

NAVISTAR, INC.		
Material, Parts, and Process Specifications (MPAPS)		NUMBER: MPAPS B-51
		<i>Former Designation: CEMS B-51</i>
Dry Film Lubricant for Fasteners		CURRENT REV No.: 1802
		DATE: Feb. 2018
WRITTEN/EDITED BY: W. Cook	APPROVED BY: R. Goluch	SUPERSEDES: Rev. June 2013
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>		

1.0 APPLICATION

This specification applies to a solid film lubricant coating containing molybdenum disulfide and other lubricating pigments used on fasteners to lower the coefficient of friction, reduce wear, minimize metallic adhesion of parts operating dry and provide good corrosion resistance 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 April 1, 2013 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:

ISO 9001/TS 16949 – Quality Management Systems-- Requirements
 CFR Title 29, Part 1910 – Occupational Health and Safety Standards
 NAVISTAR ISQ-001-QM – Integrated Supplier Quality Requirements
 NAVISTAR D-13 – Supplier Packing and Shipping Standard.
 NAVISTAR MPAPS B-50 – Restricted Chemical Substances
 ASTM D 2714 - Standard Test Method for Calibration and Operation of the Falex Block-on-Ring Friction and Wear Testing Machine
 ASTM B 117 - Standard Practice for Operating Salt Spray (Fog) Apparatus

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. ©2018 by Navistar, Inc.

FEBRUARY 2018

NUMBER: MPAPS B-51	TITLE <i>Dry Film Lubricant</i>	CURRENT ISSUE REV: 1802
------------------------------	---	-----------------------------------

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.

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

4.1.1.2 Coating shall have a uniform appearance and be free of tears, runs, and flaked areas.

4.1.2 Coating Coverage

4.1.2.1 The coating is a dip-spin coating which provides anti-seizing and controlled frictional properties. This coating process does not generate hydrogen; however, pre-treatment processes, i.e., acid pickling could cause hydrogen adsorption. Thickness of coating shall be 5 - 20µm.

4.1.3 Coefficient of Friction

Coefficient of friction of the coated parts shall be .03 -.07 when measured per ASTM D2714.

4.1.4 Heat Resistance

This material shall remain stable up to the temperature of + 260 Celsius.

4.1.5 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 72 hours per ASTM B 117.

4.1.6 Adhesion

The coating must not chip, flake or expose any base metal surface. A uniform deposit of powdery material clinging to the tape shall not be objectionable.

4.1.7 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 SOURCE APPROVAL AND QUALITY CONTROL

6.1 Supplier Requirements

All suppliers to NAVISTAR are subject to the requirements defined in ISQ-001-QM- NAVISTAR Integrated Supplier Quality Requirements. Suppliers must be compliant with ISO 9001 or TS 16949 and fulfill all AIAG PPAP (Production Part Approval Process) documentation and all approval requirements as indicated in NAVISTAR ISQ-001-QM.

6.2 Approval

Parts supplied against contracts or purchase orders citing this specification shall be equivalent in all respects to those samples which were approved by the purchaser. No changes in formulation or processing practices are permitted without approval. In the event that changes in material, properties, processing practices, construction, color, or labeling of the product are required, the supplier shall notify NAVISTAR Integrated Supplier Quality (ISQ) of the proposed change(s) by contacting their

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. ©2018 by Navistar, Inc.

FEBRUARY 2018