

MIL-C-17208B(OS)
15 October 1976
SUPERSEDING
MIL-C-17208A(BuOrd)
30 January 1953
and
Amendment 2
12 October 1962

MILITARY SPECIFICATION

CLOTH, PARACHUTE, 240-PERMEABILITY; FOR USE WITH UNDERWATER ORDNANCE

*This specification is approved for use by the Naval Sea Systems Command, Department of the Navy,
and is available for use by all departments and agencies of the Department of Defense*

1. SCOPE

1.1 Scope. This specification covers parachute cloth having the weave pattern indicated in figure 1 and an air permeability of 240 cubic feet per minute per square foot of cloth. It is intended for use with underwater ordnance.

1.2 Classification. The parachute cloth shall be of the following types and classes, as specified (see 6.1).

Type I - Nylon
Type II - Saponified Acetate
Class A - 4.0 ounce
Class B - 8.0 ounce
Class C - 10.0 ounce

2. APPLICABLE DOCUMENTS

2.1 Issues of documents. The following documents of the issues in effect on date of invitation for bids or request for proposals form a part of this specification to the extent specified herein. In the event of conflict between this specification and other documents referenced herein, requirements of this specification shall apply.

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to Commanding Officer, Naval Ordnance Station, ATTN Standardization Division (611), Indian Head, Md. 20640, by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter

FSC 8305

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SPECIFICATIONS

Federal

PPP-P-1133

Packaging and Packing of Synthetic Fiber
Fabrics

STANDARDS

Federal

FED-STD-4
FED-STD-191

Glossary of Fabric Imperfections
Textile Test Methods

Military

MIL-STD-129

Marking for Shipment and Storage

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

3. REQUIREMENTS

3.1 Materials.

3.1.1 Type I. The material used in type I cloth shall be a high-tenacity multifilament nylon yarn of the proper size to meet the applicable requirements of this specification.

3.1.2 Type II. The material used in type II cloth shall be a continuous multifilament saponified oriented cellulose acetate yarn of the proper size to meet the applicable requirements of this specification.

3.2 Finish. The finished cloth shall be smooth and even and shall not contain sizing, lubricating, or weighting materials. The pH of the water extract shall be in the range from 4.5 to 8.5.

3.3 Color.

3.3.1 Camouflaging. When camouflaging is specified (see 6.1) the pattern and colors shall be in exact accordance with samples or instructions supplied by the procuring activity. Colors shall show good fastness to salt water.

3.3.2 Unless otherwise specified (see 6.1), no coloring matter of any sort shall be added to the yarn or cloth.

3.4 Stability. Air permeability shall be within the limits specified in table I, the thickness shall not increase more than 10 percent, and the cloth shall have a shrinkage and not more than 2 percent in the warp or 1 percent in the filling.

TABLE I. Physical requirements.

Physical requirement	Type I			Type II		
	Class A	Class B	Class C	Class A	Class B	Class C
Weight, oz per sq yd, max.	4.0	8.0	10.0	4.0	8.0	10.0
Breaking strength, pounds per inch of width, min.						
Warp direction	200	400	480	175	330	400
Filling direction	200	400	480	175	330	400
Elongation, both directions, percent, min.	25	30	30	10	10	10
Tear resistance, pounds, min.						
Across warp	25	50	60	25	50	60
Across filling	25	50	60	25	50	60
Air permeability, cu ft per minute per sq ft of cloth	240 ± 30	240 ± 30	240 ± 30	240 ± 30	240 ± 30	240 ± 30

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3.5 Physical requirements. The finished cloth, including camouflage when specified, shall conform to the requirements of table I.

3.6 Dimensions.

3.6.1 Width. Unless otherwise specified, the overall width of the cloth shall be not less than 40 inches nor more than 41 inches.

3.6.2 Lengths. Unless otherwise specified, the lengths of continuous pieces or cuts shall be not less than 100 yards. Shorter cuts may be included in accordance with the following:

- 75 percent of total order in cuts of 100 yards or more
- 15 percent of total order in cuts of 25 to 100 yards
- 10 percent of total order in cuts of 15 to 25 yards.

3.7 Rolls.

3.7.1 Unless otherwise specified, rolls shall contain the following lengths of cloth (see 3.6.2):

- Class A - 300 to 400 yards
- Class B - 100 to 200 yards
- Class C - 100 to 200 yards.

3.7.2 Lengths shorter than 50 yards shall be rolled together to the specified roll size and the roll labeled to indicate that it is composed of shorter lengths.

3.8 Defects. Defects such as broken picks, broken or missing ends, floats, holes, mispicks, bowed fillings (see 3.8.1), smashes, oil spots, thin areas due to starting or stopping the loom or to pickouts, and torn, wavy, or tight selvages will be allowed up to a maximum of 5 defects per 100 yards. Definitions are as stated in FED-STD-4, commonly used in commercial practice, or as indicated in 3.8.1.

3.8.1 Bowed filling. A bowed filling is a variation of the filling yarns from the normal, in the form of a single or compound arc. A bowed filling is classified as a defect when the perpendicular distance from the highest point on the arc to the straight line chord of the arc, in the plane of the cloth, exceeds 1 inch. The presence of a false bow or

filling distortion that can be eliminated within the above requirements by straightening the cloth by hand when unrolled on a flat surface will not be considered a defect.

3.9 Marking of defects. Before material is submitted for Government inspection, the presence of each defect shall be marked by a red string sewn in the selvage opposite the defect.

3.10 Allowance for defects. The total yardage supplied under any contract or order shall include at least 1/2 additional yard for each marked defect. For a continuous defect extending over a length greater than 1/2 yard, such as a broken warp end, float, or torn, wavy, or tight selvage, the additional yardage allowed shall equal the length of the defect.

3.11 Workmanship. The finished cloth shall be clean, evenly woven, and in accordance with best commercial practice for textile fabrics and shall contain no defects detrimental to strength, or durability.

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 Quality conformance inspection.

4.2.1 Sampling. One representative sample 1-1/2 yards long by the full width of the cloth shall be taken from each 1000 yards of cloth or less. Additional samples may be taken, if necessary, to determine uniformity.

4.2.2 Visual examination. The cloth and the materials entering into the manufacture thereof shall be subjected to visual examination for defects which are considered to be detrimental to strength or durability and to ascertain compliance with the material, weave, workmanship, identification marking, and dimensional requirements.

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4.2.2.1 Camouflaging. When camouflaging is specified (see 6.1), the cloth shall be examined to ascertain that camouflage pattern and colors are in accordance with the samples or instructions supplied by the procuring activity.

4.3 Test procedures. Unless otherwise specified, all tests shall be conducted in accordance with FED-STD-191.

4.3.1 Stability. A sample, 20 inches square, shall be conditioned for 4 hours in an atmosphere having a relative humidity of 65 ± 2 percent and a temperature of $70^\circ \pm 2^\circ$ F. The sample shall be measured for thickness in accordance with method 5030 of FED-STD-191, marked with an 18-inch square and then formed into a loop by stapling two opposite sides together. A glass rod 1/2 inch in diameter and 21 inches long shall be placed inside the loop at the top, and a glass rod 1/4 inch in diameter and 21 inches long, weighing approximately 45 grams, shall be placed inside the loop at the bottom. The sample shall be immersed in a tub of boiling water by attaching twine or wire to the ends of the top glass rod and allowing the sample to hang freely in the boiling water for 15 minutes. The sample shall then be removed and allowed to drain. After the staples are removed the sample shall be placed in a flat position on a horizontal screen and thoroughly dried. It shall then be conditioned for 4 hours in an atmosphere having a relative humidity of 65 ± 2 percent and a temperature of $70^\circ \pm 2^\circ$ F. The marked square shall be measured in three places in the warp direction and three places in the filling direction and the amount of shrinkage determined. Air permeability tests, as described in 4.4.5, shall be performed and the thickness shall again be measured. Changes in the characteristics of the cloth shall not be in excess of the amounts specified in 3.4.

4.3.2 Weight. The weight in ounces per square yard of the cloth shall, ordinarily, be determined in accordance with method 5041 of FED-STD-191. When more accurate determination is necessary, weight shall be determined in accordance with method 5040 of FED-STD-191.

4.3.3 Breaking strength and elongation. The breaking strength and elongation in both the warp and filling directions shall be determined by the raveled-strip method in accordance with method 5104 of FED-STD-191 except that for class C cloth the specimens may be raveled to 1/2 inch in width.

4.3. Tear resistance. The resistance of tearing across the warp and across the filling shall be determined by the tongue method described in method 5134 of FED-STD-191.

4.3.5 Air permeability. Air permeability shall be determined in accordance with method 5450 of FED-STD-191.

4.3.6 Color fastness. When camouflaging is specified (see 6.1) the cloth shall be tested in accordance with method 5632 of FED-STD-191.

4.3.7 pH. The pH of the cloth shall be determined in accordance with method 2810 of FED-STD-191.

4.3.8 Rejection and retest. Failure of any sample of the finished cloth to conform to any one of the requirements of this specification shall be cause for rejection of the lot. Cloth which has been rejected may be reworked or replaced to correct the defects and resubmitted for acceptance. Before resubmitting, full particulars concerning previous rejection and the action taken to correct the defects found in the original shall be furnished the procuring activity. Nylon cloth rejected after retest shall not be resubmitted unless specific approval has been obtained from the procuring activity.

5. PACKAGING

5.1 Preservation-packaging and packing. Unless otherwise specified by the procuring activity, rolls of cloth shall be prepared for shipment in accordance with PPP-P-1133.

5.2 Marking. Rolls shall be marked in accordance with PPP-P-1133. Shipping containers shall be marked in accordance with MIL-STD-129.

6. NOTES

6.1 Ordering data. Procurement documents should specify the following:

- a. Title, number, and date of this specification
- b. Type and class required
- c. Color or camouflage requirements, if any (see 3.3)
- d. Preservation-packaging and packing (see 5.1).

6.2 Because of the extensiveness of changes, asterisks are not used in this revision to identify changes with respect to the previous issue.

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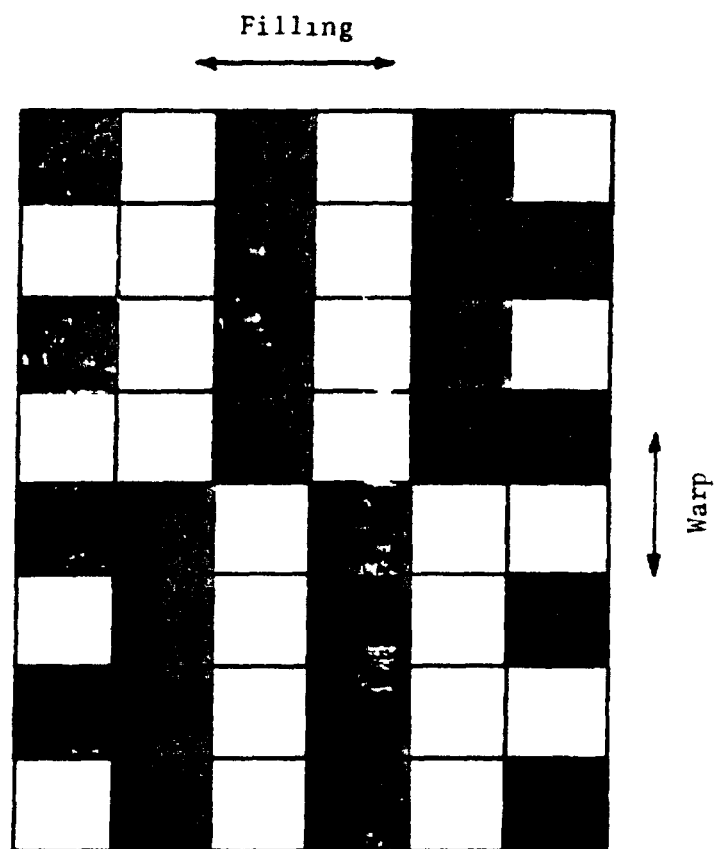


FIGURE 1. Weave pattern.

Preparing activity.

NAVY - OS
(Project No. 8305-N586)

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POSTAGE AND FEES PAID

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