

NAVISTAR, INC.		
Material, Parts, and Process Specifications (MPAPS)		NUMBER: MPAPS L-6612
		Former Designation: TMS-6612
TITLE: Insulation, Acoustic		CURRENT REV No.: 1611
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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 applies to under hood acoustical insulation requiring high sound absorptive characteristics. The NAVISTAR Vehicle Acoustics Group must approve material supplied for acoustical applications. Various grades are specified for Type I and/or Type II requirements for certain thermal environments or operating conditions.

Grade 1 – Material is a composite blend of synthetic and natural fibers, recommended when under hood temperatures are above 275°F.

Grade 2 – Material is made from polyester fiber and is recommended when under hood temperatures are below 275°F.

Grade 3 – Material is made from polyether urethane acoustic foam, which may be composited with facing materials. It is recommended when under hood temperatures are below 225°F. Specially designed Grade 3 foam composites with facings may be used for under hood temperatures above 275°F as long as the composite does not come into direct contact with the heat source.

Grade 4 – Material is made from a combination of polypropylene micro fibers and polyester staple fibers. It is designed for use in environments where the operating temperature is less than 250°F.

2.0 SCOPE

This specification covers the general requirements, property and performance requirements, quality, and inspection tests. An approved source list is included.

2.1 When no Grade is specified on the print, Grade 1 material will be provided.

2.2 If insulating performance is affected by orientation, the attachment side must be identified.

2.3 Restricted Chemical Substances

Effective JANUARY 1, 2007, all product supplied to the requirements of this specification must comply with the requirements of MPAPS B-50.

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
CFR Title 29, Part 1910
NAVISTAR Supplier Packing and Shipping Std. D-13
NAVISTAR Engineering Design Std. A-16
NAVISTAR MPAPS B-50

CFR 49, Part 571.302
SAE J1352
ASTM D 3574
ASTM D 751
ASTM D 1117
ASTM E 1050

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4.0 REQUIREMENTS

4.1 Composition

4.1.1 Foam

The basic foam shall be acoustical grade (Grade 3) polyether urethane foam. This may be combined with chemically bonded facing materials and/or pressure sensitive adhesives to provide enhanced performance characteristics and simplified installation.

4.1.2 Fiber

The basic fiber shall be either Grade 1 or Grade 2. This insulation material shall be encased within a scrim material that will be designed to help hold the fibers together and provide a surface for mounting or shall have treated surfaces that bind the fibers sufficiently to provide an adequate mounting surface. The insulation fibers shall contain 18-22% by weight of a non-water soluble resin (Grade 1) or shall have an appropriate blend of staple and binding fibers to achieve the performance requirements as outlined in this specification (Grade 2).

4.1.3 Micro Fiber/Staple Fiber Material

Combination materials are comprised of polypropylene micro fibers and polyester staple fibers. Standard combinations may be 50/50 polypropylene/polyester. Scrim comprised of polypropylene or polyester may be used as facing to provide additional strength or abrasion resistance.

4.2 Dimensions

Thickness of the material shall be indicated on the engineering drawing.

4.2.1 Dimensional Tolerances * (Grade 3 only)

Grade 3 material will meet length and width tolerances indicated in the Table below. The thickness tolerance for Grade 3 materials will be $\pm 10\%$.

Width and Length (Inches)	Tolerance	Width and Length (Inches)	Tolerance
0.0 – 6.0	± 0.12	6.1 – 12.0	± 0.2
12.1 – 24.0	± 0.2	24.1 – 36.0	± 0.3
> 36.0	± 0.5		

**This table supersedes the standard blueprint tolerances for Grade 3 materials*

4.2.2 Dimensional Tolerances (Grade 4 only)

Grade 4 materials will meet the length, width and thickness tolerances as defined on the engineering drawings.

4.3 Property and Performance Requirements

4.3.1 Density

4.3.1.1 Method: ASTM D 1117, Sample 30 x 30 cm (12 x 12 in).

4.3.1.2 Required: Report density value.

4.3.2 Tensile Strength (Grades 1 and 2 only)

4.3.2.1 Method: Test 5 samples in machine direction (MD) and five samples in counter machine direction (CMD) per ASTM D 751

4.3.2.2 Required:

4.3.2.2.1 Insulation MD ≥ 50 lbs and CMD ≥ 35 lbs.

4.3.2.2.2 Cover (if applicable) MD 22 lbs and CMD 9 lbs.

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