

NAVISTAR, INC.		
Material, Parts, and Process Specifications (MPAPS)		NUMBER: MPAPS D-7110
		Former Designation: TMS-7110
TITLE: Encapsulated or Molded Product Badges		CURRENT REV No.: 1408
		DATE: August 2014
WRITTEN/EDITED BY: Materials Engineering	APPROVED BY: Materials Engineering	SUPERSEDES: TMS-7110 - April 2013
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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; added Type 8; updated reference documents; editorial changes.		

1.0 APPLICATION

This specification covers four types of graphics, such as the INTERNATIONAL logo or similar product graphics, comprised of a mounting plate, graphic, and a lens suitable for exterior application.

2.0 SCOPE

This specification covers the application and performance requirements of the completed assembly, and general requirements for the individual components.

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.

2.2 Description

2.2.1 Type 1

Type 1 is a zinc die cast plate, an aluminum screen-printed graphic, and a poured urethane lens.

Note: For existing drawings that specify TMS-7110 or MPAPS D-7110 without referring to Type, Type 1 will be supplied.

2.2.2 Type 2

Type 2 consists of an injection-molded plastic plate with an acrylic second surface printed lens.

2.2.3 Type 3

Type 3 consists of an injection-molded plastic plate with chrome finish and no lens.

2.2.4 Type 4

Type 4 is an injection-molded plastic plate with painted and/or hot-stamped finish and no lens.

2.2.5 Type 5

Type 5 consists of an injection-molded plastic plate, a metalized layer with a printed PVC layer, and a weather resistant polyurethane coating.

2.2.6 Type 6

Type 6 consists of an injection-molded plastic plate with an aluminum trim appliqué.

2.2.7 Type 7

Type 7 consists of an injection-molded plastic plate with a stainless steel trim appliqué.

2.2.8 Type 8

Type 8 consists of an injection molded plastic plate with a urethane second surface printed lens.

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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 <i>ISO 9001 or TS-16949</i>	NAVISTAR MPAPS K-6929	ASTM B 368
NAVISTAR Manufacturing Std. MS-D-13	NAVISTAR TMS-7051	ASTM D 2247
CFR Title 29, Part 1910	NAVISTAR TMS-7085	ASTM D 1002
NAVISTAR CEMS C-14	NAVISTAR TMS-7086	ASTM G 53
NAVISTAR MPAPS D-28	NAVISTAR TMS-9008	SAE J1960
NAVISTAR CEMS DT-4	NAVISTAR TMS-9009	CEMS G-19
NAVISTAR MPAPS B-50	NAVISTAR MPAPS P-9543	MPAPS GT-31
NAVISTAR MPAPS A-37	NAVISTAR MPAPS C-10	ASTM D 5041
NAVISTAR MPAPS DT-12		

4.0 REQUIREMENTS

4.1 Individual Components

4.1.1 Mounting Plate

4.1.1.1 Material

Type 1 - Zinc base die casting, DZ-96-4-05, as per CEMS C-14

Types 2, 3, 4, 5, & 8 – ABS, A64A65DE1050S82YB3600 /AE1, as per CEMS D-28 or as specified on the Engineering Drawing.

Type 6 – PA 6/6 A64BA633C10DF1390K175L2M84R24S235UAA77AC1Z1, per MPAPS D-28; OR ABS, A64A65S82YB3600, as per CEMS D-28; or as specified on the Engineering Drawing.

4.1.1.2 Finish

4.1.1.2.1 Type 1 - Chromium Plating, Class MZ, CEMS G-19, Part I, or Paint, Class I, TMS-9009, as specified on the Engineering Drawing

4.1.1.2.2 Types 2, 3, & 8 – Chrome Plate per TMS-7051

4.1.1.2.3 Type 4 – Paint per TMS-9008, or Hot Stamp per TMS-7086, as specified on the Drawing

4.1.1.2.4 Type 5 – Weather resistant polyurethane coating.

4.1.1.2.5 Type 6 –Aluminum

4.1.1.2.6 Type 7 – Stainless Steel

4.1.2 Logo

4.1.2.1 Type 1 - A .015" thick silk screen decorated aluminum sheet. See drawing for specific details.

4.1.2.2 Types 2 & 8 – Second surface printed per TMS-7085. See part drawing for specific details.

4.1.2.3 Type 5 – Second surface printed. See part drawing for specific details.

4.1.2.4 Type 6 – Silk screen decorated. See drawing for specific details.

4.1.3 Lens

4.1.3.1 Types 1 & 5 - The lens shall be a urethane polymer meeting the following requirements in the as-received condition:

Shore D Hardness: 50 ± 5

Gardner Impact Resistance: 20 Joules (15 in-lbf) direct impact at -30 °C (-22° F) and a minimum of 20 Joules (15 in-lbf) at 50 °C (122° F) tested as per CEMS DT-4.

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