

INCH-POUND

MIL-W-38461C(USAF)
AMENDMENT 1
22 January 1998

MILITARY SPECIFICATION
WEBBING, NYLON, AIRCRAFT ARRESTING

MIL-W-38461 is inactive for new design after 10 April 97

This amendment forms a part of MIL-W-38461, dated 23 July 1982, and is approved for use by the Department of the Air Force and is available for use by all Departments and Agencies of the Department of Defense.

PAGE 1

Delete Beneficial Comments Block and replace with:

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: SA-ALC/TILDD, 485 Quentin Roosevelt Bldg. 171, Kelly AFB, TX 78241-6324, by using the Standardization Document Improvement Proposal (DDrm 1426) appearing at the end of this document or by letter.

Delete Section 2 in its entirety and substitute:

2. APPLICABLE DOCUMENTS

2.1 General. The documents listed in this section are specified in sections 3 and 4 of the specification. This section does not include documents cited in other sections of this specification or recommended for additional information or as examples. While every effort has been made to ensure the completeness of this list, document users are cautioned that they must meet all specified requirements documents cited in sections 3 and 4 of this specification, whether or not they are listed.

2.2 Government documents

2.2.1 Specifications, standards. The following specifications, standards and handbooks form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those listed in the issue of the Department of Defense Index of Specifications and Standards (DoDISS) and supplement thereto, cited in the solicitation (see 6.2).

STANDARDS

FEDERAL

FED-STD-191

Textile Test Methods

DEPARTMENT OF DEFENSE

MIL-STD-1480

Color Codes for Webbing, Textile;
Manufactures' Identification

(Unless otherwise indicated, copies of the above specification are available from the Standardization Documents Order Desk, 700 Robins Avenue, Building 4D, Philadelphia, PA 1911-5094)

2.2.2 Other Government documents, drawings and publications

AMSC N/A

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FSC 1710

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FEDERAL TRADE COMMISSION

Textile Fiber Products Identification Act, Effective March 3, 1960

(Copies may be obtained from the Federal Trade Commission, Washington D.C. 20580)

DRAWINGS

E.W. Bliss Company
52-D-844

Sewing Requirements, BAK-13

ESCO/Dayton
52-C-5732

Shipping Reel

(Copies of drawings required by manufacturers in connection with acquisition functions should be obtained from the contracting activity or as directed by the contracting officer.)

2.3 Non-Government publications

ASQC Z1.4 - 1993

Sampling Procedures and Tables for
Inspection by Attributes

(Application for copies should be addressed to the American Society for Quality Control (ASQC), P.O. Box 3005, 611 E. Wisconsin Ave., Milwaukee WI, 53201-4606.)

Standard Color Reference of America, Army Supplement

(Application for copies should be addressed to the Color Association of the United States, 409 W. 44Th St., New York, NY 10036-4402.)

2.4 Order of precedence In the event of a conflict between the text of this document and the references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained."

PAGE 3

Add the following paragraphs prior to paragraph 3.1 Yarn:

"3A. Acceptable quality levels The acceptable quality levels shall be as specified in the contract or purchase order (see 6.2.g)."

PAGE 4

3.5.1, line 2: Add after 840/5 ply "or minimum equivalent denier"

3.5.1, line 3: add after 840/7 ply "or minimum equivalent denier"

3.5.1, line 4: Delete "The marker yarns shall be solution dyed nylon or yarn dyed polyester to cable No. 65032, Color Association of the United States, Incorporated, 200 Madison Avenue, New York, NY 10016." and substitute "The marker yarns shall be solution or yarn dyed nylon or polyester to Cable No. 65032, USAF yellow in accordance with Standard Color Reference of America, Army Supplement."

3.6: Delete and substitute:

"3.6 Length of webbing The length of the webbing (roll) shall be as specified in the contract or purchase order. (See 6.2.d)"

Add as new paragraphs:

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“3.10 Recycled, recovered, or environmentally preferable materials Recycled, recovered, or environmentally preferable materials should be used to the maximum extent possible provided that the material meets or exceeds the operational and maintenance requirements, and promotes advantageous life cycle costs.

3.11 Manufactures' Identification Each manufacturer shall incorporate as part of the binder warp at the center of the webbing two ends dyed to match the shade assigned to the manufacturer in accordance with MIL-STD-1480. A producer not listed in MIL-STD-1480 shall apply to the commander, U.S. Army Natick Research and Development Command, Natick, MA 01760, for assignment of color coding. The colorfastness of this yarn shall be rated as “fair” or “good” when tested in accordance with FED-STD-191, method 5614. Nylon color transfer cloth or an equivalent shall be used.

PAGE 5

Delete Table I. in its entirety and substitute new Table I. (Note: New TABLE I appears at end of document for clarity)

PAGE 7

Delete “Figure 1” in its entirety and substitute new “Figure 1”. (Note: New FIGURE I appears at end of document for clarity)

PAGE 10

4.3, line 11: Delete “The sample size shall be in accordance with inspection level III of MIL-STD-105. The acceptable quality level (AQL) shall be 1.0 defects per hundred linear yards for major defects, and 2.5 defects per hundred yards for total (major plus minor) defects.” and substitute “The sample size shall be in accordance with level III of ASQC Z1.4 (see 3A. and 6.2.g).”

4.6, line 5: after “section 3” add the following “and Table I.”

PAGE 14

4.6.1, Delete and substitute:

4.6.1 Component and material inspection The contractor shall certify and maintain substantiating evidence that the webbing meets all the requirements of this Specification unless otherwise excluded, amended, modified or qualified in this specification or applicable purchase documents. The government reserves the right to require proof of conformance prior to first delivery and thereafter as may provided for under the provisions of the contract (see 6.2.j). In addition to the quality assurance provisions of the subsidiary specifications, component material listed in Table III shall be tested for the 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 the nylon yarn. The lot shall be unacceptable if one or more units fail to meet any requirements specified. The sample size shall be as follows:

<u>Lot size (pounds)</u>	<u>Sample size</u>
800 or less	2
801 up to and including 22,000	3
22,001 and over	5

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4.6.2.2, Delete and substitute:

“4.6.2.2 Apparatus. The testing machine shall have a high enough load capacity so that the webbing’s rated breaking strength is not at the extreme machine limits. The test grips for holding the specimen shall be designed so that webbing failure will not occur within or around the grips. The rate of test grip separation shall be 4 to 8 inches per minute while specimen is under load and being tested.”

4.6.3, line 3: Add after webbing “This test shall be performed on only one specimen per batch in which each batch is not to exceed 4 rolls. (NOTE: A batch is defined as “those tapes which are processed through the coating procedure at the same time”).”

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Delete Table III. in its entirety and substitute new Table III. (Note: New TABLE I appears at end of document for clarity)

Page 18

5.1: Delete and substitute: “5.1 Packaging. For acquisition purposes, the packaging requirements shall be as specified in the contract or order (see 6.2). When actual packaging of materiel is to be performed by DoD personnel, these personnel need to contact the responsible packaging activity to ascertain requisite packaging requirements. Packaging requirements are maintained by the Inventory Control Point’s packaging activity within the Military Department or Defense Agency, or within the Military Department’s System Command. Packaging data retrieval is available from the managing Military Department’s or Defense Agency’s automated packaging files, CD-ROM products, or by contacting the responsible packaging activity.”

5.1.1: Delete

6. NOTES: Add as new paragraph “(This section contains information of a general or explanatory nature which may be helpful, but is not mandatory.)”

Add as new paragraphs:

“6.2.f. Packaging requirements (see 5.1). ESCO/Dayton drawing 52-C-5732 contains information on shipping reels. Reference should be made to paragraphs 5.2 and 5.3 of MIL-T-81521 for information on packing and marking.

6.2.g. Acceptable quality level data shall be obtained from the engineering support activity (SA-ALC/LDE) for inclusion in the contract or purchase order (see 3B).

6.2.h Issue of DoDISS to be cited in the solicitation, and if required, the specific issue of individual documents referenced (see 2.2.1).

6.2. i Data that may be required to accompany the with Certificate of Compliance (see 4.6.1); actual test, inspection or other verifiable data.

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Add as new paragraph:

6.4 Subject term (key word) listing

Purchase
Tape
Web

Custodians:
Air Force - 99

Preparing activity:
Air Force - 82

Agent activity:
Air Force - 99

Project Number:
1710-F061

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TABLE I. Construction and physical requirements.

Characteristics	Requirements		
	Type I	Type II	Type 3
Width, inches ³	8.500 +0.125 ^{1,2} -0.063	7.938 +0.125 ^{1,2} -0.063	7.938 +0.125 ^{1,2} -0.063
Thickness, inches	0.225 + 0.012 -0.000	0.340 ± 0.010	0.345 ± 0.010
Weight, oz/linear yd (max)	37.0	50.0	50.0
Breaking strength, pounds (min)			
Average	105,000	130,000	130,000
Single determination	95,000	125,000	125,000
Ends in warp (min)			
Ground	649	558	574
Binder	160	136	136
Stuffer	1210 (840 denier) or 1015 (1260 denier)	1460 (840 denier) or 1362 (1260 denier)	
Yellow marker	4	4	4
Filling, yarns/inch (min)	14	13	19.5
Yarn, ply (min)			
Ground	3 (840 denier) or 2 (1260 denier)	3 (840 denier) or 2 (1260 denier)	
Binder	3 (840 denier) or 2 (1260 denier)	3 (840 denier) or 2 (1260 denier)	
Stuffer	5 (840 denier) or 4 (1260 denier)	7 (840 denier) or 5 (1260 denier)	
Filling	6 (840 denier) or 4 (1260 denier)	7 (840 denier) or 4 (1260 denier)	
Twist, turns/inch			
Ground (min - max)	2.0 - 3.0	2.0 - 3.0	2.0 - 3.0
Binder (min - max)	2.0 - 3.0	2.0 - 3.0	2.0 - 3.0
Stuffer (min - max)	1.0 - 2.0	1.0 - 2.0	1.0 - 2.0
Filling (min - max)	1.0 - 2.0	1.0 - 2.0	1.0 - 2.0

¹ Single determination.

² A maximum of 2 single determinations per roll may deviate to -0.125 inches.

³ Nonconformance shall be based on a length greater than twelve (12) inches.

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TABLE III. Test methods

Characteristics	Requirement	Test Method FED-STD-191 Para. Ref.	Frequency ¹	Number of determina- tions	Results reported as
Width ⁵	Table I	5020	A	1 Every 40 ft. ± 6 inches	Nearest 0.062 inch
Thickness ²	Table I	5030	A	1 Every 40 ft. ± 6 inches	Nearest 0.010 inch
Weight	Table I	5040	A	1	Nearest 0.1 oz.
Length	3.6	5010	A	1	Nearest 1 ft.
Breaking strength - (Types I, II, and III)	Table I	4.6.1	A	2 ³ or 3	Nearest 100 lb.
Breaking Strength - sewed loops (Types II and III)	3.4.1	4.6.2.3	C	5	Nearest 100 lb.
Extractable matter	3.2.2	4.6.2	A	1	Nearest 0.1%
Ends in warp ⁶			B		
Ground	Table I	Visual		1	Nearest whole
Binder	Table I	Visual		1	number
Stuffer	Table I	Visual		1	"
Filling yarns/inch	Table I	5050	B	3	"
Yarn:			B		
Ply					
Ground	Table I	Visual		1	Nearest whole
Binder	Table I	Visual		1	number
Stuffer	Table I	Visual		1	Nearest whole
Filling	Table I	Visual		1	number
Twist, turns / inch			B		
Ground	Table I	4054		3	Nearest 0.1 Turn
Binder	Table I	4054		3	Nearest 0.1 Turn
Stuffer	Table I	4054		3	Nearest 0.1 Turn
Filling	Table I	4054		3	Nearest 0.1 Turn
Weave	Figures 1, 2, 3	Visual	B	1	Pass or Fail

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TABLE III. Test methods - Continued

Characteristics	Requirement	Test Method FED-STD-191 Para. Ref.	Frequency ¹	Number of determina- tions	Results reported as
Component material					
Yarn					
Melting Point	3.1	1534 & ⁴	B	1	Nearest 1°F
Denier	3.1	4021 & ⁴	B	1	Pass or fail
Luster	3.1	⁴	B	1	Pass or fail
Tenacity	3.1	⁴	B	1	Pass or fail
Nylon Identification	3.1	⁴	B	1	Pass or fail

¹ Frequency of testing: A - Each roll, B - One roll in each lot, C - Once during a contract except whenever deemed necessary by the government to assure conformance to requirements.

² Except that a six ounce total load shall be applied and the presser foot diameter shall be a minimum of one inch. A substitute instrument may be used if approved by the contracting officer.

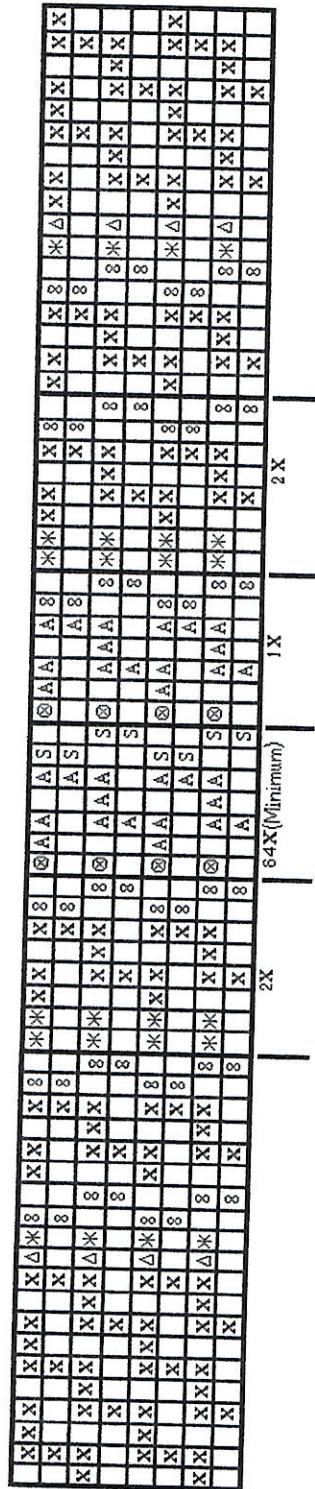
³ When the first two specimens of the sample tested meet the requirements for acceptance of the roll, testing is not required on the third specimen.

⁴ Contractor's Certification.

⁵ For any visual width variation a width determination may be made at that location even though this may not occur at the specified 40 foot linear interval.

⁶ Contractor's certification based on count of ends in loom creel or beams is acceptable in lieu of visual count from a webbing sample.

FIGURE 1
WEAVE DIAGRAM - TYPE 1
Six Thread Marker Configuration



KEY TO MARKS USING 840 DENIER POLYAMIDE

- A = GROUND 2 AS 1
- X = GROUND 3 AS 1
- S = BINDER SINGLY
- 8 = BINDER 2 AS 1
- * = STUFFER 4 AS 1
- ⊙ = STUFFER 18 AS 1 (MINIMUM)
- Δ = YELLOW MARKER 2 AS 1

KEY TO MARKS USING 1260 DENIER POLYAMIDE

- A = GROUND 2 AS 1
- X = GROUND 3 AS 1
- S = BINDER SINGLY
- 8 = BINDER 2 AS 1
- * = STUFFER 4 AS 1
- ⊙ = STUFFER 15 AS 1 (MINIMUM)
- Δ = YELLOW MARKER 2 AS 1