

NAVISTAR, INC.		
Material, Parts, and Process Specifications (MPAPS)		NUMBER: MPAPS G-4524
		Former Designation: <i>TMS-4524</i>
TITLE: Fluorocarbon Coating for Fasteners		CURRENT REV No.: 1608
		DATE: Aug. 2016
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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 the requirements for a protective fluoropolymer coating used on fasteners to prevent buildup or adhesion of electrodeposited primers, paints, weld spatter, etc., on the threaded sections of fasteners. This coating is suitable for internal threads of nuts and tapping plates, and external threads of bolts and studs.

2.0 SCOPE

This specification covers the general coating requirements, quality, source approval and quality control, packing, shipping, and identification requirements, and designation on drawings.

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 standards, specifications and regulations are referenced in this specification.

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

4.0 GENERAL REQUIREMENTS

4.1 Coating Requirements

4.1.1 Coating Cure and Appearance

The cure parameters for the coating shall be determined using the appropriate time/temperature relationship recommended by the manufacturer to achieve the desired performance. The cure cycle should not affect the mechanical or dimensional properties of the parts being coating.

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4.1.1.1 The cured coating shall be able to prevent adhesion of electrodeposited primers and shall meet the specified torque-tension requirements.

4.1.1.2 The cured coating shall be sufficiently damage resistant to prevent chipping or other coating removal during normal handling and shipping of parts.

4.1.1.3 The coating shall be compatible with plant paint systems.

4.1.1.4 Coating shall have a uniform appearance and be free of tears, runs, and flaked areas. It shall have an identifiable color (red not permissible).

4.1.1.5 Parts will be received with a light rust preventive film or dry phosphate coating to prevent flash rusting of parts during processing, shipping, and short-term plant storage.

4.1.2 Coating Coverage

4.1.2.1 The coating shall be applied to the contact surfaces of the internal thread areas of nuts and tapping plates, and the external thread areas of bolts and studs. [Contact surfaces are defined as the flank surfaces of the threads.] Due to processing variations, some coating may be present at the crests of the threads and in the root valleys. These areas are not considered significant surfaces, provided they do not interfere with the torque-tension requirements.

4.1.2.2 Restrictions – unless otherwise specified on the part drawing, coating locations and coverages shall meet the following restrictions:

4.1.2.2.1 Coating on externally threaded parts shall extend to the thread runout for shanked fasteners and to within three pitches of the head-to-shank junction on full threaded parts. In no case shall the coating extend below a plane parallel to the weld nibs. No coating may be present on the head-to-bearing surfaces of bolts and studs, nut hex flats and bearing surfaces, and on the weld projection nibs, flats, and any of the head surfaces of weld studs and nuts.

4.1.2.2.2 Thickness of coating shall not be such as to interfere with free insertion of a mating fastener.

4.1.3 Initial Approval

Samples for initial approval shall be accepted based on compliance to the requirements of this specification.

5.0 QUALITY

All product supplied per this specification 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.

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.**

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