

NAVISTAR, INC.		
Material, Parts, and Process Specifications (MPAPS)		NUMBER: MPAPS L-6505
		Former Designation: TMS-6505
TITLE:	Urethane Foam, Cut Slab	CURRENT REV. No.: 1410
		DATE: Oct. 2014
WRITTEN/EDITED BY: Materials Engineering	APPROVED BY: Materials Engineering	SUPERSEDES: TMS-6505 – August 2007
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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: Changed to new MPAPS format; editorial changes.		

1.0 APPLICATION

This specification covers expanded or cellular polyurethane foams which are produced in slab and may be slit, die cut, or skived. Type I material is suitable for seat topper pads, seat pads or insulation in truck and bus applications. Type II material is suitable for acoustical applications and shall meet all the property and performance requirements of Type I and be approved by Navistar Vehicle Dynamics Department for the intended use. Type II is further divided into Grade A and B, with medium and high sound absorptive characteristics, respectively. Rebonded foam may be used in some applications and shall be designated by an R suffix.

NOTE: MPAPS L-6610 covers other thermal insulation materials used in truck applications.

TMS-6612 Grade 3 covers acoustical foams used in under hood applications.

2.0 SCOPE

This specification covers the general requirements, property, performance requirements, quality, and source approval.

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	NAVISTAR TMS-9544	ASTM C 384
NAVISTAR Manufacturing Std. MS-D-13	NAVISTAR MPAPS GT-31	ASTM D 3574
NAVISTAR Eng. Design Std. A-16	NAVISTAR MPAPS P-9543	ASTM E 1050
CFR 29, Part 1910	NAVISTAR MPAPS B-50	FMVSS 302

4.0 GENERAL REQUIREMENTS

4.1 Surface Condition

The material shall have a homogenous cell structure, and shall be free from any surface crust that will be in contact with any trim covering material.

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4.2 Property And Performance Requirements

All tests shall be performed in accordance with ASTM D 3574, Testing Slab Flexible Urethane Foam, unless otherwise specified.

4.2.1 Indentation Force Deflection – Specified Deflection (IFD, formerly ILD): Test Method B1
May be specified on the engineering drawing.

4.2.2 Indentation Force Deflection – Specified Force (IFD): Test Method B2
May be specified on the engineering drawing.

4.2.3 Tensile Strength: Test Method E
Shall be 69 kPa (10 psi) minimum. Rebonded foam shall be 35 kPa (5.1 psi) minimum.

4.2.4 Elongation: Test Method E
Shall be 150% min except for rebonded which shall be 65% minimum.

4.2.5 Tear Strength: Test Method F
Shall be 2.6 N/cm (1.5 lbf/in) minimum and 1.9 N/cm (1.1 lbf/in).

4.2.6 Constant Deflection Compression: Test Method D
50% Deflection; shall be 40% maximum set.

4.2.7 Fatigue Test: Test Method I3
Max height loss: 5% from original after 100,000 cycles.

4.2.8 Solvent Resistance: One Hour Immersion in Petroleum Naphtha
Material shall show no signs of deterioration, surface stickiness or delamination.

4.2.9 Odor
Shall be inoffensive both wet and dry.

4.2.10 Staining

4.2.10.1 METHOD: Expose material contact with light colored vinyl coated fabrics to CEMS GT-31 Method F for 96 hours.

4.2.10.2 REQUIRED: Shall not stain.

4.2.11 Sound Absorption Properties (Type II Only)

4.2.11.1 METHOD: Test in accordance with ASTM C 384 (ASTM E 1050 is considered equivalent).

4.2.11.2 REQUIRED: Shall meet the following minimum requirements for absorption coefficients:

Type II, Grade A

Frequency, Hz

Absorption Coefficient

500	0.20 min
1000	0.60 min
2000	0.60 min
4000	0.40 min

Type II, Grade B

Normal-incidence absorption shall be measured at: 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, and 4000 Hz. The normal incidence absorption coefficient at any one frequency shall not be less than 0.40 and the average of the normal incidence absorption coefficients shall not be less than 0.70.

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