

NAVISTAR, INC.		
Material, Parts, and Process Specifications (MPAPS)		NUMBER: MPAPS B-6913
		Former Designation: TMS-6913
TITLE: Electrical Sealant/Grease		CURRENT REV No.: 1703
		DATE: March 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 covers an electrical sealant used in electrical terminal connections to provide a non-electrically conductive film that excludes external contaminants and protects against corrosion. This compound is normally applied as a viscous fluid and is preferred for heavy duty electrical sealing applications

2.0 SCOPE

This specification covers the general requirements, performance requirements, quality, qualification, source approval 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 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	ASTM B 117
CFR Title 29, Part 1910	
NAVISTAR Supplier Packing and Shipping Std. D-13	
NAVISTAR Engineering Design Std. A-16	
NAVISTAR MPAPS B-50	

4.0 REQUIREMENTS

The sealant shall be compatible with electrical terminal materials and also the insulation in the terminal connector.

4.1 Performance Requirements

4.1.1 Heat Aging

4.1.1.1 Method

Apply sealant to the female cavity of a molded connector (NAVISTAR P/N 418655-C1). Age sealed assembly for three days at room temperature before testing. Measure voltage drop across the connector before and after heat aging in a recirculating air oven for 24 hours at $122 \pm 1^\circ\text{C}$ ($250 \pm 2^\circ\text{F}$). Voltage drop shall be measured with 1 ampere flowing through the connector.

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4.1.1.2 Required

Voltage drop change: 10.0 millivolts maximum. Sealant shall show no movement or exuding of the base oil, and there shall be neither a loss in pliability nor incipient cracking.

4.1.2 Corrosion

4.1.2.1 Method

Install a separate sealed connector in salt spray (ASTM B 117) with 14 volts across the connector (12 ohms, 25 watt resistive load). Test for 168 hours and allow to dry for four hours. Apply 50 volts DC to connector terminals to measure leakage current.

4.1.2.2 Required

Voltage drop change: 10.0 millivolts maximum.

Leakage current: 5.0 microamperes maximum.

Terminals shall be free from corrosion on contact surfaces.

4.1.3 Resistance Determination

4.1.3.1 Method

Electrical sealant shall be subjected to 500 volts DC charge across one square inch, one millimeter thick coating of sample grease.

4.1.3.2 Required

The measured electrical resistance shall be no less than 2 megohms.

4.1.3.3 Equipment

Beckman Model L-8 Megohmmeter

PT-0108 Resistance Test Fixture

4.1.4 Vertical Sag Test

4.1.4.1 Material

(a) One - 4" x 12" (approx.) cold rolled plain steel panel with a centered holed at one end for hanging (available from ACT Test Panels LLC, 273 Industrial Drive, Hillsdale, MI 49242; phone (517) 439-1485)

(b) Triangular grease bead with a 1/2" height and 1/2" base across the width of the panel.

(c) Forced convection oven capable of holding 125°C ± 3°C (260° ± 5°F)

4.1.4.2 Method

Scribe a horizontal line on the upper third of the test panel and locate the grease sample such that the lower edge of the grease is just above the horizontal line when the panel is hung vertically. Hang the panel vertically in the oven for 70 hours at 125°C (260° F).

4.1.4.3 Required

The grease shall not sag more than 12 mm (0.5 inch).

5.0 QUALITY

Sealant shall be uniform in consistency and color and shall be free from dirt and foreign material.

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.

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