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| <b>NAVISTAR, INC.</b>                                                                                                                                                                                                                                                                                                                   |                                         |                                               |
| <b>Material, Parts, and Process Specifications<br/>(MPAPS)</b>                                                                                                                                                                                                                                                                          |                                         | NUMBER:<br><b>MPAPS D-7066</b>                |
|                                                                                                                                                                                                                                                                                                                                         |                                         | Former Designation: <b>TMS-7066</b>           |
| TITLE:                                                                                                                                                                                                                                                                                                                                  | <b>Laminated Fiberboard, Head Board</b> | CURRENT REV No.:<br><b>1610</b>               |
|                                                                                                                                                                                                                                                                                                                                         |                                         | DATE:<br><b>Oct. 2016</b>                     |
| WRITTEN/EDITED BY:<br><b>D. Baker</b>                                                                                                                                                                                                                                                                                                   | APPROVED BY:<br><b>R. Goluch</b>        | SUPERSEDES:<br><b>Rev. 0508 – August 2005</b> |
| <b>PRINTED COPIES OF THIS DOCUMENT MUST BE VERIFIED FOR CURRENT REVISION</b>                                                                                                                                                                                                                                                            |                                         |                                               |
| <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 covers the requirements for a semi-rigid, laminated fiberboard suitable for chemically bonded headlining panels.

## 2.0 SCOPE

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

## 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 IQR Quality Standard

NAVISTAR Supplier Packing and Shipping Std. D-13

NAVISTAR MPAPS P-9544

SAE J 315

CFR 29, Part 1910

CFR 49, Part 571.302

ASTM D 3884

ASTM G 53

MPAPS GT-31

## 4.0 GENERAL REQUIREMENTS

### 4.1 Construction

This board shall be a laminated core of kraft and other fibers which have been sized to minimize edge wicking and warp. Each side shall be covered with a natural virgin kraft liner, which is laminated to the core with a 0.03 mm (0.001 in) continuous film of polyethylene to form a moisture barrier.

### 4.2 Finish Thickness

2.03 mm (0.080 in)  $\pm$  5%

### 4.3 Facing Material

Shall be designated on the engineering print and the color, grain and finish shall match standard samples approved by Navistar Industrial Design Department.

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|--------------------------------|----------------------------------------------------------|--------------------------|

#### **4.4 Property And Performance Requirements**

Unless otherwise indicated, material testing shall be in accordance with SAE J315 - Fiberboard Test Procedure.

##### **4.4.1 Moisture Content**

4.5-7.0%

##### **4.4.2 Bursting Strength:** Mullen Burst

1890 N (425 lbf) minimum.

##### **4.4.3 Water Absorption:** 15 x 15 cm (6 x 6 in) Sample

2-1/2 hours: 7% maximum

24 hours: 12% maximum

##### **4.4.4 Warpage Test**

Wet: 10% maximum

Dry: 7% maximum

##### **4.4.5 Dimensional Stability**

###### **4.4.5.1 Expansion**

Machine Direction: 0.3% maximum

Across Machine Direction: 0.3% maximum

###### **4.4.6 Contraction**

Machine Direction: 0.3% maximum

Across Machine Direction: 0.8% maximum

##### **4.4.7 Accelerated Weathering** (primary exposed cosmetic surface only)

###### **4.4.7.1 Method:**

Method A - Xenon per MPAPS GT-31, minimum of 1200 kj.

###### **4.4.7.2 Required:**

There shall be no signs of visible color change greater than  $\Delta E$  of 3, decreased pliability, or tackiness, and material shall be equivalent to that of the Navistar Industrial Design Department approved master sample.

**4.4.8 Abrasion Resistance** - ASTM D-3884 Rotary Platform Double Head Method Using a CS-10 abrasion wheel with 500-gram load for 50 cycles, sample shall not display wear exceeding that of the Navistar Industrial Design Department approved master sample.

##### **4.9 Flammability Resistance**

Material and parts supplied to this specification shall conform to and be certified by the suppliers to meet the requirements of the of the Federal Motor Vehicle Safety Standard #302 - Flammability of Interior Materials (CFR 49, Part 571.302) and MPAPS P-9544.

#### **5.0 QUALITY**

The material shall be free from objectionable odor, have necessary flexibility to meet contour requirements, be adequately bonded to prevent separation and be uniform in thickness.

**5.1** Primary cosmetic vinyl surfaces shall be free from voids, bumps, dimples, cuts, wrinkles, and bubbles. Surfaces that are not normally visible shall be indicated on the print and shall meet a mutually agreed level of surface quality and be so stated in the part control plan. The exposed foam surface shall be free of voids or imperfections detrimental to strength, fit, function, or service life.

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