

NAVISTAR, INC.		
TMS (TRUCK MATERIAL SPECIFICATION)		NUMBER: TMS-6819
TITLE: Grease, Dielectric		CURRENT REV No.: 0806 DATE: June 2008
WRITTEN/EDITED BY: Materials Engineering	APPROVED BY: Materials Engineering	SUPERSEDES: ----
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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>		
CHANGE NOTICE: NEW		
Reference: 30-8D	Keywords: Dielectric Grease	

1.0 APPLICATION

This specification covers dielectric grease to be used on electrical connections that require good dielectric strength and volume resistivity.

2.0 SCOPE

This specification covers the physical and chemical properties for dielectric grease including quality plan, source approval, quality control, and shipping and identification requirements.

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 Specifications, Standards, and Regulations are referenced in this specification.

Quality System Standard ISO 9001 or TS-16949	ASTM D 217	ASTM D 1480
NAVISTAR Manufacturing Std. MS-D-13	ASTM D 257	ASTM D 2265
CFR Title 29, Part 1910	ASTM D 445	ASTM D 2270
NAVISTAR CEMS B-50	ASTM D 942	ASTM D 4048
ASTM D 92	ASTM D 972	ASTM D 6184
ASTM D 97	ASTM D1264	

4.0 REQUIREMENTS

4.1 Physical and Chemical Properties of Base Oil

4.1.1 Viscosity of base oil

ASTM D 445; At 100° C (212°F) cSt (mm²/s) 37.0 minimum for synthetic oil based products.

ASTM D445; At 40° C (104°F) centipoise 425 maximum for synthetic oil based products.

4.1.2 Viscosity Index (ASTM D 2270)

Shall be 140 minimum for synthetic oil based products.

4.1.3 Pour Point (ASTM D 97)

Shall be -25°C (-13°F) maximum.

4.1.4 Flash Point (ASTM D 92)

Shall be 275°C (527°F) minimum.

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4.2 Physical and Chemical Properties of Grease

4.2.1 Water Washout (ASTM D 1264)

4.2.2 Color, Appearance - Shall be white and smooth

4.2.3 Dielectric Strength - 105 minimum

4.2.4 Volume Resistivity (ASTM D 257) - 1.8×10^{16} ohm-cm minimum

4.2.5 Oxidative Stability (ASTM D 942) 168 hours at 100° C - 12.0 kPa maximum

4.2.6 Copper Corrosion (ASTM D 4048) - 1A maximum

4.2.7 Density (ASTM D 1480) - 0.9 ± 0.1

4.2.8 Dropping Point (ASTM D 2265) - 245° C minimum

4.2.9 Evaporation (ASTM D 972) 24 hours at 150 ° C - .5% maximum

4.2.10 Oil Separation (ASTM D 6184) 24 hours at 100° C - 2% maximum

4.2.11 Consistency Penetration

Penetration 1/10 mm	Unworked		± 20 from W/60	ASTM D 217
	Worked	60 X	260 - 290	
		10,000 X	-	
		100,000 X	-	
	NLGI Grade		2	

5.0 QUALITY

All product supplied shall be suitable for the intended application clean and free from foreign materials and dirt, and suitably packaged and identified.

5.1 Qualification

Material submitted for qualification shall be accompanied by detailed test information and certification that material meets all requirements of this specification.

6.0 SOURCE APPROVAL AND QUALITY CONTROL

6.1 Supplier Requirements

All suppliers to NAVISTAR are required to be registered to ISO 9001 Quality System Requirements. NAVISTAR will also accept TS-16949 registration as long as the supplier can also fulfill all AIAG PPAP (Production Part Approval Process) documentation and approval requirements. Suppliers must maintain their certification with an accredited registrar and must furnish copies of registration certificates to their Corporate Buyer upon request.

6.2 Approval

Product supplied against contracts or purchase orders citing this specification shall be equivalent in all respects to those samples that 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 Materials Engineering at the Truck Development and Technology Center and NAVISTAR Purchasing and Logistics of the proposed change(s). Test data indicating conformance to all requirements of this specification, test samples, and new or amended or updated Material Safety Data

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