

MIL-B-1851F
28 May 1981
SUPERSEDING
MIL-B-1851E
20 December 1976

MILITARY SPECIFICATION

BAND, HELMET

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 and size of helmet band made of olive-drab elastic cotton webbing and luminous tape.

2. APPLICABLE DOCUMENTS

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

SPECIFICATIONS

FEDERAL

- | | | |
|-----------|---|--|
| UU-P-268 | - | Paper, Kraft, Wrapping |
| DDD-L-20 | - | Label: For Clothing, Equipage and Tentage
(General Use) |
| PPP-B-636 | - | Boxes, Shipping, Fiberboard |

STANDARDS

FEDERAL

- FED-STD-751 - Stitches, Seams, and Stitchings

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: US Army Natick Research and Development Laboratories, Natick, MA 01760, by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

FSC 8415

MIL-B-1851F

MILITARY

MIL-STD-105 - Sampling Procedures and Tables for Inspection
by Attributes
MIL-STD-129 - Marking for Shipment and Storage
MIL-STD-147 - Palletized Unit Loads
MIL-STD-1188 - Commercial Packaging of Supplies and Equipment

DRAWING

US ARMY NATICK RESEARCH AND DEVELOPMENT LABORATORIES

2-2-420 - Band, Helmet

(Copies of specifications, standards, drawings, 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 Samples.

3.1.1 Guide sample. Guide samples, when furnished, are solely for guidance and information to the contractor (see 6.3). Variations from this specification may appear in the sample, in which case this specification shall govern.

3.1.2 First article. When specified (see 6.2), the contractor shall furnish a sample for first article inspection and approval (see 4.3 and 6.4).

* 3.2 Materials. Materials shall be as specified on Drawing 2-2-420 (see 6.5).

* 3.3 Construction. The construction shall conform in all respects to Drawing 2-2-420 and as specified herein.

* 3.4 Stitches, seams, and stitching. All stitching except bartacking shall be with 8 to 10 stitches per inch, using stitch type 301 conforming to FED-STD-751.

3.4.1 Type 301 stitching. Ends of all stitching shall be backstitched or over-stitched 1/2 inch minimum. Thread tension shall be maintained so that there will be no loose stitching resulting in loose bobbin or top thread, or excessively tight stitching resulting in puckering of the materials sewn.

3.4.1.1 Repairs of type 301 stitching. Repairs of type 301 stitching shall be as follows:

a. When thread breaks or bobbin run-outs occur during sewing, the stitching shall be repaired by restarting the stitching a minimum of 1/2 inch back of the end of the stitching. 1/

b. Thread breaks, two or more consecutive skipped or runoff stitches noted during inspection of the item (in-process or end item) shall be repaired by over-stitching. The stitching shall start a minimum of 1/2 inch in back of the defective area, continue over the defective area and continue a minimum of 1/2 inch beyond the defective area onto the existing stitching. Loose or excessively tight stitching shall be repaired by removing the defective stitching, without damaging the materials, and restitching in the required manner. 1/

1/ When making the above repairs the ends of the stitching are not required to be backstitched.

3.4.2 Automatic stitching. Automatic sewing machines may be used to perform the required stitch pattern provided the requirements for the stitch pattern, stitches per inch, size and type of thread are met; and at least three tying, overlapping or backstitches are used to secure the ends of stitching.

* 3.4.3 Bartacking. Bartacks shall be $1/2 + 1/16$ inch long, $1/8 + 1/32$ inch wide and shall contain 28 stitches. Bartacking shall be free from thread breaks and loose stitching.

3.4.4 Thread ends. All thread ends shall be trimmed to 1/4 inch maximum length.

3.5 Replacement of defective components. During the spreading, cutting and manufacturing process, components having material defects or damages that are classified as defects in 4.4.2.1 shall be removed from production and replaced with non-defective components.

3.6 Marking. The nomenclature shall be applied on the inside of each band in characters not less than 1/4 inch in height, and shall conform to the requirements for type III or IV, class 9, of DDD-L-20. Fastness of the class 9 marking shall be as specified for class 5 marking.

3.7 Workmanship. The finished band shall conform to the quality of product established by this specification. The occurrence of defects shall not exceed the applicable acceptable quality levels.

4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract, the contractor is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified in the contract, 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 Classification of inspection. The inspection requirements specified herein are classified as follows:

- a. First article inspection (see 4.3).
- b. Quality conformance inspection (see 4.4).

* 4.3 First article inspection. When a first article is required (see 6.2), it shall be examined for the defects specified in 4.4.2.1 and 4.4.2.2. The presence of any defect shall be cause for rejection of the first article.

* 4.4 Quality conformance inspection. Unless otherwise specified, sampling for inspection shall be performed in accordance with MIL-STD-105.

4.4.1 Component and material inspection. In accordance with 4.1, components and materials shall be inspected in accordance with the requirements of referenced specifications, drawings, and standards unless otherwise excluded, amended, modified, or qualified in this specification or applicable purchase document.

* 4.4.2 End item examination. The end item shall be examined in accordance with 4.4.2.1 and 4.4.2.2. The lot size shall be expressed in units of one band. The sample unit shall be one band.

* 4.4.2.1 Visual examination. The end item shall be examined for the defects listed below. The inspection level shall be II and the acceptable quality level (AQL) shall be 1.5 major and 4.0 total (major and minor combined) defects per hundred units.

Examine	Defect	Classification	
		Major	Minor
Webbing	Any hole, cut, or tear.	X	
	Not firmly or tightly woven; edges frayed.	X	
	Abrasion mark, smash.	X	
	Broken or missing end or pick.		X
Thread	Color of needle thread for attaching luminescent tapes not natural.		X
Luminescent tapes	Any hole, cut, or tear.	X	
	One or both omitted.	X	
	Attached with luminescent side not facing out.	X	

Examine	Defect	Classification	
		Major	Minor
Seams and stitching: (type 301 stitching)			
Open seams	Any.	X	
	NOTE: A seam shall be classified as open when one or more stitches are broken or when two or more consecutive skipped or runoff stitches occur.		
Runoffs (see open seams)			
Stitch type	Not as specified.	X	
Stitch pattern	Any row of stitching omitted.	X	
Stitch tension	Loose, resulting in loose top or bobbin thread.		X
	Excessively tight resulting in puckering of webbing.		X
Stitches per inch	One stitch less than minimum specified.		X
	Two or more stitches less than minimum specified.	X	
	One or more stitches in excess of maximum specified.		X
Stitching ends	Not secured as specified.		X
Thread breaks, skipped stitches or runoffs	Overstitched less than 1/2 inch in each direction beyond the defective stitching area.		X
	NOTE: Thread breaks, two or more consecutive skipped or runoff stitches not overstitched shall be classified as open seams.		
Bartacks (if used)	Any bartack omitted.	X	
	Loose or broken stitching.		X

Examine	Defect	Classification	
		Major	Minor
Thread ends	Not trimmed to 1/4 inch maximum length.		X
Cleanness	Grease or oil stains clearly noticeable.		X
Marking	Omitted, illegible, incorrect, misplaced, or size of characters not as specified.		X

* 4.4.2.2 Dimensional examination. The helmet band shall be examined for all dimensions shown on Drawing 2-2-420. Any dimension exceeding the specified tolerance shall constitute a defect. The inspection level shall be S-3 and the AQL shall be 4.0 defects per hundred units.

* 4.4.3 Packaging inspection. An examination shall be made to determine that the preservation, packing, and marking comply with the section 5 requirements. Defects shall be scored in accordance with the list below. The sample unit shall be one shipping container fully packaged with the exception that it need not be closed. Examination for closure defects listed below shall be made on shipping containers fully packaged. The lot size shall be the number of shipping containers in the end item inspection lot. The inspection level shall be S-2 and the AQL shall be 2.5 defects per hundred units.

<u>Examine</u>	<u>Defect</u>
Marking (exterior and interior)	Omitted; incorrect; illegible; of improper size, location, sequence, or method of application.
Materials	Any component missing, damaged, or not as specified.
Workmanship	Inadequate application of components, such as: incomplete closure of container flap, loose strapping, improper taping, or inadequate stapling. Bulged or distorted container.
Content	Number of bands per container is more or less than required. Number of bands per bundle is more or less than required. <u>1/</u>

1/ For this defect, ten bundles shall be examined from each shipping container in the sample.

4.4.4 Examination for palletization. An examination shall be made to determine that the palletization complies with the section 5 requirements. Defects shall be scored in accordance with the list below. The sample unit shall be one palletized unit load fully prepared for delivery. The lot size shall be the number of palletized unit loads in the end item inspection lot. The inspection level shall be S-1 and the AQL shall be 6.5 defects per hundred units.

<u>Examine</u>	<u>Defect</u>
Finished dimension	Length, width, or height exceeds specified maximum requirement.
Palletization	Pallet pattern not as specified. Interlocking of loads not as specified. Load not bonded with required straps as specified.
Weight	Exceeds maximum load limits.
Marking	Omitted; incorrect; illegible; of improper size, location, sequence, or method of application.

5. PACKAGING

- * 5.1 Preservation. Preservation shall be level A or Commercial as specified (see 6.2).

5.1.1 Level A. Twenty bands shall be placed together and securely tied with cotton tape or twine approximately 2 inches from each end to form a compact bundle.

- * 5.1.2 Commercial. The bands shall be preserved in accordance with MIL-STD-1188.

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

- * 5.2.1 Level A packing. Two thousand bands, preserved as specified in 5.1, shall be packed in a snug-fitting fiberboard shipping container conforming to grade V2s, style RSC-L of PPP-B-636. The inside of each shipping container shall be fitted with a box liner conforming to type CF, class weather-resistant, variety DW, grade V15c of PPP-B-636. Each container shall have the contents completely covered on the top and bottom with a sheet of 30-pound minimum basis weight kraft paper conforming to type I, grade B of UU-P-268. Each shipping container shall be closed in accordance with method III, waterproofed in accordance with method V and reinforced as specified in the appendix of the container specification, except that the inspection shall be in accordance with 4.4.3.

* 5.2.2 Level B packing. Two thousand bands, preserved as specified in 5.1, shall be packed in a snug-fitting fiberboard shipping container conforming to style RSC-L, type CF (variety SW) or SF, class domestic, grade 275 of PPP-B-636. The inside of each shipping container shall be fitted with a box liner conforming to type CF, class domestic, variety DW, grade 275 of PPP-B-636. Each container shall have the contents completely covered on the top and bottom with a sheet of 30-pound minimum basis weight kraft paper conforming to type I, grade B of UU-P-268. Each shipping container shall be closed in accordance with method II as specified in the appendix of the container specification, except that the inspection shall be in accordance with 4.4.3.

5.2.2.1 Weather-resistant fiberboard container. When specified (see 6.2), the shipping container shall be a grade V3c, V3s, or V4s fiberboard box fabricated in accordance with PPP-B-636 and closed in accordance with method III as specified in the appendix of the container specification, except that the inspection shall be in accordance with 4.4.3.

* 5.2.3 Commercial packing. Bands, preserved as specified in 5.1, shall be packed in accordance with MIL-STD-1188.

5.3 Palletization. When specified (see 6.2), bands packed as specified in 5.2, shall be palletized in accordance with load type I of MIL-STD-147. Each prepared load shall be bonded with primary and secondary straps in accordance with bonding means K and L. Pallet patterns shall be in accordance with the appendix of MIL-STD-147. Interlocking of loads shall be effected by reversing the pattern of each course. If the container is of a size which does not conform to any of the pallet patterns specified in MIL-STD-147, the pallet pattern used shall first be approved by the contracting officer.

* 5.4 Marking. In addition to any special marking required by the contract, unit packs, shipping containers, and palletized unit loads shall be marked in accordance with MIL-STD-129 or MIL-STD-1188, as applicable. Each tenth unit pack shall have attached a manila colored paper shipping tag for the identification information.

6. NOTES

* 6.1 Intended use. The band is intended for use in conjunction with the combat helmet to support camouflage and to provide a means for detecting friendly personnel at night.

6.2 Ordering data. Procurement documents should specify the following:

- (a) Title, number and date of this specification.
- (b) When a first article sample is required (see 3.1.2, 4.3, and 6.4).
- * (c) Selection of applicable levels of preservation and packing (see 5.1 and 5.2).
- (d) When weather-resistant grade fiberboard shipping containers are required for level B packing (see 5.2.2.1).
- (e) When palletization is required (see 5.3).

6.3 Samples. For access to samples, address the procuring activity issuing the invitation for bids.

6.4 First article. When a first article sample is required, it shall be inspected and approved under the appropriate provisions of DAR 7-104.55. The first article should be a preproduction sample consisting of one band. The contracting officer should include specific instructions in all procurement instruments regarding arrangements for inspection and approval of the first article.

* 6.5 Recycled material. It is encouraged that recycled material be used when practical as long as it meets the requirements of the specification (see 3.2).

6.6 Changes from previous issue. 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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