

MIL-I-3374A
AMENDMENT-2
21 October 1968
SUPERSEDING^{1/}
INTERIM AMENDMENT-1(SHIPS)
16 October 1967

MILITARY SPECIFICATION
INSULATION CLOTH AND TAPE, ELECTRICAL,
VARNISHED CAMBRIC

This amendment forms a part of Military Specification MIL-I-3374A, dated 25 July 1955, and is mandatory for use by all Departments and Agencies of the Department of Defense.

Pages 1 and 2

2.1: Delete and substitute:

"2.1 The following documents of the issue in effect on date of invitation for bids or request for proposal, form a part of the specification to the extent specified herein:

SPECIFICATIONS

FEDERAL

UU-P-268 - Paper, Kraft, Untreated, Wrapping.
CCC-T-191 - Textile Test Methods.
PPP-B-566 - Boxes, Folding Paperboard.
PPP-B-576 - Box, Wood, Cleated, Veneer, Paper Overlaid.
PPP-B-585 - Boxes, Wood, Wirebound.
PPP-B-591 - Boxes, Fiberboard, Wood-Cleated.
PPP-B-621 - Boxes, Wood, Nailed and Lock-Corner.
PPP-B-636 - Box, Fiberboard.
PPP-B-640 - Boxes, Fiberboard, Corrugated Triple Wall.
PPP-B-676 - Boxes, Setup.
PPP-T-45 - Tape, Gummed, Paper, Reinforced and Plain For Sealing and Securing.
PPP-T-60 - Tape, Pressure-Sensitive Adhesive, Waterproof, For Packaging.
PPP-T-76 - Tape, Pressure-Sensitive Adhesive Paper (For Carton Sealing).

MILITARY

MIL-L-10547 - Liners, Case, and Sheet, Overwrap, Water-Vaporproof or Waterproof, Flexible.

STANDARDS

MILITARY

MIL-STD-105 - Sampling Procedures and Tables for Inspection By Attributes.
MIL-STD-129 - Marking for Shipment and Storage.

(Copies of specifications, standards, drawings, and publications required by suppliers in connection with specific procurement functions should be obtained from the procuring activity or as directed by the contracting officer.)"

^{1/} CHANGES FROM PREVIOUS ISSUE. THE OUTSIDE MARGINS OF THIS DOCUMENT HAVE BEEN MARKED "#" TO INDICATE WHERE CHANGES (DELETIONS, ADDITIONS, ETC.) FROM THE PREVIOUS ISSUE HAVE BEEN MADE. THIS HAS BEEN DONE AS A CONVENIENCE ONLY AND THE GOVERNMENT ASSUMES NO LIABILITY WHATSOEVER FOR ANY INACCURACIES IN THESE NOTATIONS. BIDDERS AND CONTRACTORS ARE CAUTIONED TO EVALUATE THE REQUIREMENTS OF THIS DOCUMENT BASED ON THE ENTIRE CONTENT AS WRITTEN IRRESPECTIVE OF THE MARGINAL NOTATIONS AND RELATIONSHIP TO THE LAST PREVIOUS ISSUE.

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2.2: Delete and substitute:

"2.2 Other publications. The following documents form a part of this specification to the extent specified herein. Unless otherwise indicated, the issue in effect on date of invitation for bids or request for proposal shall apply.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)
D 295 - Methods of Testing Varnished Cotton Fabric Tapes Used for Electrical Insulation.

(Application for copies should be addressed to the American Society for Testing Materials, 1916 Race Street, Philadelphia, Pennsylvania 19103.)

UNIFORM CLASSIFICATION COMMITTEE
Uniform Freight Classification Rules.

(Application for copies should be addressed to the Uniform Classification Committee, 202 Union Station, 516 West Jackson Boulevard Chicago, Illinois 60604.)"

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4.1 through 4.3 and table IV: Delete and substitute:

"4.1 Responsibility for inspection. Unless otherwise specified in the contract or purchase order, the supplier is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified in the contract or order, the supplier may use his own or any other facilities suitable for the performance of the inspection requirements specified herein, unless disapproved by the Government. The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to assure supplies and services conform to prescribed requirements.

"4.2 Sampling for inspection. Sampling for inspection shall be performed in accordance with the provisions set forth in MIL-STD-105, except where otherwise indicated. For purposes of sampling, an inspection lot for examinations and tests shall consist of all material of the same type and class submitted for inspection and delivery at one time.

"4.2.1 Inspection of materials and components. In accordance with 4.1 above, the supplier is responsible for insuring that materials and components used were manufactured, tested and inspected in accordance with the requirements of referenced subsidiary specifications and standards to the extent specified, or, if none, in accordance with this specification. In the event of conflict, this specification shall govern.

"4.3 Inspection of the end item.

"4.3.1 Examination of the end item. Examination of the end item shall be made in accordance with the classification of defects, inspection levels and acceptable quality levels (AQL's) set forth below. The lot size, for purpose of determining the sample size in accordance with MIL-STD-105, shall be expressed in units of rolls of insulation cloth or tape, as applicable, for examination in 4.3.1.1, 4.3.1.2, 4.3.1.3, 4.3.1.4 and in units of shipping containers for examination in 4.3.1.5.

"4.3.1.1 Examination of the end item for defects in appearance and workmanship. The sample unit for this examination shall be one yard, full width of roll, of insulation cloth or tape as applicable, excluding outer layer of roll.

Appearance	Fabric not closely or uniformly woven cotton material. Any knots, dirt, lumps, or irregularity of twist in fabric. Any wrinkle, crease, blister, cracks, cut, tear, or other imperfection.
Workmanship	Material not yellow in color. Coating not evenly or uniformly applied over entire area of the material.
Finish	Coating does not adhere firmly to the fabric. Surface not smooth with a uniformly high gloss.

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"4.3.1.2 Examination of the end item for defects in construction. The sample unit for this examination shall be one roll.

Insulation on rolls	Rolls not evenly and neatly wound. Cores when specified, missing, not same width of material, crushed, broken; inside diameter less than specified.
Unwinding of rolls	Does not unroll evenly or uniformly. Insulation material wound unevenly causing wrinkles or crease within the roll. Coating breaks, splits or separates during unwinding. Roll not continuous. More than 1 splice in roll; splices not evenly and neatly made.

"4.3.1.3 Examination of the end item for dimensional defects. The sample unit for this examination shall be one roll.

<u>Width</u>	<u>Defect</u>
Type I (Untrimmed)	Varies by more than $\pm 3/16$ inch from the required 36 inches wide.
(Trimmed)	Less than 35 inches or more than 35-1/2 inches unless otherwise specified.
Type II	Varies by more than $\pm 1/32$ inch from the specified width (see Table II).
<u>Thickness</u>	
Types I and II	Varies by more than the applicable minimum or maximum values as indicated in Table I.

"4.3.1.4 Examination of the end item for length per roll. The sample unit for this examination shall be one roll. The average length per roll shall be not less than the specified length per roll.

"4.3.1.5 Examination of preparation for delivery. An examination shall be made to determine that the packaging, packing and marking comply with the requirements of section 5 of this specification. The sample unit for this examination shall be one shipping container, fully packed selected just prior to the closing operation. Shipping containers fully prepared for delivery shall be examined for closure defects.

Packaging	Not level specified; not in accordance with contract requirements.
Individual rolls	Not individual roll packaged as specified. Packaging material not as specified; closures not accomplished by specified or required methods or materials.
Multiple rolls	Not packaged as specified. Packaging material not as specified; closures not accomplished as specified. Intermediate packages exceed specified weight (see 5.1.2.2).
Packing	Not level specified; not in accordance with contract requirements. Liner material (as applicable) omitted, damaged, or not as specified. Container material damaged or not as specified. Closures not accomplished by specified or required methods or materials.
Count	Number of rolls per container less than indicated.
Weight	Gross weight exceeds contract requirements.
Markings	Illegible, incorrect, incomplete, omitted, or not in accordance with contract requirements.

"4.3.1.6 Inspection levels and acceptable quality levels (AQL's) for examinations. The inspection levels for determining the sample size, and the acceptable quality levels (AQL's) expressed in defects per 100 units, shall be as follows:

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<u>Examination paragraph</u>	<u>Inspection levels</u>	<u>AQL's</u>
4.3.1.1	I	2.5
4.3.1.2	S-3	4.0
4.3.1.3	S-3	4.0
4.3.1.4	S-3	---
4.3.1.5	S-2	4.0

NOTE: The same rolls shall be used for examinations under paragraphs 4.3.1.1 thru 4.3.1.4 inclusive. The yardage used for examination under 4.3.1.1 and the rolls used for examinations under 4.3.1.3 and 4.3.1.4 shall be within the rolls randomly selected under 4.3.1.2.

"4.3.2 End item testing. The end item shall be tested for the applicable characteristics as indicated in table IV for each lot presented for acceptance inspection. The sample unit shall be one yard full width of roll for type I cloth, and one roll for type II tape. The lot size shall be expressed in units of rolls of insulation cloth or tape as applicable. The inspection level shall be S-1. The acceptable quality level (AQL) shall be 2.5 expressed in defects per 100 units.

Table IV - Instructions for testing (sample unit).

Characteristic	Specification reference		Requirements Appli. to		Number determinations per sample unit	Results reported as		Inspection level	AQL
	Rqmts.	Test method	Indiv.	Lot unit average		Pass	Numerically to nearest ^{2/}		
Thread Count									
Wrap	3.1	4.4.3.4	X	-	1	-	Thread/inch		
Filler	3.1	4.4.3.4	X	-	1	-	Thread/inch		
Varnish Coating As Received	3.2	3.2 and 4.4.4	X	-	1	X	-		
After aging	3.2	3.2	X	-	1	X			
Breaking Strength Lengthwise	Table III	4.4.5	X	-	(Avg of 5)	-	lb/in width		
Crosswise (Type I Class 2)	Table III	4.4.5	X	-	(Avg of 5)	-	lb/in width		
Dielectric Strength Condition C-96/23/0	Table III	4.4.7	X	-	(Avg of 10)	-	volts/mil		
Condition C-96/23/96	Table III	4.4.7	X	-	(Avg of 10)	-	volts/mil		
Tear strength Crosswise (Type I Class 2)	Table III	4.4.8	X	-	(Avg of 10)	-	Gram		

^{1/} If failure is indicated report description of failure.

^{2/} Report all values on which results are based."

Page 5

4.4.2: Delete.

Page 7

4.4.9: Delete.

Pages 7 and 8

Section 5: Delete and substitute:

"5. PREPARATION FOR DELIVERY

"(The preparation for delivery requirements specified herein apply only for direct Government procurements.)

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"5.1 Sub-contracted material and parts. The preparation for delivery requirements of referenced documents listed in section 2 do not apply when material and parts are procured by the supplier for incorporation into the equipment and lose their separate identity when the equipment is shipped.

"5.2 Preservation and packaging. Preservation and packaging shall be level A or C, as specified (see 6.2).

"5.2.1 Level A.

"5.2.1.1 Cleaning. Cloth rolls and tape shall be cleaned in accordance with Process C-1 of MIL-P-116.

"5.2.1.2 Drying. Cloth rolls and tape shall be dried in accordance with MIL-P-116.

"5.2.1.3 Unit packaging. Cloth rolls and tape in the quantity specified (see 6.2), shall be packaged in accordance with Method III of MIL-P-116.

"5.2.1.3.1 Cloth. Cloth shall be furnished in rolls, rolled open width on a convolute or spiral wound chipboard tube. The tube shall have a wall thickness of 0.20 (minimum) with an inside diameter of 2 inches (maximum), unless otherwise specified (see 6.2). The ends of the tube shall be flush with or extend not more than 1 inch beyond each end of the roll. Cloth rolls shall be individually wrapped in 30 pound basic weight kraft paper conforming to UU-P-268 and securely taped with 2-1/2 inch width gummed kraft tape conforming to PPP-T-45. Each wrapped roll shall be completely circled with tape at a minimum of 4 places approximately equidistant along its length with the tape overlapping itself at least 2 inches.

"5.2.1.3.2 Tape. Tape shall be wound evenly in rolls on cores made of paper fiber or plastic. The cores shall have an inside diameter of 2 inches minimum unless otherwise specified (see 6.2). Cores shall be approximately flush with roll sides. Rolls of tape shall be individually wrapped in kraft paper conforming to UU-P-268 or equivalent or individually packaged in folding cartons or set up boxes conforming to PPP-B-566 or PPP-B-676.

"5.2.1.4 Intermediate packaging (tape only). Unless otherwise specified (see 6.2), rolls of tape of the same length, width, and class shall be packaged in fiber boxes conforming to PPP-B-636, type CF, class domestic. The gross weight of intermediate packages shall not exceed 20 pounds.

"5.2.2 Level C. Rolls of cloth or tape shall be packaged in a manner that will afford adequate protection against deterioration and physical damage during shipment from the supply source to first receiving activity.

"5.3 Packing. Packing shall be level A, B, or C as specified (see 6.2).

"5.3.1 Level A. Tape and cloth rolls packaged as specified (see 6.2), shall be packed in containers conforming to class weather resistant, PPP-B-636, class 3, PPP-B-585, and class 2 of PPP-B-640, PPP-B-576, PPP-B-591 and PPP-B-621. The gross weight of each pack shall be limited to 200 pounds with the exception of PPP-B-636 which shall not exceed weight limitations of the specifications. Container closure shall be in accordance with the appendix of the applicable container specification. All shipping containers shall be provided with a sealed waterproof case liner conforming to MIL-L-10547 except an alternate waterproofing method for PPP-B-636 may be accomplished by sealing all seams, corners, and manufacturer's joint with waterproof tape 3 inches minimum width conforming to PPP-T-60 class 1 or PPP-T-76.

"5.3.2 Level B. Tape and cloth rolls packaged as specified (see 6.2), shall be packed in containers conforming to PPP-B-636, class domestic, class 2 of PPP-B-640, class 1 of PPP-B-576, PPP-B-585, PPP-B-591, PPP-B-621. The gross weight of each pack shall be limited to 200 pounds with the exception of PPP-B-636, which shall not exceed weight limitations of the specification. Containers closure shall be in accordance with the appendix of the applicable container specification.

"5.3.3 Level C. Cloth rolls and tape packaged as specified (see 6.2), shall be packed in containers acceptable to the common carrier and which will insure delivery at the destination in a satisfactory condition at the lowest applicable rate. Containers or method of packing shall comply with Uniform Freight Classification Rules or other carrier rules and regulations as applicable to the mode of transportation.

"5.4 Marking. In addition to any special marking required by the contract or order, each unit package, intermediate and exterior containers shall be marked in accordance with MIL-STD-129."

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6.2, item (g): Delete and substitute:

"(g) Levels of preservation, packaging, packing, and applicable marking (see section 5)."

Add new paragraph 6.3:

"6.3 International standardization agreement. Certain provisions of this specification are the subject of international standardization agreement ABC-NAVY-STD-17C. When amendment, revision, or cancellation of this specification is proposed which will effect or violate the international agreement concerned, the preparing activity will take appropriate reconciliation action through international standardization channels including departmental standardization offices, if required."

Delete the "Patent notice".

Custodians:

Army - EL
Navy - SH
Air Force - 11

Preparing activity:

Navy - SH
(Project 5970-0269)

Review activities:

Army - EL, MU
Navy - SH
Air Force - 11, 85

User activities:

Army - ME
Navy - AS, OS

International interest (see 6.3)