

MIL-C-26712B
26 February 1982

SUPERSEDING
MIL-C-26712A (ASG)
12 August 1957

MILITARY SPECIFICATION

CLOTH, COATED, NYLON, CHLOROPRENE-COATED

This specification is approved for use by all Departments and Agencies of the Department of Defense.

1 SCOPE

1.1 Scope. This specification covers one type of chloroprene-coated nylon cloth.

2. APPLICABLE DOCUMENTS

2.1 Government documents. Unless otherwise specified, the following specifications and standards of the issue listed in that issue of the Department of Defense Index of Specifications and Standards (DODISS) specified in the solicitation form a part of this specification to the extent specified herein.

SPECIFICATIONS

FEDERAL

PPP-P-1136	Packaging and Packing of Coated (Plastic, Rubber) and Laminated Fabrics
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Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: AFWAL/MLSA, WPAFB, OH 45433 by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

FSC 8305

MIL-C-26712B

STANDARDS

FEDERAL

FED-STD-191 Textile Test Methods

MILITARY

MIL-STD-105 Sampling Procedures and Tables for
Inspection by Attributes

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

2.2 Order of precedence. In the event of a conflict between the text of this specification and the references cited herein, the text of this specification shall take precedence.

3. REQUIREMENTS

3.1 Materials. The base cloth shall be woven from nylon yarns.

3.1.1 Yarn. The yarn used shall be an 840 denier, single ply, continuous filament, high-tenacity nylon 6,6. It shall have a melting point of $482^{\circ} \pm 10^{\circ}\text{F}$ ($250^{\circ} \pm 6^{\circ}\text{C}$) when tested, as specified in 4.2.1.

3.1.2 Coating compound. The compound used for coating the base fabric shall be a composition of chloroprene rubber formulated with established principles to meet the requirements of this specification.

3.1.2.1 Coating. The coating shall be applied equally on both sides of the fabric.

3.2 Construction and physical properties.

3.2.1 Base cloth. The base cloth shall be plain woven and shall conform to the requirements specified in Table I, when tested in accordance with 4.2.1.

MIL-C-26712B

TABLE I. Base cloth construction and physical properties.

Characteristic	Requirement
Weight, oz/yd ² (max)	8.50
Yarns per inch (min)	
warp	34
filling	30
Breaking strength, pounds/inch (ravel strip) (min)	
warp	425
filling	375

3.2.2 Coated cloth. The finished coated cloth shall conform to the physical property requirements of Table II when tested as specified in 4.2.3.

TABLE II. Coated cloth physical properties.

Characteristic	Requirement
Weight, oz/yd ² \pm 1.5	41
Thickness, inches \pm 0.003	0.045
Breaking strength, lb/inch (cut strip) (min)	
warp	575
filling	525
Percent loss after aging (max)	10
Adhesion of coating, pounds/2 inch width (min)	
unaged	36
after heat aging	30
Lap shear strength (psi) (min) (single specimen)	
unaged	125
after heat/humidity aging	125
Resistance to low temperature	no cracking
Resistance to blocking	no blocking

MIL-C-26712B

3.3 Width. The width of the finished cloth shall be as specified by the procuring activity (see 6.2).

3.4 Color. Unless otherwise specified, the color of the finished cloth shall be black.

3.5 Length of roll. The coated cloth shall be put-up on rolls of 80 to 120 yards. There shall be no more than 2 pieces, and each piece shall contain not less than 40 yards.

3.6 Identification of product. Each roll of cloth shall be marked for identification in accordance with PPP-P-1136.

3.7 Workmanship. The finished cloth shall be clean, evenly coated, and shall conform to the quality and grade of product established by this specification, and the occurrence of defects shall not exceed the levels set by the applicable quality levels.

4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract or purchase order, the contractor is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified in the contract or order, the contractor 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 Inspection. Sampling for inspection shall be performed in accordance with MIL-STD-105, except where otherwise indicated hereinafter.

4.2.1 Component and material inspection. In accordance with 4.1, components and materials shall be inspected and tested in accordance with all the requirements of referenced specifications, drawings and standards unless otherwise excluded, amended, modified, or qualified in this specification or applicable purchase document. In addition, testing shall be performed on components and materials listed in Table III for the characteristics shown. The sample unit for the base cloth shall be 2 yards in length and the full width. The sample size (number of sample units) shall be as specified in Table V. The lot size shall be expressed in units of one yard. The lot shall be unacceptable if the number of sample units which fail to meet any requirement specified exceed the acceptance number.

MIL-C-26712B

4.2.2 Examination of the end item. The end item shall be examined in accordance with the classification of defects at the inspection levels and acceptable quality levels (AQLs) set forth below. The lot size shall be expressed in units of one yard.

4.2.2.1 Yard by yard examination. The required yardage of each roll shall be inspected on one side only; however, the side examined shall be alternated on every other roll. The visual defects shall be as classified in accordance with Table IV and shall be counted regardless of their proximity to each other, except where two or more defects represent a single local condition of the cloth in which case only the more serious defect shall be counted. The sample unit shall be one linear yard. The AQL shall be 4.0 major defects and 10.0 total defects per hundred units (yards). The inspection level shall be level II. The number of rolls from which the sample is to be selected shall be in accordance with Table V. An approximately equal number of yards shall be examined in each roll sampled.

4.2.2.2 Overall examination. The sample unit for this examination shall be one piece. The pieces examined shall be those selected for the yard-by-yard examination. The acceptance number shall be as shown in Table V. The cloth shall be defective if it has an objectionable odor, overall uncleanliness, or is tacky (coating will adhere and not readily unroll).

4.2.2.3 Examination for length.

4.2.2.3.1 Individual for length. The sample unit shall be one roll. The number of rolls to be examined and the acceptance number shall be in accordance with Table V. The following shall be considered defects.

Any roll (gross length) less than minimum or more than maximum specified.

Any roll (gross length) more than 2 yards less than gross length marked on ticket.

Any roll containing more than 2 pieces.

Any piece in roll less than 40 yards.

MIL-C-26712B

TABLE III. Component and material inspection.

Characteristic	Requirement Paragraph	Test Method	Number of determinations per sample unit	Results reported as	
				Pass or Fail	Numerically to the nearest
<u>Base cloth</u> Weight, oz/sq yd	Table I	5041	5	-	0.1 oz
Thread count per inch	Table I	5050	5	-	whole no.
Breaking strength lbs. (minimum)	Table I	5104	5	-	0.1 lb
<u>Yarn</u> Identification as nylon	3.1.1.1	1530 <u>1/</u>	1	x	-
Melting point	3.1.1.1	1534	2	-	1 ⁰ C
<u>Coating compound</u> Identification as chloroprene	3.1.2	<u>2/</u>	-	-	-

1/ The supplier may submit a certificate of compliance with each shipment or lot stating that this requirement has been met instead of performing the test.

2/ The supplier shall submit a certificate of compliance with each shipment or lot stating that this requirement has been met.

MIL-C-26712B

TABLE IV. Classification of defects.

Defect	Extent of defect	Major	Minor
Blisters, lumps, or delamination of coating	Covering any area 1/8 inch square or greater	x	
Crease	Permanent, that cannot be corrected by manual pressure	x	
Light area or window (due to poor blending of pigmentation only)	More than 5 in a linear yard		x
Narrow width	Width less than minimum specified		x
Pinhole, cut, or tear 1/	any size	x	
Stain or streak	Coating compound stain or streak clearly noticeable at distance of 6 feet		x
Uneven coating	Any thin areas, where coating compound is missing or insufficient	x	
	Any heavily coated areas, clearly noticeable at distance of 6 feet		x

1/ The cloth shall be run over a bank of lights having sufficient intensity to show the defect through the coated cloth at an inspection distance of two feet.

TABLE V. Sample size

Lot size in yards	Sample size	Acceptance number
Up to 1200 1/ inclusive	3	0
1201 to 3200 inclusive	5	0
3201 to 10,000 inclusive	8	0
10,001 to 35,000 inclusive	13	0
35,001 to 150,000 inclusive	20	1
150,001 and over	32	2

1/ If a lot contains fewer than three rolls, each roll in the lot shall be examined.

MIL-C-26712B

4.2.2.3.2 Total yardage in samples. The rolls examined shall be those selected for examination of individual rolls as specified in 4.2.2.3.1. The lot shall be unacceptable if the total of the gross lengths of the rolls in the sample is less than the total of the gross lengths marked on the tickets.

4.2.2.4 Examination of preparation for delivery requirements. An examination shall be made to determine that packaging, packing and marking requirements of PPP-P-1136 are complied with.

4.2.3 Testing of the end item. The methods of testing specified in FED-STD-191 wherever applicable and as listed in Table VI shall be followed. The requirements specified in Section 3 apply to the average of determinations made on a sample unit for test purposes as specified in the applicable test method. The lot size shall be expressed in units of 1 linear yard. The sample unit for test purposes shall be 5 yards, full width of finished fabric. The sample size shall be in accordance with Table V. The lot shall be unacceptable if one or more sample units fail to meet any test requirement specified. For those characteristics wherein test results are reported as pass or fail, there shall be no evidence of failure of any test specimen to meet the requirements as specified.

4.2.3.1 Test methods (other than in FED-STD-191).

4.2.3.1.1 Heat aging. Specimen size shall be as specified in Methods 5102 and 5970 of FED-STD-191. The specimens shall be aged in an oven at a temperature of $158^{\circ} \pm 5^{\circ}\text{F}$ for 5 days. Upon removal from the oven, the specimens shall be conditioned at standard conditions for 24 hours and then tested for breaking strength and adhesion of coating, method numbers 5102 and 5970, respectively. The percent loss in breaking strength from the unaged specimens shall be reported. The coating adhesion shall be reported.

MIL-C-26712B

TABLE VI. End item tests.

Characteristic	Requirement Paragraph	Test Method	Number of determinations per sample unit	Results reported as	
				Pass or Fail	Numerically to the nearest
Color	3.4	Visual	1	x	--
Width	3.3	5020	5	--	1/16 inch
Thickness	Table II	5030	5	--	0.001 inch
Weight	Table II	5041	5	--	0.1 oz/sq yd
Breaking strength (cut strip)	Table II	5102	5	--	5 lb
Resistance to blocking	Table II	5872	3	x	--
Adhesion of coating	Table II	5970	3	--	0.1 lb/2 in width
Breaking strength (cut strip) (after heat aging)	Table II	4.2.3.1.1	5	--	0.5%
Adhesion of coating (after heat aging)	Table II	4.2.3.1.1	3	--	0.1 lb/2 in width
Low Temperature resistance	Table II	4.2.3.1.2	1	x	--
Lap shear strength	Table II	4.2.3.1.3	3	--	1 lb/ sq in

MIL-C-26712B

4.2.3.1.2 Low temperature resistance. A 2- by 5- inch specimen of coated fabric, a smooth steel rod 1/8 inch in diameter, and the test jig as described in Figure 1, shall be placed in an atmosphere of $-67^{\circ} + 2^{\circ}\text{F}$. After 24 hours of exposure and without removing the specimen, rod, and fixture from the low temperature atmosphere, the specimen shall be bent sharply over the rod in order that the back of the specimen touches within 1/8 inch distance directly behind the rod. The specimen shall then be visually inspected for cracks.

4.2.3.1.3 Lap shear strength. A 1-inch wide specimen of the coated fabric shall be overlapped a minimum of 1-inch on another 1-inch wide specimen of the coated fabric. The two surfaces shall be cemented or vulcanized together under the same conditions that seams would be made in the manufacture of the intended use item such as an aircraft lifting bag. Six specimens shall be prepared with 3 specimens being exposed to 160°F at 95 percent RH for 5 days prior to testing. Testing shall occur prior to the production manufacturing of the intended use item. The failure of any single specimen to meet the minimum strength requirement shall constitute failure of the entire lot of coated fabric so identified.

5. PACKAGING

5.1 Packaging. Packaging shall be level A or C as specified (see 6.2).

5.1.1 Levels A and C. The cloth, put-up as specified (see 3.5), shall be packaged in accordance with the applicable requirements of PPP-P-1136.

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

5.2.1 Levels A, B, and C. The cloth shall be packed in accordance with the applicable requirements of PPP-P-1136.

5.3 Marking. In addition to any special marking required by the contract or order, shipments shall be marked in accordance with the applicable requirements of PPP-P-1136.

6. NOTES

6.1 Intended use. The coated cloth covered by this specification is intended for use in aircraft pneumatic lifting bags.

MIL-C-26712B

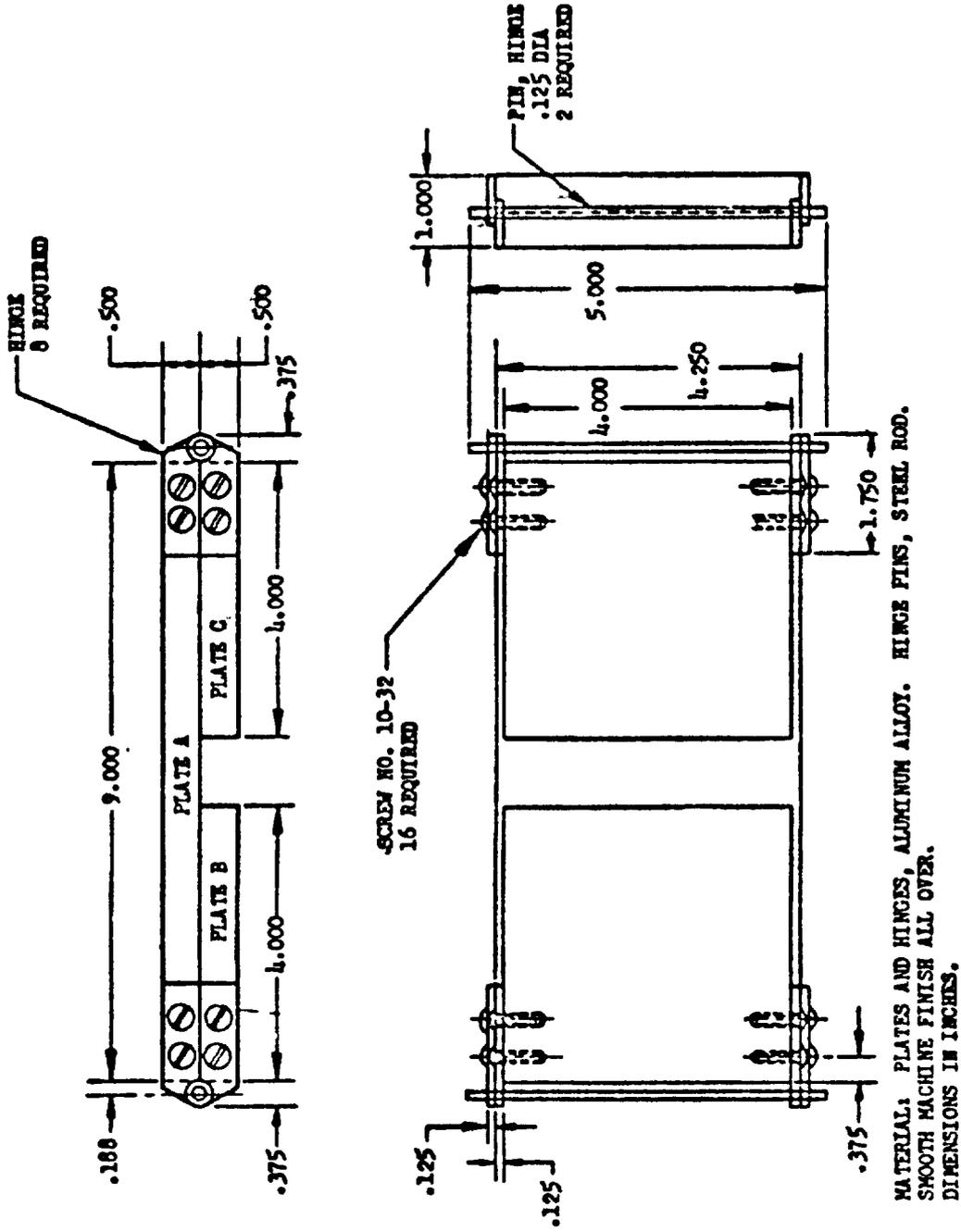


FIGURE 1. Jig assembly, cold crack test.

MIL-C-26712B

6.2 Ordering data. Procurement documents should specify the following:

- (a) Title, number, and date of this specification.
- (b) Quantity desired.
- (c) Color required, if other than black is desired.
- (d) Level of packaging and packing required.
- (e) Width and length required.
- (f) Provisions for deduction for defects (if any).

6.3 A coated fabric identified as Style 59-23-2, cementable type, produced by Chemprene, Inc., has been found to meet the low temperature requirements, and Goodrich cement A-53-B when used with this fabric has been found to meet the lap shear strength requirements.

Custodians:
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Air Force - 99
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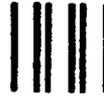
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