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MIL-T-6134C
23 February 1971
SUPERSEDING
MIL-T-6134B
20 April 1960
and
MIL-T-5663A
12 November 1952

MILITARY SPECIFICATION

TAPE, TEXTILE, NYLON, PARACHUTE CONSTRUCTION

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

1. SCOPE

1.1 Scope. This specification covers two types of nylon tape.

1.2 Classification. The tapes shall be of the following types, as specified (see 6.2):

Type I - 525 pounds breaking strength
Type II - 300 pounds breaking strength

2. APPLICABLE DOCUMENTS

* 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

FED-STD-191	Textile Test Methods

Military

MIL-W-43334	Webbing And Tape, Textile, Packaging And Packing Of

STANDARDS

Military

MIL-STD-105	Sampling Procedures And Tables For Inspection By Attributes

(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.)

FSC 8315

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TABLE I. Construction and Physical Properties

Property	Type I	Type II
Width, Inch ±1/16	1	1
Yarn ply:		
Warp	Singles	Singles
Filling	4	2
Yarns (minimum):		
Warp (total)	206	104
Filling (per inch)	44	58
Weight, oz/linear yard (maximum)	0.40	0.145
Thickness, inch	0.025-0.045	0.010-0.030
Breaking strength, pounds, minimum	525	300
Elongation, percent, minimum	16	14

TABLE II. Testing of Components

Characteristic	Requirement Reference	Test Method
Warp Yarn:		
Nylon Identification	3.2.1	1/
Nylon Melting Point	3.2.1	1534 1/
Luster	3.2.2	Visual 1/
Denier	3.2.2	4021.1
Tenacity	3.2.2	4001.1 1/
Identification yarn, Type I	3.5.1	Visual 1/
Turns per Inch	3.2.4	4052
Filling Yarn:		
Nylon Identification	3.2.1	1/
Nylon Melting Point	3.2.1	1534 1/
Yarn Number	3.2.3	4021 1/
Breaking Strength	3.2.3	4100.1 2/
Ply	3.2.3	Visual 3/
Turns per Inch	3.2.4	4054.1
Colorfastness to Crocking	3.5.1.1	5651 1/

NOTE: 1/ A certificate of compliance shall be submitted for those requirements which shall include: a certified statement that the yarn used is that specified along with the supplier's type, identification data and melting point and supported by a certified copy of the yarn producer's certification to the tape manufacturer.

2/ Except that five determinations shall be made per sample unit.

3/ One determination per sample unit reported as "pass" or "fail."

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* 3.6 Length of roll. Unless ohterwise specified, each roll shall contain 100 to 144 yards. No roll shall contain more than two pieces, and no piece shall be less than 40 yards in length.

* 3.7 Identification ticket. Each roll of tape shall have an identification ticket attached to the roll, in accordance with MIL-W-43334.

* 3.8 Workmanship. The finished tape shall be clean, evenly woven, and shall conform to the quality and grade of product established by this specification. The occurrence of defects shall not exceed the levels set by the acceptable quality levels.

4. QUALITY ASSURANCE PROVISIONS

* 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 First article inspection. When required, the preproduction sample submitted in accordance with 3.1 shall be visually inspected for appearance, color, and finish. The sample shall be tested for physical and chemical characteristics in accordance with 4.4 to the extent applicable.

* 4.3 Inspection. Sampling for inspection shall be performed in accordance with MIL-STD-105, except where otherwise indicated hereinafter.

* 4.3.1 Component and material inspection. In accordance with 4.1, above, components and materials shall be 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 to the quality assurance provisions of the subsidiary specifications, component material listed in Table II shall be tested for characteristics specified and in accordance with the referenced test methods of FED-STD-191. The lot size shall be expressed in pounds, and the sample unit shall be 500 yards of nylon yarn. The lot shall be unacceptable if one or more units fail to meet any specified requirement. All test reports shall contain the individual values utilized in expressing the final result. The sample size shall be as follows:

Lot Size (Pounds)	Sample Size
800 or less	2
801 up to and including 22,000	3
22,001 and over	5

4.3.2 Examination of the end item. Defects found during the examination shall be classified in accordance with 4.3.2.1 through 4.3.2.3.

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* 4.3.2.1 Yard-by-yard examination. The required yardage of each roll shall be inspected on both sides and visual defects classified in accordance with Table III. All defects found shall be counted regardless of their proximity one to another, except where two or more defects represent a single local condition of the tape or webbing in which case only the more serious defect shall be counted. A continuous defect shall be counted as one defect for each warpwise yard or fraction thereof in which it occurs. The sample unit for this examination shall be 1 linear yard. The sample size shall be in accordance with inspection level II of MIL-STD-105. The acceptable quality level shall be 0.4 major and 1.5 total defects (major and minor combined) per 100 units (yards). The lot size shall be expressed in units of 1 yard each. An approximate equal number of yards shall be examined from each roll selected. The number of rolls from which the sample is to be selected shall be in accordance with Table IV.

TABLE III. Classification of Defects

Defect	Description	Major	Minor
Abrasion Mark	Resulting in a weak place	X	
Broken or missing end or picks	Two or more continuous	X	
	Single		X
Coarse filling bar	Resulting in increased stiffness or thickness of tape	X	
Crease or wrinkle	Edge folded or rolled-hard, embedded		X
Cut, hole, or tear	Any	X	
Edge cut, torn, or frayed	Any	X	
Edge slack	Edge slacked or poorly constructed and extending 1/4-inch or more along length of tape		X
Shade bar	Mixed filling 1/		X
Slack end	Two or more in the same length, jerked in between picks, or forming loops on surface 1/	X	
	Single, jerked in between picks, or forming loops on surface 1/		X
Slub, slug, or gout	More than twice the thickness of the yarn		X
Smash	Any	X	
Spot, stain, or streak	Any 1/		X
Tight end	Any 1/		X

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TABLE III. Classification of Defects (Cont'd)

Defect	Description	Major	Minor
Tight pick or tight filling	Resulting in rolling of tape	X	
Wavy or ridgy tape	Will not flatten under manual pressure 1/	X	
Weak, soft, or tender spot	Any	X	
Fine or light filling bar	Clearly noticeable 1/	X	
Float	Multiple 1/2 inch or more in either warp or filling directions or single floating over more than 1 inch	X	
	Multiple less than 1/2 inch in either warp or filling directions or single floating over more than 1/4 inch but not more than 1 inch		X
Heavy place	Noticeably stiffer or thicker than adjoining unaffected tape	X	
Hitchback, crack, open place	Opening between adjoining picks or warpwise tension area over part of the width resulting in light and heavy places		X
Jerked-in-filling, slough-off	More than twice the thickness of the normal yarn		X
Kinks	More than three in any 9-linear inches		X
Knot	More than one knot in any 9-linear inches	X	
	Single knot with untrimmed ends extending from surface of tape		X
Mispick, skips (hardness)	Resulting in widthwise repeated floats more than 1/4-inch long	X	
Wrong draw	Extending for more than 9 inches		X
Yarns (filling)	Two yarns per shed	X	

1/ Clearly visible at normal inspection distance (approximately 3 feet).

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* 4.3.2.2 Overall examination. Each defect listed below shall be counted not more than once in each roll examined. The sample unit for this examination shall be one roll. The sample size and acceptance number shall be as shown in Table IV. The lot size shall be expressed in units of one yard each.

Defects

Width not within specified tolerances.
Uneven weaving throughout.
Overall uncleanness.
Offshade, i.e., not within established tolerances.
Uneven dyeing, cloudy, mottled or streaky throughout (dyed tape only).
Identification ticket missing.
Identification yarn (Type I only):
  Missing
  Misplaced
  Color other than specified
Not labeled in accordance with MIL-W-43334.

* 4.3.2.3 Length examination.

* 4.3.2.3.1 Examination for length of individual roll. Each roll in the sample shall be examined for the defects listed below. The sample unit for this examination shall be one roll. The sample size and acceptance number shall be as shown in Table IV.

Defects

Gross length of any roll - More than 2 yards less than gross length marked on ticket.
Length of roll - Beyond specified tolerances.
Length of individual piece of tape - Less than 40 yards.
Pieces per roll - More than 2 pieces.

TABLE IV. Overall and Length Examination, Sample Size

Lot Size in Yards	Sample Size In rolls	Maximum No. of Defects Acceptable in Sample
Up to 1200 1/	3	0
1201 up to and including 3200	5	0
3201 up to and including 10,000	8	0
10,001 up to and including 35,000	13	0
35,001 up to and including 150,000	20	1
150,001 and over	32	2

1/ If a lot contains less than 3 rolls, each roll in the lot shall be examined.

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* 4.3.2.3.2 Examination for total yardage in sample. The lot shall be unacceptable if the total of the actual gross lengths of rolls in the sample is less than the total of the gross lengths marked on the tickets.

* 4.3.3 Examination of preparation for delivery requirements. An examination shall be made in accordance with the provisions of MIL-W-43334 to determine that packaging, packing and marking complies with the Section 5 requirements of this specification.

* 4.4 Testing of the end item. The methods of testing specified in FED-STD-191, wherever applicable, and as listed in Table V shall be followed. The physical and chemical values specified in Section 3 apply to the results of the determinations made on a sample unit for test purposes as specified in the applicable test methods. All test reports shall contain the individual values utilized in expressing the final result. The sample unit for test purposes shall be 10 linear yards. The lot size shall be expressed in units of 1 yard. The lot shall be unacceptable if one or more units fail to meet any requirements specified. The sample size shall be as follows:

Lot Size (Yards)	Sample Size
800 or less	2
801 up to and including 22,000	3
22,001 and over	5

TABLE V. Test Methods

Characteristic	Requirement Paragraph	Test Method
Tape		
Twist	3.2.4	4054
Weave	3.3	Visual 1/
Width	Table I	5020
Yarns per Inch	Table I	5050
Weight	Table I	5040
Thickness	Table I	5030 2/
Breaking Strength and Elongation	Table I	4108.1 3/

NOTE: 1/ One determination per sample unit and the result reported as "pass or fail."

2/ Except that a 6 ounce total load shall be used.

3/ Elongation will be calculated at the load specified in Table I.

* 4.5 Certificate of compliance. Where certification of compliance are submitted, the Government reserves the right to check test such items to determine the validity of the certification.

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5. PREPARATION FOR DELIVERY

5.1 Preservation, packaging, packing and marking. Preservation, packaging, packing and marking shall be in accordance with the applicable requirements of MIL-W-43334, as specified (see 6.2).

6. NOTES

6.1 Intended use. The tape covered by this specification is intended for use in the manufacture of parachutes. Type I is intended for use in skirt bands for parachutes and type II for reinforcing bands on parachutes.

* 6.2 Ordering data. Procurement documents should specify the following:

a. Title, number, and date of this specification.

b. Type (see 1.2).

c. First article (see 3.1 and 4.2).

d. Color and colorfastness and appropriate test methods, when desired (see 3.5).

e. Provisions for deduction of defects (if any).

f. Selection of applicable levels of preservation and packaging, and packing (see 5.1).

* 6.3 Supersession data. Type II tape of this specification supersedes the tape covered by MIL-T-5663.

* 6.4 The margins of this specification are marked with an asterisk to indicate where changes (additions, modifications, corrections, deletions) from the previous issue were made. This was 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 irrespective of the marginal notations and relationship to the last previous issue.

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Air Force - 82

Preparing Activity:
Air Force - 82

Project No. 8315-0198

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SPECIFICATION ANALYSIS SHEET

Form Approved
Budget Bureau No. 22-R255

INSTRUCTIONS: This sheet is to be filled out by personnel, either Government or contractor, involved in the use of the specification in procurement of products for ultimate use by the Department of Defense. This sheet is provided for obtaining information on the use of this specification which will insure that suitable products can be procured with a minimum amount of delay and at the least cost. Comments and the return of this form will be appreciated. Fold on lines on reverse side, staple in corner, and send to preparing activity. Comments and suggestions submitted on this form do not constitute or imply authorization to waive any portion of the referenced document(s) or serve to amend contractual requirements.

SPECIFICATION

ORGANIZATION

CITY AND STATE

CONTRACT NUMBER

MATERIAL PROCURED UNDER A

☐ DIRECT GOVERNMENT CONTRACT ☐ SUBCONTRACT

1. HAS ANY PART OF THE SPECIFICATION CREATED PROBLEMS OR REQUIRED INTERPRETATION IN PROCUREMENT USE?

   A. GIVE PARAGRAPH NUMBER AND WORDING.

   B. RECOMMENDATIONS FOR CORRECTING THE DEFICIENCIES

2. COMMENTS ON ANY SPECIFICATION REQUIREMENT CONSIDERED TOO RIGID

3. IS THE SPECIFICATION RESTRICTIVE?

   ☐ YES ☐ NO *(If "yes", in what way?)*

4. REMARKS *(Attach any pertinent data which may be of use in improving this specification. If there are additional papers, attach to form and place both in an envelope addressed to preparing activity)*

SUBMITTED BY *(Printed or typed name and activity - Optional)*

DATE

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