

NAVISTAR, INC.		
Material, Parts, and Process Specifications (MPAPS)		NUMBER: MPAPS K-6904
		Former Designation: TMS 6904
TITLE: Tape, Plastic Electrical, Adhesive Type	CURRENT REV No.: 1702	DATE: Feb. 2017
	WRITTEN/EDITED BY: A. Hasan APPROVED BY: R. Goluch SUPERSEDES: Rev. 0904 – April 2009	
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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 four types of PVC (or copolymers) tape, with a pressure-sensitive coating.

1.1 Type IA is used for insulating electrical splices.

1.2 Type IB is used to hold wires and conduit together and **is not used** to insulate electrical splices.

1.3 Type II is used in special applications where a heavier tape is required.

1.4 Type III is made in colors, used for color coding, and is not a suitable substitute for Types I or II.

2.0 SCOPE

This specification covers general property and performance requirements, quality control and approved sources, and approved sources for four (4) grades of tapes.

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 MPAPS P-9543
CFR Title 29, Part 1910	ASTM B117
NAVISTAR Supplier Packing and Shipping Std. D-13	ASTM D1000
NAVISTAR Engineering Design Std. A-16	ASTM D2247
NAVISTAR MPAPS B-50	ASTM D4325

4.0 REQUIREMENTS

4.1 Dimensions

This tape shall be furnished on 25.4 mm (1 in) diameter cores unless otherwise specified and should be ordered in the following preferred widths:

6.4 mm (1/4 in)	15.9 mm (5/8 in)
9.5 mm (3/8 in)	19.0 mm (3/4 in)
12.7 mm (1/2 in)	25.4 mm (1 in)

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Wider tapes are available. Unless otherwise specified, roll lengths will be 33.0 m (108 ft).

4.2 Property and Performance Requirements

This tape is furnished in four types, having the following requirements. Unless otherwise specified, test in accordance with ASTM D1000 or ASTM D4325 as appropriate.

Property or Performance Requirement	Type IA	Type IB	Type II	Type III
Total Thickness, mm	0.18 ± 0.02	0.16 ± 0.05	0.25 ± 0.02	0.12 min
mil	7 ± 1	6 ± 2	10 ± 1	4.8 min
Backing Thickness, mm	0.15 ± 0.02	0.13 ± 0.02	0.23 ± 0.02	0.10 min
mil	6 ± 1	5 ± 1	9 ± 1	3.8 min
Tensile Strength, kN/m width, min	3.5	1.7	5.2	2.4
lbf/in width, min	20	9.6	30	14
Adhesion, N/m width, min	219	219	274	219
oz/in width, min	20	20	25	20
Elongation at break, % min	200	200	100	125
Resistance to penetration, Degrees C	90	90	120	90
Degrees F	194	194	248	194
Dielectric Strength (volts RMS, 60 cycles)	10,000	10,000	11,000	NA
Insulation Resistance (at 90% relative humidity, at 32°C (90°F), for 48 hours on samples of 25.4 x 25.4 mm (1 x 1 in)	20,000	20,000	20,000	NA
Storage Stability, months, min.	10	10	10	10
Electrolytic Corrosion Factor	1.0	1.0	1.0	1.0
Color	Black	Black	Black	As specified*

* Color black may not be selected for this type

4.2.1 Chemical Resistance: These tapes shall have resistance to air, water, acid, alkali, gasoline and corrosive chemicals, and shall have fire retardant qualities. Test per ASTM D 1000.

4.2.2 Humidity

4.2.2.1 Method

Test prepared tape wrapped samples per ASTM D2247, for 500 hour exposure.

4.2.2.2 Required

Tape should maintain sufficient holding strength.

4.2.3 Thermal Cycling

4.2.3.1 Method

Test tape wrapped samples in a cyclic environment chamber. Test method is as follows:

- 16 hours 70°C ± 2°C (160°F ± 3.6°F)
- 3 hours -25°C ± 2°C (-13°F ± 3.6°F)
- 3 hours 100°C ± 2°C (212°F ± 3.6°F)
- 2 hours stabilization at 23°C ± 2°C (73°F ± 3.6°F)
- Repeat 24 hour cycle 5 times

4.2.3.2 Required

Tape should maintain sufficient holding strength.

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