

NAVISTAR, INC.		
Material, Parts, and Process Specifications (MPAPS)		NUMBER: MPAPS B-27
		Former Designation: CEMS B-27
TITLE: Lubricating Greases		CURRENT REV No.: 1706
		DATE: June 2017
WRITTEN/EDITED BY: J. Morris	APPROVED BY: R. Goluch	SUPERSEDES: June 2007
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

Lubricating greases are used to reduce friction in rotating or sliding joints. They are generally restrained or contained in a closed space by seals.

2.0 SCOPE

This specification covers the Company's general requirements for lubricating greases. Greases are classified by viscosity and addition of load carrying additives.

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 D 128	ASTM D 2266
CFR Title 29, Part 1910	ASTM D 217	ASTM D 2270
NAVISTAR Supplier Packing and Shipping Std. D-13	ASTM D 445	ASTM D 2509
NAVISTAR Engineering Design Std. A-16	ASTM D 566	ASTM D 2596
NAVISTAR MPAPS B-50	ASTM D 942	ASTM D 3527
Federal Test Method Std. 791	ASTM D 1264	ASTM D 4048
Federal Standard Test Method (FSTM) 313.3	ASTM D 1403	ASTM D 4170
ASTM B 330	ASTM D 1742	ASTM D 4289
ASTM D 97	ASTM D 1743	ASTM D 4290
MPAPS BT-36	ASTM D 1831	ASTM D 4693
MPAPS BT-49		

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. ©2017 by Navistar, Inc.

JUNE 2017



Documents

Page 1 of 5
Document Sharing Hub

NUMBER: MPAPS B-27	TITLE: Lubricating Greases	REVISION: 1706
------------------------------	--------------------------------------	--------------------------

4.0 REQUIREMENTS

Greases are classified by viscosity and addition of load carrying additives. The material purchased to this specification will conform to the requirements shown in Table I:

Property			Navistar Grade						Test Method (ASTM unless otherwise specified)
			0051H EP	051H EP	151H EP	251H EP	251H EP-M	251 H EP-M-2	
NLGI (a) Consistency Number			00	0	1	2	2	2	--
Appearance			smooth, semifluid	smooth & buttery or smooth & tacky					visual
Consistency Penetration	Unworked		± 20 from W/60	± 20 from W/60	± 20 from W/60	± 20 from W/60	± 20 from W/60	± 20 from W/60	D 217
	worked 60 strokes		400-430	355-385	310-340	265-280	265-280	265-295	
	worked 5000 strokes		--	--	--	--	--	--	
	worked 10 000 strokes		--	± 20 from W/60	--	--	--	--	
	worked 100 000 strokes		--	--	± 30 from W/60	± 30 from W/60	± 30 from W/60	Max 30	
Free Alkali, mass %, max*			0.20	0.20	0.20	0.20	0.20	--	D 128
Free Acid, mass %, max (b)*			0.30	0.30	0.30	0.30	--		
Water, mass %, max			0.10	0.10	0.10	0.10	0.10	0.05	
Oil Separation, mass %			--	--	0.5-5.0	0.5-5.0	0.5-5.0	6	D1742
Copper Strip Corrosion			2 b, maximum					1b	D 4048
Rust Prevention, rating, max			--	1	1	1	1	1 (pass)	D 1743
Dropping Point, °C, min			--	165	220	220	220	220	D 566/2265
Oxidation Stability, pressure drop at 100 h, kPa, max			34	34	34	34	34	50	D 942
Timken, OK Load, kg (lbm), min			25 (55)	15.9 (35)	15.9 (35)	15.9 (35)	22.7 (50)	27 (60)	D 2509
Work Stability, % change, max			--	± 20 from W/60	± 20 from W/60	± 20 from W/60	± 20 from W/60	± 20 from W/60	D 1831 (c)
Petroleum Ether Insoluble, mass %			3.5 min	3.5 min	5.0 min	7.0 min	7.0 min	7.0 min	MPAPS BT-36
Petroleum Ether Solubles (from MPAPS BT-36)	kinematic (d) viscosity mm ² /s (cSt)	40°C	--	--	--	--	--	414-506	D 445
		100°C	--	9.91-19.7	13.7-16.3	13.7-16.3	13.7-16.3	31-35	
	viscosity index, min		--	75	75	75	75	80	D 2270
	Pour point, °C, max		-24	-18	-18	-18	-18	-18	D 97
Molybdenum Disulfide, mass %, min (e)			--	--	--	--	3.0	3.0	MPAPS BT-49
Elastomer (f) Compatibility	Volume Change %		0 to + 30	0 to + 30	0 to + 30	0 to + 30	0 to + 30	0 to + 40	D 4289
	Hardness Change Durometer, A. Points		0 to – 10	0 to – 10	0 to – 10	0 to – 10	0 to -10	0 to -10	
Elastomer (f) Compatibility	Volume Change %		-5 to +30	-5 to +30	-5 to +30	-5 to +30	-5 to +30	-5 to +30	D 4289
	Hardness Change Durometer, A. Points		-15 to + 2	-15 to + 2	-15 to + 2	-15 to + 2	-15 to + 2	-15 to + 2	
Elastomer (f) Compatibility	Volume Change %		--	--	--	0 to + 30	--	--	D 4289
	Hardness Change Durometer, A. Points		--	--	--	-15 to +5	--	--	
Water Resistance Weight Loss, %, Max			--	--	15	15	15	10	15

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. ©2017 by Navistar, Inc.

JUNE 2017



Documents

Page 2 of 5

Document Sharing Hub