

NAVISTAR INC.		
TMS (TRUCK MATERIAL SPECIFICATION)		NUMBER: TMS-7057
TITLE: Anaerobic Compounds		CURRENT REV No.: 0904
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WRITTEN/EDITED BY: Materials Engineering	APPROVED BY: Materials Engineering	SUPERSEDES: Rev. C-1 – August 2001
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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: Replaced “International Truck and Engine Corporation” with “Navistar, Inc.” per corporate directive; added CEMS B-50 requirement; updated reference documents; formatting and editorial changes.		
Reference: File 30-1	Keywords: Anaerobic Adhesives	

1.0 APPLICATION

This specification covers single component polyester adhesive compounds which self-cure by polymerization when confined in close-fitting joints where air is excluded. The compounds will show no significant shrinkage and will provide an effective seal and sufficient shear strength to prevent loosening in threaded, slip-fit and press-fit joints.

2.0 SCOPE

This specification covers the general requirements, property and performance requirements, quality, source approval and quality control of three Types of compounds, each Type being subdivided for maximum selectivity. Also included are materials approved for each Grade. This specification does not address pre-applied compounds, see CEMS D-31.

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	NAVISTAR CEMS D-31
CFR Title 29, Section 1910	NAVISTAR TMS-9543
NAVISTAR Manufacturing Std. MS-D-13	MIL-R-46082A
NAVISTAR Eng. Design Std. A-16	ASTM D5363
NAVISTAR CEMS B-50	

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APRIL 2009

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3.1 Description of Types

3.1.1 Type I - Locking Compounds

3.1.1.1 Grade A

A compound having low strength and high resistance to vibration which locks and seals screws and fasteners with greater than 1:1 engagement ratio (diameter to length). It is also used where low breakaway, low prevailing torque, and occasional adjustment are required.

3.1.1.2 Grade B

A compound having high strength and high viscosity which locks and seals large studs, fasteners and threaded rods. It is used where high breakaway is required.

3.1.1.3 Grade C

A compound having moderate strength which provides a controlled broccolis and prevailing torque for nuts, bolts, cap screws, threaded rods and similar devices in standard applications with an approximate engagement ratio of 1:1.

3.1.2 Type II - Retaining Compounds

3.1.2.1 Grade A

A compound having high strength and high viscosity which is used to bond slip-fit and press-fit joints having high load requirements. It is used to bond shaft-hub related parts such as gears, sleeves, bushings, rotors, fans, and pulleys. It can be used to replace pins, keys, and knurling. Meets government requirements. Reference MIL-R-46082A, Type III and ASTM D5363 type AN0421.

3.1.2.2 Grade B

A general purpose compound having high strength which is used for bonding of slip-fitting cylindrical parts or augmenting the strength of press-fitted assemblies. It cures at room temperature without the use of a primer. Meets government requirements. Reference MIL-R-46082A, Type I and ASTM D5363 type AN0411.

3.1.3 Type III - Sealing Compounds

3.1.3.1 Grade A

A compound having low strength and high viscosity with a filler of Teflon for better thread lubrication and instant sealing. It will seal threaded pipe joints up to 7.6 cm (3 in) diameter and is self-hardening to produce a seal that exceeds the burst strength of the pipe. It also can be used to lock elbows at any angle without over-tightening.

3.1.3.2 Grade B

A compound having high strength and high viscosity without a filler for sealing of flange joints and replacing soft gaskets. It is designed to prevent loss of bolt tension and flange shifting.

3.1.3.3 Grade C

A compound which is a thin penetrating sealant with excellent resistance to solvents. It is used to seal porosity and hair-line cracks in welds and castings. It is designed to wick into small openings and cures without heat.

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APRIL 2009