

MIL-T-60394A(AR)
 AMENDMENT 3
24 July 1988
 SUPERSEDING
 AMENDMENT 2
 1 August 1978

MILITARY SPECIFICATION

TAPE-PRESSURE-SENSITIVE ADHESIVE
 FILM FOAM DOUBLE-COATED
 (FOR USE WITH AMMUNITION)

This amendment forms a part of Military Specification MIL-T-60394A(AR), dated 28 July 1967 and is approved for use within the U.S. Army Armament, Munitions and Chemical Command and is available for use by all Departments and Agencies of the Department of Defense.

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1.2: Add a new paragraph as follows:

"1.2 Classification. The tape covered by this specification shall be of the following types and classed as specified (see 6.1).

Type I - Regular
 Type II - High Performance
 Class 1 - High density-open cell
 Class 2 - High density-closed cell"

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* 2.1: Delete reference to "Federal Test Method STD-101."

3.1: Delete in its entirety and substitute with the following:

"3.1 Construction. The tape shall consist of a high density, open or closed cell foam plastic backing, coated on both sides with a homogeneous, pressure-sensitive adhesive, applied in a smooth uniform layer throughout the length of the tape. The finished tape shall require no solvent, heat or other preparation prior to or after application to clean dry surfaces above freezing."

* 3.2 Delete Table I in its entirety and substitute with the new Table I included.

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TABLE I

TYPE PROPERTY	I		II		TEST PARAGRAPH
	<u>MINIMUM</u>	<u>MAXIMUM</u>	<u>MINIMUM</u>	<u>MAXIMUM</u>	
Dynamic Normal Tensile Strength (Ungaged), Pounds Per Square Inch (psi)	15	--	25	--	4.4.1
Dynamic Normal Tensile Strength (Aged) Pound Per Square Inch (psi)	9	--	25	--	4.4.1
Caliper (w/o liner) inches	0.021	0.045	0.021	0.045	4.4.2
Peel Adhesion (Ungaged) oz/inch width	45	--	45	--	4.4.3
Liner Removal (Ungaged) oz/in	--	4.0	--	4.0	4.4.4
Liner Removal (Aged) oz/in	--	4.0	--	4.0	4.4.4
Holding Power (Ungaged) minutes	2000	--	7000	--	4.4.5
Holding Power (Aged) minutes	2000	--	7000	--	4.4.5
Static "Normal" Tensile Strength hours	--	--	72	--	4.4.1
Compatibility (Reactivity) milliliters (see para. 6.3)	--	5	--	5	4.4.6

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- 4.4.1: Delete "Code No. 04001, Major Defect" and substitute "Dynamic, Code No. 04001, Static. - Code No. 04002, Major Defects."
- 4.4.1.1: Add "e. Weights for static test, 2.5 kilograms each."

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- 4.4.1.3: Add the words "for Dynamic 'Normal' Tensile Strength" after the first word "Procedure" in the first line.

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- 4.4.1.4: Add new paragraph as follows:

"4.4.1.4 Procedure for static 'normal' tensile strength. The 'T' blocks shall be cleaned by immersing in the MEK for 10 minutes and the removed and wiped dry with surgical gauze. The test specimen shall be placed, liner side down, on a flat horizontal surface. The one-inch square face of the 'T' block shall be contact with the exposed adhesive surface of the specimen and pressed together. Using a razor or safety knife, the specimen shall be cut around the block so as to make the liner side of the specimen the exact dimensions of the block. The liner shall be removed and the 'T' block placed on its side with the 'T' section vertical. The other 'T' block shall be placed against the exposed adhesive, taking care that the two faces are in perfect alignment. The first mating is the only one possible, and once together the two blocks cannot be separated without damaging the specimen. If the first mating is not perfect, discard the specimen and repeat the above steps. Hang the mated 'T' blocks by the hole in one block so that it hangs free and add the 2.5 kilogram weight to the other block. Allow the loaded specimen to hang undisturbed. Time the specimen until the blocks separate due to failure of the tape. Remove the bulk of the foam from the blocks to place them in the MEK."

- * 4.4.9: Delete in its entirety and substitute with the following:

"4.4.9 Bleeding of tape. (Major Defect) (See 6.6).

4.4.9.1: Apparatus. The apparatus shall consist of the following:

- a. An air-circulating oven maintained at a temperature of $150^{\circ} \pm 20^{\circ}\text{F}$ or otherwise specified temperature.

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b. Bedplate. A 1/4 inch-thick metal sheet, $3 \pm 1/16$ inches square, with a smooth, flat upper face.

c. Metal sheets, $3 \pm 1/16$ inches square, made from smooth, thin, flat aluminum.

d. Pressure block. A block of metal, $3 \pm 1/16$ inches square, weighing 4.5 ± 0.05 pounds, with a smooth, flat bottom surface.

e. Paper sheets, 3 inches square, of smooth, white-coated book paper.

4.4.9.2: Test specimens. Five (5) test specimens shall be used for this test. The specimens shall be strips of tape $1 \pm 1/16$ inch wide by 3 inches long. The exposure temperature shall be $150^{\circ} \pm 2^{\circ}\text{F}$.

4.4.9.3: Test procedures. Heat the test specimens, the 4.5 pound pressure block, bedplate, aluminum sheets and white book papers, before assembly, in an oven for at least 1 hour at $150^{\circ} \pm 2^{\circ}\text{F}$. After temperature conditioning, place each test specimen between two paper sheets to form a sandwich and use single aluminum sheets as a separator between each sandwich. Stack the resultant sandwiches with the aluminum separators squarely on an aluminum sheet and cap this stack with one aluminum sheet (NOTE: Not more than five specimens shall be placed in a stack). Place this stack on the bedplate and cover with the pressure block. Condition this assembly at $150^{\circ} \pm 2^{\circ}\text{F}$ for a minimum of five (5) hours. Remove the assembly, separate the sandwiches, and examine the white paper for evidences of staining, disregard stains arising from the cut edges of the specimen.

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* 6.6: Add the new paragraph 6.6 as follows:

"6.6 Notes on bleeding of tape test method.

a. Bleeding is defined as the transfer by exudation of color or substance (such as pigment, asphalt, etc.) from the material under test to contiguous material.

b. Care should be taken that radiant heat does not raise the temperature of the assembly considerably above the indicated temperature of the oven.

c. The size of the pressure blocks may depart from that specified, provided the pressure amounts to approximately 0.5 pounds per square inch."

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