9 L (1 qt) water at 60°C (140°F) onto horizontal panel at rate of 0.9 L (1 qt) per 15 seconds.

4.3.4 Welding Test

When tested per SAE J243, Test ADS-3, Method B, shall meet the tensile, flashing, electrode life, and electrode pickup as specified.

This document is restricted and may not be sent outside Navistar Inc. or reproduced without permission from Corporate Technical Standards. Suppliers are required to assume all patent liability. ©2009 Navistar Inc.

DECEMBER 2009