

NAVISTAR, INC.		
Material, Parts, and Process Specifications (MPAPS)		NUMBER: MPAPS D-7124
		<i>Former Designation: TMS-7124</i>
TITLE: Interior Structural Foam RIM		CURRENT REV No.: 1610
		DATE: Oct. 2016
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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 covers rigid interior cab composite components, such as cabinets, shelves, instrument panels, and dash panels. The composite consists of a reaction injection molded (RIM) foam, that may include a molded with a preformed vinyl cosmetic surface.

2.0 SCOPE

This specification covers the general requirements and the property and performance requirements for the finished composite. Requirements for quality, quality control and source approval are included.

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 standards, specifications and regulations are referenced in this specification.

Quality System Standard ISO 9001 or TS-16949	ASTM D 638
MPAPS B-50	CFR Title 29, Part 1910
MPAPS D-7121	ASTM D 732
MPAPS P-9544	FMVSS 302
MPAPS K-6900	ASTM D 790
MPAPS GT-31	MPAPS DT-12
NAVISTAR Supplier Packing and Shipping Standard D-13	ASTM D 1622
	MPAPS P-9543
	ASTM D 1621
	MPAPS D-7028
	AATCC proc. 1

4.0 GENERAL REQUIREMENTS

4.1 Vinyl Facing

The vinyl covering, when specified, shall meet the requirements of MPAPS D-7121 (Type A or B, as indicated on the engineering print) and the color and texture requirements listed on the engineering print. Other types of facing material require qualification and shall not be used without written approval of Navistar Materials Engineering.

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OCTOBER 2016

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4.2 Rigid Foam

This specification includes two (2) types of rigid foam with two different grades available for each based on density and material properties. Type I is an unreinforced, two (2) component urethane, reaction injection molded structural foam. Type II is similar except it is glass reinforced and includes two (2) grades with different glass content and density. The selection of the Type and Grade shall be made by Materials Engineering.

4.2.1 The rigid foam shall be a two component urethane, reaction injection molded behind the vinyl facing. Any remaining mold release residue must be compatible with Navistar paint repair systems and must have prior approval of Materials Engineering.

4.3 Finished Part

Colors, textures, and finishes shall be called out within the material specification on the part drawing and shall match the approved standard samples in the files of the Navistar Industrial Design Department.

4.3.1 Finished part weight may not vary more than $\pm 10\%$ from the approved sample.

4.4 Property And Performance Requirements

4.4.1 Rigid Foam

The material properties of the foam are dependent on the density. When foam density varies outside the nominal limits, due to part and tool design, physical properties may also vary. Areas on the part where density varies beyond the nominal limits shall be indicated on the part drawing, and preproduction qualification testing is required. See Table 1 for the required physical properties.

4.4.2 Adhesion

4.4.2.1 Vinyl: The vinyl to rigid foam bond shall meet the requirements of MPAPS D-7028, Bonded Interior Trim Products. Production parts shall be used for testing adhesion.

4.4.2.2 Metal Inserts: Metal inserts shall be molded or bonded in place such that any attempt to remove the insert results in foam failure. Structural components shall meet MPAPS K-6900 for bonding appropriately modified for the application (Interior components would be limited 50°C for hot pulls, 70°C heat aging, and humidity in place of salt spray). Please contact Materials Engineering for further guidance.

4.4.3 Heat Age

Heat age parts for 168 hours at 70° C (158° F).

4.4.3.1 Required

Parts shall meet the physical properties, as listed in Table 1, and the adhesion requirements after aging.

4.4.4 Accelerated Weathering

4.4.4.1 Method: Interior cycle per MPAPS GT-31. The exposure energy for the UV requirement should be called out in a "Z" Note and expressed in kJ/m².

4.4.4.2 Required: There shall be no signs of color alteration greater than a ΔE of 3, plasticizer migration, decreased pliability or tackiness after exposure. Min rating of 3.0 per AATCC Eval.-Procedure 1.

4.4.5 Colorfastness to Cleaning and Chemicals

4.4.5.1 Method: MPAPS DT-12, Method A.

4.4.5.2 Required: A minimum rating of 4 per the AATCC color transference scale.

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