

INCH-POUND

MIL-S-44016B
21 June 1989
SUPERSEDING
MIL-S-44016A
10 February 1984

MILITARY SPECIFICATION

SLEEPING BAG, INTERMEDIATE COLD, SYNTHETIC FILLED

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

1. SCOPE

1.1 Scope. This specification covers the requirements for one type and size of sleeping bag with hood for intermediate cold conditions.

2. APPLICABLE DOCUMENTS

2.1 Government documents.

- * 2.1.1 Specifications, standards, and handbooks. The following specifications, standards, and handbooks form a part of this specification 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).

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: U.S. Army Natick Research, Development, and Engineering Center, Natick, MA 01760-5014 by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

AMSC N/A

FSC 8465

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

MIL-S-44016B

SPECIFICATIONS

FEDERAL

- P-S-1792 - Soap, Laundry (Neutral and Built)
- V-F-106 - Fastener, Slide, Interlocking
- DDD-L-20 - Label: for Clothing, Equipage, and Tentage, (general use)
- PPP-B-636 - Boxes, Shipping, Fiberboard

MILITARY

- MIL-T-3530 - Thread and Twine: Mildew Resistant or Water Repellent Treated
- MIL-T-43548 - Thread, Polyester Core: Cotton-, Rayon-, or Polyester-Covered
- MIL-H-43879 - Hood, Sleeping Bag
- * MIL-L-35078 - Loads, Unit: Preparation of Semiperishable Subsistence Items; Clothing, Personal Equipment and Equipage; General specification for

STANDARDS

FEDERAL

- FED-STD-751 - Stitches, Seams, and Stitchings
- FED-STD-191 - Textile Test Methods

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-731 - Quality of Wood Members for Containers and Pallets

(Unless otherwise indicated, copies of federal and military specifications, standards, and handbooks are available from the Naval Publications and Forms Center, (ATTN: NPODS), 5801 Tabor Avenue, Philadelphia, PA 19120-5099.)

2.1.2 Other Government documents, drawings, and publications. The following other Government documents, drawings, and publications form a part of this document to the extent specified herein. Unless otherwise specified, the issues are those cited in the solicitation.

MIL-S-44016B

DRAWINGS

US ARMY NATICK RESEARCH, DEVELOPMENT AND ENGINEERING CENTER

2-2-408	- Sleeping Bag, (Synthetic Filled); Assembly and Sections
2-2-409	- Sleeping Bag, (Synthetic Filled) Inner and Outer Panels
2-2-410	- Sleeping Bag, (Synthetic Filling) Quilting Stitching on Panels
2-2-411	- Sleeping Bag, (Synthetic Filled) Slide Fastener Assembly and Weatherstrip
2-2-412	- Sleeping Bag, (Synthetic Filled) Front Panel Assembly
2-2-413	- Sleeping Bag, (Synthetic Filled) Flap Assembly

(Copies of drawings are available from the U.S. Army Natick Research, Development, and Engineering Center, ATTN: STRNC-EMSS, Natick, MA 01760-5014.)

- * 2.2 Non-Government publications. The following documents form a part of this document to the extent specified herein. Unless otherwise specified, the issues of the documents which are DOD adopted are those listed in the issue of the DODISS cited in the solicitation. Unless otherwise specified, the issues of documents not listed in the DODISS are the issues of the documents cited in the solicitation (see 6.2).

THE COLOR ASSOCIATION OF THE UNITED STATES, INC.

Standard Color Card of America

Department of Defense Standard Shades for Sewing Threads

(Color cards may be available from the Color Association of the United States, Inc., 343 Lexington Avenue, New York, NY 10016-0927. If color cards are not available from the Color Association, individual color samples may be obtained from the contracting activity or as directed by the contracting activity.)

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

3951 - Standard Practice for Commercial Packaging

(Application for copies should be addressed to the American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103.)

(Non-Government standards and other publications are normally available from the organizations that prepare or distribute the documents. These documents also may be available in or through libraries or other informational services.)

MIL-S-44016B

- * 2.3 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.

3. REQUIREMENTS

- * 3.1 First article. When specified (see 6.2), a sample shall be subjected to first article inspection (see 6.3), in accordance with 4.3.

3.2 Guide Sample. Samples, when furnished, are solely for guidance and information (see 6.4). Variations from the document may appear in the sample, in which case the document shall govern.

- * 3.3 Materials and components. Materials and components shall be as specified herein and on the drawings (see 2.1.2). It is encouraged that recycled material be used when practical as long as it meets the requirements of this specification.

3.3.1 Thread, polyester, cotton-covered and rayon-covered. The thread for stitching shall conform to ticket No. 30, 3 ply; ticket No. 50, 2 ply; and ticket No. 70, 2 ply of MIL-T-43548.

- * 3.3.1.1 Color and treatment. Thread shall be dyed Olive Drab S-1, C.A. 66022 and shall be water-repellent treated in accordance with type II, class 3 of MIL-T-3530. The dyed thread shall show fastness to laundering equal to or better than the standard sample (see 6.4). When no standard sample is available, the dyed thread shall show "good" fastness to laundering.

- * 3.3.2 Fastener, slide interlocking. The slide fastener shall be nylon or polyester continuous element (spiral, serpentine, or scoop type) size MHS, conforming to type III, style 1 of V-F-106, with the exception that the slider on chain initial opening force shall be as specified in 3.3.2.5 and the operating force after salt spray shall not apply.

- * 3.3.2.1 Slide fastener tape. The slide fastener tape shall be $1 \pm 1/16$ inch width and dyed to match Olive Drab S, C.A. 66519. The tape shall be durable water repellent treated as specified in V-F-106. The tape shall show fastness to laundering equal to or better than the standard sample (see 6.4). When no standard sample is available, the tape shall show "good" fastness to laundering.

- * 3.3.2.2 Color. The color of the element, element sewing threads, and thongs shall match the Olive Drab fastener tape, while the slider, straps, and stirrup pulls may be either Olive Drab or black.

MIL-S-44016B

- * 3.3.2.3 Fastener stops. The stops shall be made of plastic (nylon or polyester), brass, aluminum, or other non-corroding material and shall meet V-F-106 holding strength requirements. The closed bottom stop shall enclose the sides and ends of the fastener chain.
- * 3.3.2.4 Fastener length. The fastener length shall be such as to provide a smooth and secure closure and meet the requirements specified in Drawing 2-2-411.
- * 3.3.2.5 Fastener slider and stirrup pulls. The fastener shall have a reversible double pull, non-locking, slider with wire stirrup pulls and thongs attached. The slider shall properly fit the fastener chain and shall have an initial slider on chain opening force of not more than 22.9 oz. The stirrup pulls shall be fabricated from brass or corrosion resistant steel wire at 0.058 inches minimum diameter.
- * 3.3.2.6 Slider identification. For purposes of aiding in end-item inspection testing and possible field end-item repair situations, the slider shall be identified with a symbol or marking as to identify the fastener manufacturer.

3.3.3 Hood. The sleeping bag shall be furnished with a hood conforming to MIL-H-43879.

3.3.4 Labels and markings. The label for the instructions for use and maintenance, identification, and laundry instructions shall be a sewn-on or heat-sealed-on label. The direct marking specified in 3.3.4.1 and the label for the instructions for use and maintenance, identification, and laundry instructions shall conform to DDD-L-20 in the types and classes specified herein. If the heat-sealed label is used, the modifications specified in 3.3.4.5 shall be made applicable. The labels for the instructions for use and maintenance, identification, and laundry instructions shall be printed on one continuous length of cloth and shall be in the order shown on Drawing 2-2-410. The width of the label shall be not more than 5 inches and the length shall be governed by the contents. The sewn-on or heat-sealed label shall approximate Olive Green 107 as used in the base material for the inner panes specified in 3.3.1 and shall show colorfastness to laundering.

3.3.4.1 Marking. The letters "US" shall be applied to the sleeping bag in the location shown on Drawing 2-2-408 and shall conform to type III or IV, class 9 in solid black letters 2 inches high minimum (see 6.5). In addition, the following markings conforming to type III or IV, class 9 shall be applied on both sides of the sleeping bag in the location shown on Drawing 2-2-408 in characters 1/2 inch high minimum:

INTERMEDIATE COLD

The words "Intermediate Cold" shall not be abbreviated. The fastness of the class 9 markings shall be as specified for class 5 labels.

MIL-S-44016B

3.3.4.2 Instructions for use and maintenance. The instructions for use and maintenance shall conform to type VI, class 3 (except as modified in 3.3.4.5 if a heat-sealed label is used) in characters 3/32 to 1/8 inch high. All words shown in capital letters shall be 3/16 inch high minimum. Instructions for use and maintenance shall be as follows:

INSTRUCTION FOR USE

1. Keep the bag dry:

a. The outside fabric of the sleeping bag is water-repellent and will protect against moisture. SELECT the driest ground and if possible keep the bag out of the rain.

b. Breathe through face opening to prevent moisture from wetting the bag. If face is cold, reduce face opening by pulling drawstrings at head end. DO NOT TIE DRAWSTRINGS.

c. DO NOT wear damp clothing and AVOID sweating in bag. If too warm, open slide fastener for ventilation.

d. Open the bag completely and air thoroughly each day.

e. Use the mattress or foam mat under bag to protect from ground moisture.

2. To keep warm:

a. The mattress is insulated on one side only, therefore, use only with inflating tube on top side.

b. Wear clean dry winter underwear and socks in the bag. Additional dry clothing such as wool shirt and trousers may be worn in the bag for added warmth.

3. Keep bag CLEAN:

a. ALWAYS wear sleeping hood in bag.

b. Brush and clean clothing before entering bag.

c. Remove dirt and grease from sleeping bag by spot-cleaning with a damp cloth and soap.

4. Slide fastener closure:

To close bag, keep both sides of slide fastener close together before pulling webbing loop on slider. For EMERGENCY EXIT, grasp each side of the opening above the slider and spread quickly, forcing the slider downward.

MIL-S-44016B

NOTE: If chain separates below slider, pull slider down beyond separation, then pull up to reclose chain.

5. Snap fastener closure:

Use the snap fastener flap closure ONLY when the slide fastener fails. Close the bag by snapping the male and female parts together. For EMERGENCY EXIT, grasp each side of the opening above the snap and spread apart quickly.

6. DO NOT smoke in sleeping bag.

7. Maintenance:

Repair bag in accordance with D/A TM 10-8400-201-23.

3.3.4.3 Identification. The identification label shall conform to type VI, class 5 except as modified in 3.3.4.5 if heat-sealed label is used. The label shall be coated as specified for class 3 labels.

3.3.4.4 Laundry instructions. The laundry instruction labels shall conform to type VI, class 3, except as modified in 3.3.4.5 if heat-sealed label is used. The size of the print shall be 3/32 to 1/8 inch in height. All words shown in capital letters shall be 3/16 inch high minimum. The laundry instructions shall be as follows:

SYNTHETIC FILLED

Laundry in accordance with Natick Formulas - Formula IV.
(Caution - Drying temperature must be below 130°F)

DO NOT DRY CLEAN

3.3.4.5 Modification to label requirements for instructions for use and maintenance, laundry instructions and identification (heat-sealed method). The combined label conforming to 3.3.4.2, 3.3.4.3 and 3.3.4.4 shall be modified as required for application to the sleeping bag by heat-sealing. The back of the label shall have a heat activated adhesive coating. The heat sealed label shall meet the following requirements:

<u>Characteristic</u>	<u>Requirement</u>
Coated weight	6.1 to 8.3 ounces per square yard
Adhesion	5.0 pounds per inch, minimum
Hot soap resistance	4.0 pounds per inch, minimum

MIL-S-44016B

<u>Characteristic</u>	<u>Requirement</u>
Surface condition and legibility after heat-sealing	<u>1/</u>
Colorfastness	<u>2/</u>
<u>1/</u> When compared with unsealed labels there shall be no loss in legibility, smearing or bleeding of the print, discoloration, or any loss of the coating on the printed surface.	
<u>2/</u> The label, after heat-sealing, shall show colorfastness to laundering transference and accelerated laundering as specified for class 3 labels.	

3.4 Design. The design shall be as shown on the drawings listed in 2.1.2. The sleeping bag shall be of quilted construction with the outside and the inside panels, flap and weatherstrip filled with synthetic batting. The front opening shall be equipped with a slide fastener, a flap closure with snap fasteners along the front opening and adjustable face closure with drawstring.

3.4.1 Batting filled inner and outer panels and weatherstrip. The inner panels consisting of the synthetic batting and cotton balloon cloth and outer panels consisting of synthetic batting and oxford cloth shall be of quilted construction as shown on Drawing 2-2-410. Spacing of rows of stitching shall be $6 \pm 3/4$ inches. Location of rows relative to edges (length direction) of panels is optional. Sides and ends of panels shall also be stitched as shown on Drawing 2-2-410. Stitching shall be as specified in table I. As an option, the weatherstrip filling consisting of the synthetic batting may be quilted to the cotton balloon cloth in the same manner as above.

3.5 Patterns. The patterns shall be made by the contractor in accordance with dimensions shown on the applicable drawings. The patterns shall be laid out and cut within plus or minus 1/8 inch of each dimension.

3.6 Construction. The construction shall conform to the drawings listed in 2.1.2, table I and as specified herein.

3.6.1 Stitches, seams, and stitching. Stitch, seam, and stitching types as specified in table I, shall conform to FED-STD-751. When the seam type is not specified, it shall be as shown on the applicable drawing. When more than one method, seam, or stitch type is given for the same operation, any one of them may be used. When stitch type 401 is used, the looper thread shall lie between the inner and outer panels of the casing so that the looper thread is not exposed on either the outside or inside surfaces of the bag. In all sewing operations, the smallest practical needle size shall be used in order to prevent damage to the fabric.

MIL-S-44016B

3.6.1.1 Type 301 stitching. Ends of all stitching shall be backstitched or overstitched 1 inch minimum except when caught in other stitching or turned under in a hem. Thread tension shall be maintained so that there will be no loose stitching resulting in puckering of material sewn. The lock shall be embedded in the material sewn.

3.6.1.1.1 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 inch behind the end of the stitching. 1/

b. Thread breaks or two or more consecutive skipped or run-off stitches noted during inspection of the item (in-process or end item) shall be repaired by overstitching. The stitching shall start a minimum of 1 inch before the defective area (1/2 inch on box, box and cross and W-W stitching) and continue a minimum of 1 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. When damaged thread has been removed, needle holes do not constitute damage to the material. 1/

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

3.6.1.2 Type 401 stitching. Thread tension shall be maintained so that there will be no loose stitching. Both ends of all seams or stitching produced with a 401 stitch type, when not turned under in a hem or held down by other stitching, shall have a 3/4 to one inch chain extending beyond each end. All repairs shall be made using a 301 stitch accordance with 3.6.1.1.1a or 3.6.1.1.1b.

3.6.1.3 Types 502, 503, 504 and 505 stitching. Thread tension shall be maintained so that there will be no loose stitching. All repairs shall be in accordance with 3.6.1.1.1a. and 3.6.1.1.1b except substitute 3/4 inch for 1 inch wherever 1 inch appears. Stitching gage for overedge stitching shall be 1/4 ± 1/16 inch.

3.6.1.4 Bartacks. Unless otherwise specified, all bartacks shall be 1/2 ± 1/16 inch long and 1/8 ± 1/32 inch wide, and shall contain 28 stitches. Bartacking shall be free from thread breaks and loose stitching.

3.6.1.5 Use of automated equipment. Automated equipment may be used to perform any of the operations specified in table I, providing that the seam and stitch type areas specified and the finished component conforms to the required configurations.

MIL-S-44016B

3.6.1.6 Thread ends. All thread ends that are visible on the finished item shall be trimmed to a length of not more than 1/4 inch.

3.6.2 Repairs of open seams. Open seams found on quilted stitching or on outer or inner front and back panel joining seams which cannot be repaired in accordance with 3.6.1.1.1, 3.6.1.2 or 3.6.1.3 due to inaccessibility of the seam may be repaired as set forth below.

3.6.2.1 Quilted stitching. On the quilted stitching, one repair may be made to each sleeping bag to repair an open seam that is 2 inches or less in length. Using a single strand of 50-2 thread, hand stitch the open seam area using stitch type 202 of FED-STD-751 with 7 to 12 stitches per inch. Stitching shall begin and end a minimum of 1/2 inch beyond the ends of the open seam. At both the beginning and ending of the hand stitching, the ends of the open seam stitching shall be secured by encircling (tacking) the needle and the bobbin (or looper) thread of the seam with two turns of stitching. No more than a 1/8 inch wide bite of the fabric shall be encircled in the stitching ends. Both ends of the thread shall be knotted with an overhead knot firmly tied against the material. The outer ply of material on the opposite side of bag shall not be caught in the stitching.

3.6.2.2 Front and back panel outer and inner joining seams. Along the front and back panel inner or outer joining seam, one repair may be made to each sleeping bag to repair an open seam that is 3 inches or less in length. The open seam shall be repaired using seam type SSc-1, stitch type 301, size 50-2 thread with 10 to 14 stitches per inch. The stitching shall start and stop a minimum of 1 inch beyond the ends of the open seam. Stitch margin shall be 1/16 to 1/18 inch. Ends of stitching shall be secured as specified in 3.6.1.1.

3.6.3 Piecing. There shall be no piecing or splicing of components except as specified herein.

3.6.3.1 Inner panels and weatherstrip. The cotton balloon cloth for the inner panels and weatherstrip may be pieced once only in either the length or width direction. Pieced back and front panels shall be seamed with seam type SSn-1 or LSB-1, with the raw edges on the inside. Width of seam fold shall be $1/2 + 1/8$ inch with stitching $3/16 + 1/16$ inch from edge. Stitch type, stitches per inch and thread size shall be the same as specified in operation 7a of table I.

3.6.3.2 Tape. The 2-1/2 inch tape for the foundation strip may be pieced once in each bag. The 3/4 inch tape for foot straps may be pieced so that the seam will not be visible on the outside of the bag. Piecing of 3/4 inch tape shall be accomplished by overlapping the ends to be joined 1 inch with each raw edge turned under 1/2 inch and with the overlap boxstitched. Piecing of the 2-1/2 inch tape shall be accomplished by overlapping 1/2 inch of bottom piece and

MIL-S-44016B

1 inch of top piece with the top piece turned under 1/2 inch and the overlap boxstitched. Tolerance for dimensions specified above shall be $\pm 1/8$ inch. Stitch type for piecing tape shall be 301. Stitches per inch and thread size shall be as specified in operation 3b of table I. Stitch margin shall be $1/8 \pm 1/16$ inch.

3.6.3.3 Flap. The cotton and nylon oxford cloth in the flap may be pieced once in the lengthwise direction as shown in the alternate construction on Drawing 2-2-413. Stitch type, stitches per inch and thread size shall be as specified in operation 4 of table I.

3.6.4 Fusing of nylon lace ends. All ends of nylon lace shall be fused. The apparatus used to fuse the lace ends shall be capable of providing sufficient heat to provide a smooth edge with the cut ends of the lace yarns all fused together.

* 3.6.5 Setting of snap fasteners. A hole shall be prepunched through the materials before inserting the male or female part of the snap fasteners. The hole shall be smaller than the outside diameter of the fastener barrel so that the barrel must be forced through the hole. The hole shall not be punched in the setting operation with the button or eyelet barrel. The fasteners shall be securely clinched without cutting the adjacent material and no more than three splits shall occur in the button or eyelet barrels.

* 3.6.6 Repairs. Repairs such as mends, darns, patches or splices are not permitted on the sleeping bag.

3.6.7 Replacement of defective components. During the spreading, cutting and manufacturing process, components of the sleeping bag having material defects or damages that are classified as defects in 4.4.3 shall be removed from production and replaced with non-defective and properly matched components.

3.7 Manufacturing operations requirements. The sleeping bag shall be made by and with the use of all operations specified in table I. Unless otherwise specified in table I, the contractor is not required to follow the exact sequence of operations listed. Any additional basting or holding stitching used to facilitate manufacture are permissible, providing the thread is removed or does not show on the sleeping bag.

3.8 Location marks. Location marks shall not be drilled except for marking location of the instruction/care label. Drill holes for this purpose shall be covered by the label, otherwise, exposed drill holes shall be considered to be holes in the fabric.

3.9 Workmanship. The finished sleeping bag shall conform to the quality of product established by this specification and the occurrence of defects shall not exceed the applicable acceptable quality levels.

NO.	TABLE I. MANUFACTURING OPERATIONS REQUIREMENTS	STITCH TYPE	SEAM AND STITCHING TYPE	STITCHES PER INCH	THREAD	
					NEEDLE	BOBBIN/ LOOPER COVER
1.	<p><u>Cutting.</u></p> <p>a. The inner and outer panels shall be cut in strict accordance with the measurements shown on the applicable drawings.</p> <p>b. All parts shall be cut on the straight of the material, that is, in the warp direction, except that the weatherstrip balloon cloth may be cut on the straight or across the material.</p>					
2.	<p><u>Apply markings and labels.</u></p> <p>a. Apply marking "US" and the type of sleeping bag at foot and end of bag as specified in 3.3.4.1. The marking "Intermediate Cold" shall be applied to both sides of the bag.</p> <p>b. Place the combined label for use and maintainance, identification, and laundry instructions in the location shown on Drawing 2-2-410 and attach to inner back panel. If stitched method is used, stitch on all four sides 1/16 to 1/8 inch from edge.</p> <p>If heat-sealed method is used, apply with a heat-sealing machine designed for patch and label application and equipped for automatic regulation of temperature, dwell time, and dwell pressure. The maximum temperature allowed for heat sealing the label is 390°F. Application by hand iron is not permissible. The component of the heat-sealing apparatus coming in contact with the surface of the label shall be cleaned whenever necessary to prevent smearing of the label. The label shall read from head end of bag to foot end.</p>	301		8-10	50-2	50-2

NO.	TABLE I. (cont'd) MANUFACTURING OPERATIONS REQUIREMENTS	STITCH TYPE	SEAM AND STITCHING TYPE	STITCHES PER INCH	THREAD		
					NEEDLE	BOBBIN/ LOOPER	COVER
3.	<u>Make front straps.</u> a. Straps shall be made of the 3/4 inch tape cut to a length to provide for the inside loop, the space between the inner and outer panels of the casing and the exposed portion of the foot strap as shown on Drawing 2-2-408. b. Double fold each end of the tape 3/4 + 1/4 inch and bartack or 301 stitch. Center stitching on fold.	1/2 inch bartack or 301	EFb-1	28 per bartack 8-10	50-2 50-2	50-2 50-2	
4.	<u>Make flap assembly.</u> a. Make flap assembly in accordance with Drawing 2-2-413. The stitching shall be type 301 except type 401 may be used for the row of quilting stitching.	301 401		8-10 8-10	50-2 50-2	50-2 70-2	
5.	<u>Make weatherstrip.</u> a. The weatherstrip shall be made in accordance with Drawing 2-2-411. Stitching shall conform to type 301 except tape may be sewn on with type 301 or 401.	301 or 401		8-10 8-10	50-2 50-2	50-2 70-2	
6.	<u>Make slide fastener - weatherstrip assembly.</u> a. The slide fastener - weatherstrip assembly shall be made in accordance with Drawing 2-2-411 or the optional method shown in optional section B-B on Drawing 2-2-412.	301		8-10	30-3	30-3	

NO.	TABLE I. (cont'd) MANUFACTURING OPERATIONS REQUIREMENTS	STITCH TYPE	SEAM AND STITCHING TYPE	STITCHES PER INCH	THREAD	
					NEEDLE	BOBBIN/ LOOPER COVER
7.	<p><u>Make batting/oxford cloth quilted from outer panels (typical left and right sides).</u></p> <p>a. The outer front panel shall be made of one ply of cotton/nylon oxford cloth and a layer of synthetic batting which will be the sleeping bag casing outer ply. The batting shall be the same size as the outer ply cloth and shall be quilted to the oxford cloth as shown on Drawing 2-2-410 and as specified in 3.4.1.</p> <p>b. Stitch batting to oxford cloth along four edges as shown on Drawing 2-2-410</p>	301 or 401	SSa-1 SSa-1	6-10 6-10	50-2 50-2	50-2 70-2
8.	<p><u>Make batting/balloon cloth quilted front inner panels (typical left and right sides).</u></p> <p>a. The inner front panel shall be made of one ply of one cotton balloon cloth, and a layer of synthetic batting which will be the sleeping bag casing inner ply. The batting shall be the same size as the inner ply and shall be quilted to the balloon cloth as shown on Drawing 2-2-410 and as specified in 3.4.1.</p> <p>b. Stitch batting to balloon cloth along four edges as shown on Drawing 2-2-410.</p>	301 or 401	SSa-1 SSa-1	6-10 6-10	50-2 50-2	50-2 70-2
		301 or 401 or 502, 503 504 or 505	SSa-1 SSa-1 SSa-1	6-10 6-10 6-10	50-2 50-2 70-2	50-2 70-2 70-2
		301 or 401	SSa-1 SSa-1	6-10 6-10	50-2 50-2	50-2 70-2
		301 or 401 or 502, 503, 504 or 505	SSa-1 SSa-1 SSa-1	6-10 6-10 6-10	50-2 50-2 70-2	50-2 70-2 70-2

NO.	TABLE I. (cont'd) MANUFACTURING OPERATIONS REQUIREMENTS	STITCH TYPE	SEAM AND STITCHING TYPE	STITCHES PER INCH	THREAD	
					NEEDLE	BOBBIN/ LOOPER COVER
9.	Join inner and outer front panels (<u>typical left and right sides</u>).					
	a. Join the inner and outer front panels with row of stitching along the front opening using one of the two methods shown on Drawing 2-2-410.	301 or 401 or 502, 503 504 or 505	SSa-1 SSa-1 SSa-1	6-10 6-10 6-10	50-2 50-2 70-2	50-2 70-2 70-2
10.	<u>Form front panel sub-assembly by joining left and right front panels.</u>					
	a. Starting at the foot end of the panels and proceeding up to the notch or starting at the notch and proceeding to the foot end of the panels, stitch inner plies of both panels together as shown on Drawing 2-2-412.	301 or 401	SSa-1 SSa-1	10-14 10-14	50-2 50-2	50-2 70-2
	b. Starting at the foot end of the panels and proceeding up to the notch or starting at the notch and proceeding to the foot end of the panels, stitch outer plies of both panels together as shown on Drawing 2-2-412.	301 or 401	SSa-1 SSa-1	10-14 10-14	50-2 50-2	50-2 70-2
11.	<u>Attach reinforcement tape to notch of front panel sub-assembly.</u>					
	a. Stitch a 3/4 inch wide reinforcement tape to the inside of the front panel assembly to reinforce the notch. Size, location and stitching shall be as shown on Drawing 2-2-412.	301		8-10	30-3	30-3

NO.	TABLE I. (cont'd) MANUFACTURING OPERATIONS REQUIREMENTS	STITCH TYPE	SEAM AND STITCHING TYPE	STITCHES PER INCH	THREAD	
					NEEDLE	BOBBIN/ LOOPER COVER
12.	<p><u>Attach slide fastener - weatherstrip assembly to front panel sub-assembly.</u></p> <p>a. Position the edges of the front panels between the slide fastener and foundation strips of the slide fastener - weatherstrip assembly as shown on Drawing 2-2-412 and stitch with two rows of stitching on each side, catching the front panels with both rows of stitching as shown on Drawing 2-2-412. The weatherstrip balloon cloth shall not be caught in the stitching.</p> <p>b. At the foot end, bartack in three places as specified on Drawing 2-2-412.</p> <p><u>Attach male snap fasteners.</u></p> <p>a. Attach male snap fasteners on the slide fastener guard strip as shown on Drawing 2-2-412.</p> <p>b. Attach each snap fastener retainer to front panel sub-assembly with two 1/2 inch bartacks as specified on Drawing 2-2-412.</p> <p><u>Make batting/oxford cloth outer back panel.</u></p> <p>a. The outer back panel shall be made of one ply of the cotton/nylon oxford cloth which will be the sleeping bag casing outer ply, and a layer of synthetic batting. The batting shall be the same size as the casing outer ply and shall be quilted to the oxford cloth as shown on Drawing 2-2-410 and as specified in 3.4.1.</p>	301	SSa-2	8-10	30-3	30-3
13.		1/2 inch bartack		28 per bartack	30-3	30-3
14.		1/2 inch bartack		28 per bartack	30-3	30-3
		301 or 401	SSa-1 SSa-1	6-10 6-10	50-2 50-2	50-2 70-2

NO.	TABLE I. (cont'd) MANUFACTURING OPERATIONS REQUIREMENTS	STITCH TYPE	SEAM AND STITCHING TYPE	STITCHES PER INCH	THREAD		
					NEEDLE	BOBBIN/ LOOPER	COVER
14.	Make <u>batting/oxford cloth outer back panel</u> . (cont'd) b. The edges along the sides and foot end of the panel shall be stitched as shown on Drawing 2-2-410.	301 or 401 or 502, 503, 504 or 505	SSa-1 SSa-1 SSa-1	6-10 6-10 6-10	50-2 50-2 70-2	50-2 70-2 70-2	
15.	Make <u>batting/balloon cloth quilted inner back panel</u> . a. The inner back panel shall be made of one ply of cotton balloon cloth, which will be the sleeping bag casing inner ply, and a layer of synthetic batting. The batting shall be quilted to the balloon cloth as shown on Drawing 2-2-410 and as specified in 3.4.1. b. The edges along the sides and foot end of the panel shall be stitched as shown on Drawing 2-2-410.	301 or 401	SSa-1 SSa-1	6-10 6-10	50-2 50-2	50-2 70-2	
16.	<u>Seam front panels to back panels</u> . a. Stitch outer ply of each front panel to the outer ply of the back panel as shown on Drawing 2-2-408, starting at the top end forming the shoulder seam and continue stitching the full length of the sides of the panels. b. Stitch inner ply of each front panel to the inner ply of the back panel the full length of the sides and shoulder seam as shown on Drawing 2-2-408. The batting shall be fully caught along the length of the seam.	301 or 401	SSa-1 SSa-1 SSa-1	6-10 6-10 6-10	50-2 50-2 70-2	50-2 70-2 70-2	
		301 or 401	SSa-1 SSa-1	8-10 8-10	30-3 30-3	30-3 50-2	
		301 or 401	SSa-1 SSa-1	8-10 8-10	30-3 30-3	30-3 50-2	

NO.	TABLE I. (cont'd) MANUFACTURING OPERATIONS REQUIREMENTS	STITCH TYPE	SEAM AND STITCHING TYPE	STITCHES PER INCH	THREAD	
					NEEDLE	BOBBIN/ LOOPER COVER
17.	<p><u>Form head end of bag.</u></p> <p>a. Close outer ply of casing at head end by joining edges and stitching as shown on Drawing 2-2-408. The batting shall be fully caught along the length of the seam.</p> <p>b. Close inner ply of casing at head end by joining edges and stitching as shown on Drawing 2-2-408. The batting shall be fully caught along the length of the seam.</p>	301	SSa-1	10-14	50-2 30-3	50-2 30-3
18.	<p><u>Seam foot end.</u></p> <p>a. Seam outer plies of casing at the foot end with the foot straps located and caught in the seam as shown on Drawing 2-2-408.</p> <p>b. Bartack each foot strap through outer plies of casing as shown on Drawing 2-2-408.</p> <p>c. Turn the joined sleeping bag inside out through the open foot end so that the outer plies are on the outside of the bag.</p> <p><u>Close bag at foot end.</u></p> <p>a. Turn the edges of the inner ply at the foot end of the bag to the inside and double stitch, crossing the foot end of the bag catching the footstraps in the stitching as shown on Drawing 2-2-408. The exposed portion of the loop of each footstrap and the distance between the stitching of the outer ply and inner ply of the casing shall be as shown on Drawing 2-2-408.</p>	301 301 or 401 1/2 inch bartack 301	SSa-1 SSa-1	8-10 8-10 28 per bartack 8-10	50-2 30-3 30-3 50-2	50-2 30-3 50-2 30-3
19.						

NO.	TABLE I. (cont'd) MANUFACTURING OPERATIONS REQUIREMENTS	STITCH TYPE	SEAM AND STITCHING TYPE	STITCHES PER INCH	THREAD	
					NEEDLE	BOBBIN/ LOOPER COVER
20.	<u>Trim face opening.</u> a. Trim the top ends (left and right sides) of weatherstrip assembly at approximately 30 degree angle parallel to the face opening.					
21.	<u>Seam edges of face opening (optional).</u> As an option, edges of face opening may be seamed as shown on Drawing 2-2-408. Head seams of outer and inner plies of the casing shall finish seam on seam within 1/4 inch.	301 or 401	SSa-1 SSa-1	6-10 6-10	50-2 50-2 30-3	50-2 70-2 50-2
22.	<u>Make face closure drawstring casing.</u> a. Cut draw string casing of the required length and width, as shown on Drawing 2-2-408 from cotton/nylon oxford cloth. Double fold each end of casing and stitch as shown in section A-A, on Drawing 2-2-408. b. Evenly fold casing in half in length direction. At each end, bartack through double folded hem with a 1/2 inch bartack positioned parallel with length of casing and located 7/16 + 1/16 inch from the outer folded side edge and 1/8 + 1/16 inch from the end of the casing.	301 1/2 inch bartack	EFb-1	8-10 28 per bartack	50-2 50-2	50-2

NO.	TABLE I. (cont'd) MANUFACTURING OPERATIONS REQUIREMENTS	STITCH TYPE	SEAM AND STITCHING TYPE	STITCHES PER INCH	THREAD	
					NEEDLE	BOBBIN/ LOOPER COVER
23.	<p>Make and install drawstrings in casing.</p> <p>a. Cut two drawstrings $30 + 1/2$ inches long from nylon lace and fuse cut ends (see 3.6.4). Knot one end of each drawstring with a figure eight as specified on Drawing 2-2-408.</p> <p>b. At one end of casing, pass the unknotted end of one drawstring through opening formed by bartack and position drawstring within the casing with the unknotted end protruding approximately 2 inches from the other end of casing and on opposite side of bartack, i.e., not within the opening formed by the bartack. Install the other drawstring in the same manner except start from other end of casing.</p>					
24.	<p>Attach face closure drawstring casing to face opening.</p> <p>a. With drawstrings in proper position within the casing and casing evenly folded along its length, position casing on inside surface of face opening with the two aligned edges positioned even with the edge of the face opening and the ends located even with the outer edge of the slide fastener tape, on the left side $+ 1/4$ inch, and the casing shall be positioned on the right side $1/2$ inch from edge of fastener tape $+ 1/4$ inch. Stitch casing to face opening with row of stitching located $3/8 + 1/16$ inch from edge of face opening. Head seams of outer and inner plies of the casing shall finish seam on seam within $1/4$ inch.</p>	301	SSa-1	8-10	30-3	30-3

NO.	TABLE I. (cont'd) MANUFACTURING OPERATIONS REQUIREMENTS	STITCH TYPE	SEAM AND STITCHING TYPE	STITCHES PER INCH	THREAD	
					NEEDLE	BOBBIN/ LOOPER COVER
24.	<p>Attach face closure drawstring casing to face opening. (cont'd)</p> <p>b. On right side of face opening, fold the end of drawstring, that is unknotted, under 3/8 to 1/2 inch and position folded edge even with end of 1-1/4 inch wide slide fastener foundation strip and abutted against the end of the drawstring casing. Bartack through the folded end of the drawstring and slide fastener guard strip with a 1/2 inch bartack running parallel with length of drawstring.</p> <p>c. Secure unknotted end of drawstring on left side of face opening in the same manner as in operation 24b above, with folded edge even with end of 1-1/4 inch wide slide fastener left guard strip and with bartack passing through weatherstrip.</p>	1/2 inch bartack		28 per bartack	30-3	30-3
25.	<p><u>Bind face opening.</u></p> <p>a. Bind the face opening with 1-1/4 inch tape as shown on Drawing 2-2-408. Binding shall also encompass the ends of the weatherstrip, including foundation strip, and the slide fastener guard strip on the left side and on the right side the end of the slide fastener foundation strip.</p> <p>b. Ends of binding tape shall be turned under and box stitched as shown on Drawing 2-2-408.</p> <p><u>Clean bag.</u></p> <p>Trim all loose ends of the thread to a length of not more than 1/4 inch and remove from bag. Remove all spots and stains.</p>	301	BSa-2	8-10	30-3	30-3
26.		301	EFa-1	8-10	30-3	30-3

MIL-S-44016B

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 (examinations and tests) as specified herein. Except as otherwise specified in the contract or purchase 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 this specification where such inspections are deemed necessary to ensure supplies and services conform to prescribed requirements.

* 4.1.1 Responsibility for compliance. All items shall meet all requirements of sections 3 and 5. The inspection set forth in this specification shall become a part of the contractor's overall inspection system or quality program. The absence of any inspection requirements in the specification shall not relieve the contractor of the responsibility of ensuring that all products or supplies submitted to the Government for acceptance comply with all requirements of the contract. Sampling inspection, as part of manufacturing operations, is an acceptable practice to ascertain conformance to requirements, however, this does not authorize submission of known defective material, either indicated or actual, nor does it commit the Government to accept defective material.

* 4.1.2 Responsibility for dimensional requirements. Unless otherwise specified in the contract or purchase order, the contractor is responsible for ensuring that all specified dimensions have been met. When dimensions cannot be examined on the end item, inspection shall be made at any point, or at all points in the manufacturing process necessary to assure compliance with all dimensional requirements.

4.2 Classification of inspections. 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 3.1 and 6.2), it shall be examined for the defects specified in 4.4.3 and 4.4.4.

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 all the requirements of referenced documents unless otherwise excluded, amended, modified, or qualified in this specification or applicable purchase document.

MIL-S-44016B

4.4.1.1 Component testing. Testing shall be performed on the heat-sealed label (when used) as specified in table II. The lot size shall be expressed in terms of labels. The sample unit shall be as specified in table II. The inspection level shall be S-1. Unless otherwise specified, the lot shall be unacceptable if one or more sample units fail to meet any test requirement specified.

TABLE II. Component testing of labels (heat sealed)

Characteristic	Requirement paragraph	Test procedure	Requirements applicable to	No. determinations sample unit	Results reported to	Sample unit
Coated weight	3.3.4.5	5041 1/	Sample unit	1	Nearest 0.1 oz/sq yd	5 labels
Adhesion	3.3.4.5	4.5.1.2	Sample unit	5	Nearest 0.1 lb	5 specimens
Hot soap resistance	3.3.4.5	4.5.1.3	Sample unit	5	Nearest 0.1 lb	5 specimens
Colorfastness	3.3.4.5	2/	--		--	--

1/ Test method FED-STD-191.

2/ Labels shall be tested for colorfastness to laundering transference and accelerated laundering as specified in DDD-L-20 for class 3 labels except the labels shall consist of specimens which have been heat-sealed to cotton balloon cloth used for the inner panel and which were heat-sealed in the same manner as done for the preparation of the specimens for the adhesion and hot soap resistance test.

4.4.2 In-process inspection. Inspection of subassemblies shall be made to ascertain that construction details which cannot be examined in the finished product are in accordance with specified requirements. This examination shall include inspection of the inner front and back panels to assure that the batting is caught in the stitching along the entire length of the side edges and also inspection of the front and back panel joining seams to assure that the correct seam allowance is being used. Whenever nonconformance is noted, corrections shall be made to the parts affected and lot in-process. Parts which cannot be corrected shall be removed from production. The Government reserves the right to exclude from consideration for acceptance, any material or service for which in-process has indicated nonconformance.

MIL-S-44016B

4.4.2.1 In-process testing. Testing shall be performed on the heat-sealed label (when used) in accordance with 4.5.2 to determine conformance to the label adhesion requirement specified in 3.3.4.5. The lot size shall be expressed in terms of inner back panels (sewed or unsewed). The sample unit shall be sufficient inner back panels or unfilled casings to prepare the required number of test specimens (see 4.5.2.1). The inspection level shall be S-1. The results shall be reported to the nearest 0.1 pound. Failure of the average of specimen results on any sample unit to meet the requirement specified shall be cause for rejection of the lot.

4.4.3 End item visual examination. The end items shall be examined for the defects listed in table III. The lot size shall be expressed in units of one sleeping bag. The sample unit shall be one finished sleeping bag. The inspection level shall be II and the acceptable quality level (AQL), expressed in terms of defects per hundred units, shall be 2.5 for major defects and 25 for total (major and minor combined) defects.

TABLE III. End item visual defects

Examine	Defect	Classification	
		Major	Minor
Fabric	Hole, cut, or tear	101	
	Any abrasion mark, smash, large slub, broken or missing yarn, multiple float, or open place clearly visible at normal inspection distance	102	
	Fine or coarse filling bar		201
	Any mend, darn, patch, or unauthorized splice	103	
	Needle chews	104	
NOTE: Needle holes visible as the result of broken or skipped stitching or stitching that has been removed shall not be considered as needle chews providing that the holes are spaced as in normal stitching.			
Webbing and tape	Cut or frayed edge	105	
	Not firmly and tightly woven		202
	Needle chews:		
	-up to 1/8 inch in length		203
	-over 1/8 inch in length	106	

MIL-S-44016B

TABLE III. End item visual defects (cont'd)

Examine	Defect	Classification	
		Major	Minor
Open seams:	NOTE: A seam shall be classified as open when one or more stitches joining a seam are broken or when two or more consecutive skipped or run-off stitches occur. On double-stitched seams, a seam shall be considered open when either one or both sides of the seam are open.		
On quilted stitching (applicable to inner and outer panels - individual seams)			204
On all seams other than above	1/2 inch or less		205
	More than 1/2 inch	107	
	Any open seam on both rows of double stitched seams	108	
Raw edges (when securely caught in stitching):			
Along face and front opening	1/2 inch or more		206
On all other parts of bag	One inch or more		207
	NOTE: Raw edges not securely caught in stitching shall be classified as open seams.		
Seam and stitch type	Wrong seam or stitch type	109	
Stitch tension	Loose tension, resulting in a loose top or bottom thread		208
	Excessively tight tension resulting in puckering of material		209

MIL-S-44016B

TABLE III. End item visual defects. (cont'd)

Examine	Defect	Classification	
		Major	Minor
	NOTE: Defects to be scored only when the condition exists for 4 inches or more or in several areas with an accumulated distance of 8 inches or more. Applicable to individual seams.		
Stitches per inch	One to two less than minimum specified		210
	Three or more less than minimum specified	110	
	One or more in excess of maximum specified		211
	NOTE: (1) Variation in the number of stitches per inch caused by operator speeding up the machine and pulling the material in order to sew over heavy places, or in turning corners shall be classified as follows:		
	(a) Within the minor defect classification - no defect		
	(b) Within the major defect classification - minor defect		
	(2) Defect to be scored only when condition exists on any one seam for a length of 6 inches or more or when the combined length of several areas exceeds 10 inches		
Rows of stitching	Any row omitted (unless otherwise classified herein)	111	
Stitching for joining from panels to slide fastener - weatherstrip assembly	On inside of the bag, one row of stitching run-off slide fastener - weatherstrip assembly: -for a distance of 3 inches up to 8 inches or in several areas with an accumulated distance of 8 to 12 inches		212

MIL-S-44016B

TABLE III. End item visual defects. (cont'd)

Examine	Defect	Classification	
		Major	Minor
	-for a distance of more than 8 inches or in several areas with an accumulated distance of more than 12 inches	112	
	On inside of bag, both rows of stitching run-off slide fastener - weatherstrip assembly; or on outside of bag, one or both rows of stitching run-off slide fastener - weatherstrip assembly. (Classify in accordance with "Thread breaks, skipped stitches, or run-off" defect)		
Stitching ends	Ends of stitching not secured as specified (except when caught in other seams or stitching)		213
Thread breaks, skipped stitches, or run-offs (unless otherwise classified herein)	Overstitched less than 1 inch in each direction beyond the defective stitching area		214
	NOTE: Thread breaks, or two or more consecutive skipped or run-off stitches not overstitched shall be classified as open seams.		
Bartacks	Stitching loose, incomplete, or broken		215
	Any bartack omitted	113	
	Any bartack misplaced or not serving intended purpose	114	
Components and assembly	Any component part omitted or not as specified or required operation omitted (unless otherwise classified)	115	
	Any seam badly puckered, twisted, or pleated		216

MIL-S-44016B

TABLE III. End item visual defects (cont'd)

Examine	Defect	Classification	
		Major	Minor
Components and assembly (cont'd)	Repairs of open seams allowed by 3.6.2:		
	-not performed as specified		217
	-more than one of either type made per sleeping bag. (Applicable to each repair over amount allowed)		218
	Any related part of bag caught in a seam	116	
	Material for inner panel used for outer panel or vice versa	117	
	Any unauthorized repair	118	
Piecing:			
Flap	Cover of flap is constructed from more than two pieces		219
	Location and method of piecing not as specified		220
Inner panel and weatherstrip	Any balloon cloth part of inner panel or weatherstrip constructed with more than two parts		221
Foundation strip (2-1/2 inch tape) and foot straps	Strip or straps constructed with more than two pieces		222
	Location and method of piecing not as specified		223
Quilted channels	Number of channels less than specified	119	
	Badly twisted between rows of channel stitching		224
	Excessive puckering or pleats		225
Instruction and identification labels	Omitted, misplaced, data not as specified, illegible		226
	Any area around periphery of label not adhered exceeding 1 inch in length and more than 1/8 inch in from edge of label (applicable to heat-sealed label)		227
	Searing or bleeding of print, discoloration, or loss of coating on printed surface		228

MIL-S-44016B

TABLE III. End item visual defects. (cont'd)

Examine	Defect	Classification	
		Major	Minor
Letters "US" and "Intermediate cold" marking	Omitted, illegible, misplaced, or not specified type		229
	"Intermediate cold" marking not applied to both sides of bag		230
Cleanness	Spots or stains, clearly noticeable; thread ends not trimmed as specified		231
Face opening	Binding twisted or pleated, causing excessive puckering or pleats at face opening		232
	Ends of binding not finished as specified		233
	Free ends of drawstrings not knotted or any end not seared		234
	Ends of drawstrings not secured as specified		235
Snap fasteners, general	Not specified style	120	
	Finish omitted or not as specified		236
	One or more omitted, broken or malformed failing to serve intended purpose; burrs; or sharp edges	121	
	Insecurely clinched to a degree that one or more fasteners may be detached from flap or tape; one or more excessively clinched cutting adjacent material		237
	Four or more splits in button or eyelet barrel		238
	Edge of male snap fastener projects more than 1/16 inch beyond edge of webbing	122	
Slide Fastener	Not specified type or size	123	
	Does not provide a smooth and secure closure full length of bag opening	124	
	Slider jams or fails to interlock chain scoops	125	
	Any portion of fastener broken, bent, missing, or not aligned making fastener unusable	126	
	Fastener tape width not as specified	127	
	Color not as specified		239

MIL-S-44016B

TABLE III. End item visual defects. (cont'd)

Examine	Defect	Classification	
		Major	Minor
Slide fastener (cont'd)	Fastener tape not 1 inch wide	128	
	Slider not double pull, not furnished with two stirrup pulls, or stirrup pulls not made out of wire	129	
	Thong(s) omitted	130	
	Chain not plastic or not of the configuration specified	131	
NOTE: The slide fastener shall be fully closed and opened to determine whether fastener operates smoothly and provides a secure closure.			
Slide fastener - weatherstrip and flap assembly	Stitching too close to chain, preventing slider from sliding freely	132	
	Top end of fastener guard strip not fully and securely caught in face opening binding	133	
	End at bottom end not turned under		240
	Ends of foundation strip at bottom end of fastener assembly not folded and stitched		241
	Bartacks at bottom of assembly do not pass through reinforcement tape	134	
	Weatherstrip placed on right side in lieu of left side of front opening		242
	Top end of weatherstrip not fully caught in binding of face opening		243
	Batting not tucked in when closing weatherstrip or flap along side and ends for a distance of 1/2 inch or more		244
	Tube portion of weatherstrip caught in slide fastener assembly stitching, in bartacks at base opening, or in fastener webbing retainers		245
	Not assembled as specified		246
	Not stitched on all four sides of reinforcement		247
	Set on outside of bag		248
Foot straps	One or both pair of foot straps omitted	135	
	Single straps used instead of pairs	136	

MIL-S-44016B

TABLE III. End item visual defects. (cont'd)

Examine	Defect	Classification	
		Major	Minor
Foot straps (cont'd)	Free ends of straps not finished as specified		249
	One or both bartacks reinforcing foot seam through foot straps omitted or misplaced, failing to serve intended purpose		250
NOTE: The bartacks are not visible from outside of foot seam. Their position can be determined by feeling foot seam.			

4.4.4 End item dimensional examination. The end items shall be examined for the defects listed in table IV. Only those dimensions that can be evaluated without damaging or disassembling the end items shall be examined. The lot size shall be expressed in units of sleeping bags. The sample unit shall be one sleeping bag. The inspection level shall be S-3 and the AQL, expressed in terms of defects per hundred units, shall be 4.0 for major defects and 15 for total (major and minor combined) defects.

TABLE IV. End item dimensional defects.

Examine	Defect	Classification	
		Major	Minor
Face opening	Head seam of outer and inner ply not finished seam on seam by more than 1/4 inch		201
Front opening	Top ends uneven by more than 5/8 inch (with slide fastener fully closed)		202
Flap	Foot end does not finish within the specified tolerance relative to the ends of the slide fastener tapes		203
Snap fastener(s)	Any female snap fastener mislocated on flap in excess of tolerance but not more than 1/8 inch		204
	Edge of male snap fastener projects more than 1/16 inch beyond edge of webbing		205

MIL-S-44016B

TABLE IV. End item dimensional defects. (cont'd)

Examine	Defect	Classification	
		Major	Minor
Snap fasteners (cont'd)	Any female snap fastener mislocated on flap in excess of tolerance by more than 1/8 inch causing inability to secure snap fastener without causing excessive puckering of flap	101	
	Any male portion of snap fastener mislocated to the degree that female portion of snap fastener on flap cannot be engaged without causing excessive puckering <u>1/</u>	102	
	<u>1/</u> For this defect all snaps on the flap shall be secured prior to performing the examination		
Slide fastener	Outer edges of chains: -protrude up to 1/16 inch beyond edge of guard strip or foundation strip		206
	-protrude more than 1/16 inch beyond edge of guard strip or foundation strip	103	
NOTE: Defects to be scored only if condition exists for a distance of 8 inches or more or in several areas with an accumulated distance of 12 inches or more.			
	Lower edge of stop at bottom end of chain located: -less than 1 inch but not less than 1/2 inch below notch at foot end of casing		207
	-less than 1/2 inch below notch at foot end of casing	104	
Foot straps	Finished length less than 25-1/2 inches or more than 26-1/2 inches		208
	Located less than 4-1/4 inches or more than 4-3/4 inches from center of foot end of bag to edge of foot straps		209

MIL-S-44016B

TABLE IV. End item dimensional defects. (cont'd)

Examine	Defect	Classification	
		Major	Minor
Foot straps (cont'd)	Loops on inside of bag less than 3/4 inch or more than 1-1/4 inches in length		210
Weatherstrip	Foot end extends below notch at foot end of bag: -less than 2 inches but not less than 1 inch -less than 1 inch	105	211
Notch reinforcement tape at foot opening	Less than 2-3/4 inches or more than 3-1/4 inches in length Not centered on seam at foot end by more than 1/4 inch		212 213
Quilted channels	Any channel width exceeds tolerance: -up to 1/4 inch -by more than 1/4 inch	106	214
	NOTE: Defects to be scored only when condi- tion exists for 8 inches or more, or in several areas with an accumulated distance of 12 inches or more. Applicable to each individual seam.		
Stitch margin or gage (not other- wise classified herein)	Exceeds specified tolerance		215
	NOTE: Defect to be scored only when condition exists on major portion of seam. Applicable to each individual seam.		
Component and location dimensions not otherwise classified herein	Not within specified tolerance		216

MIL-S-44016B

- * 4.4.5 Packaging examination. The fully packaged end items shall be examined for the defects listed below. The lot size shall be expressed in units of shipping containers. The sample unit shall be one shipping container fully packaged. The inspection level shall be S-2 and the AQL, expressed in terms of defects per hundred units, shall be 2.5.

<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 sealing or closure of flap, improper taping, loose strapping or inadequate stapling Bulged or distorted container
Content	Number per container is more or less than required

- * 4.4.6 Palletization examination. The fully packaged and palletized end items shall be examined for the defects listed below. The lot size shall be expressed in units of palletized unit loads. The sample unit shall be one palletized unit load, fully packaged. The inspection level shall be S-1, and the AQL, expressed in terms of defects per hundred units, shall be 6.5.

<u>Examine</u>	<u>Defect</u>
Finished dimensions	Length, width, or height exceeds specified maximum requirements
Palletization	Pallet pattern not as specified Load not bonded as specified
Weight	Exceeds maximum load limits
Marking	Omitted; incorrect; illegible; of improper size, location, sequence, or method of application

MIL-S-44016B

4.5 Methods of inspection.

4.5.1 Component testing of labels (heat sealed).

4.5.1.1 Preparation of samples for component testing. A label of the required size conforming to 3.3.4 shall be heat-sealed to a single ply of the cotton balloon cloth material used on the inner panel. The warp thread directions of the label material and cotton balloon cloth shall be aligned. The label shall be heat-sealed to the cotton balloon cloth material using the same type of equipment and under the same conditions of time, temperature, and pressure as to be used in production of the sleeping bag. One end of the label shall be left unsealed a sufficient distance to provide tabs for subsequent testing. After heat-sealing the sample shall be cooled for a minimum of 10 seconds and then carefully removed from the heat-sealing apparatus without stressing the bonded area. The sample shall then be allowed to remain at room temperature for 1 hour minimum. The sample prepared as specified above shall be prepared for testing by cutting the sample into strips $1 \pm 1/32$ inch wide along the long dimension of the label.

4.5.1.2 Adhesion test. Five $1 \pm 1/32$ inch wide specimens, prepared as specified in 4.5.1.1, shall be tested for adhesion in accordance with Method 5960 of FED-STD-191.

4.5.1.3 Hot-soap resistance test. Five $1 \pm 1/32$ inch wide specimens, prepared as specified in 4.5.1.1, shall be tested for hot-soap resistance. The five specimens shall be submerged in 500 ml of a 1/4 percent by weight solution of high titer laundry soap conforming to type I, class 1 or 2 of P-S-1792, maintained at $160^{\circ}\text{F} \pm 5^{\circ}\text{F}$ for 1 hour minimum. The specimens shall then be rinsed in a beaker kept overflowing with hot tap water (130° to 140°F) for approximately 2 minutes, and then shall be given a final rinse for approximately 2 minutes in water maintained at a temperature of $70^{\circ}\text{F} \pm 5^{\circ}\text{F}$. The specimens shall then be tested while wet, within 1 hour, for adhesion in accordance with Method 5960 of FED-STD-191.

4.5.2 In-process test of labels heat-sealed to sleeping bag during production.

4.5.2.1 Preparation of specimens for in-process testing. A $1 \pm 1/32$ inch wide specimen shall be cut along the long dimension from labels heat-sealed to sleeping bag inner back panels (see 4.4.2.1). More than one specimen may be cut from each back panel. The ends of the specimens shall be separated to provide tabs of sufficient length to perform the adhesion test specified in 4.5.2.2. The separation may be effected by hand immediately after heating the area which is to be separated, with a hot iron. Only the area to be separated shall be heated.

MIL-S-44016B

4.5.2.2 In-process adhesion test. Five $1 + 1/32$ inch wide specimens, prepared as specified in 4.5.2.1, shall be tested for adhesion in accordance with Method 5960 of FED-STD-191.

5. PACKAGING

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

5.1.1 Level A preservation.

5.1.1.1 Folding. Each sleeping bag, with the slide fastener closed, shall first be laid out flat and then folded in half with the fold running the length of the bag. The hood shall be positioned within the sleeping bag at the head end. Each sleeping bag shall then be folded twice in half from head to foot.

5.1.1.2 Unit pack. Each folded sleeping bag shall be inserted in a snug-fitting flat clear polyethylene film bag of 0.003 inch thickness (± 20 percent tolerance). The approximate inside dimensions of the bag shall be 24 inches in length and 32 inches in width. Approximate dimensions are furnished as a guide only. The bag may be fabricated from polyethylene film tubing or sheeting. The polyethylene bag shall be formed with heat-sealed seams that are straight, continuous, and parallel to each other and the formed edges of the bag. The bag closure shall be effected by heat-sealing with the heat-seal made as close as possible to the open end. Prior to or during the final heat-sealing closure operation, excess air within the bag shall be expelled.

5.1.2 Commercial preservation. The sleeping bags shall be preserved in accordance with ASTM D 3951.

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

- * 5.2.1 Level A Packing. Four sleeping bags, of like description only, preserved as specified in 5.1, shall be packed in a fiberboard shipping container conforming to style RSC-L, grade V2s of PPP-B-636. The approximate inside dimensions of the shipping container shall be 20-1/2 inches in length, 17-1/2 inches in width and 17-3/4 inches in depth. Approximate dimensions are furnished as a guide only. The inside of each container shall be fitted with a box liner conforming to type CF, class weather-resistant, variety DW, grade V15c of PPP-B-636. 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 PPP-B-636, except that the inspection shall be in accordance with 4.4.5. Shipping containers shall be arranged in unit loads in accordance with MIL-L-35078 for the type and class of load specified (see 6.2). Strapping shall be limited to nonmetallic strapping, except for type II, class F loads.

MIL-S-44016B

- * 5.2.2 Level B packing. Four sleeping bags, of like description only, preserved as specified in 5.1, shall be packed in a fiberboard shipping container conforming to style RSC-L, type CF (variety SW) or SF, class domestic, grade 275 of PPP-B-636. The approximate inside dimensions of the shipping container shall be as specified in 5.2.1. The inside of each 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 be closed in accordance with method II as specified in the appendix of PPP-B-636, except that the inspection shall be in accordance with 4.4.4.

5.2.2.1 Weather-resistant fiberboard containers. 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 inspections shall be in accordance with 4.4.5. The approximate inside dimensions of the shipping container shall be as specified in 5.2.1.

5.2.3 Commercial packing. Sleeping bags, preserved as specified in 5.1, shall be packed in accordance with ASTM D 3951.

- * 5.3 Palletization. When specified (see 6.2), sleeping bags packed as specified in 5.2, shall be palletized on a 4-way entry pallet in accordance with load type Ia of MIL-STD-147. Pallet types shall be type I (4-way entry), type IV or type V in accordance with MIL-STD-147. Pallets shall be fabricated from wood groups I, II, III, or IV of MIL-STD-731. Each prepared load shall be bonded with primary and secondary straps in accordance with bonding means K and L or film bonding means O or P. Pallet pattern shall be number 90 in accordance with appendix of MIL-STD-147.

5.4 Marking. In addition to any special marking required by the contract or purchase order, unit packs and shipping containers shall be marked in accordance with MIL-STD-129 or ASTM D 3951, as applicable.

5.4.1 Polyethylene bagged unit packs. Polyethylene bagged unit packs shall have the required identification information legibly printed or stamped in black directly on the bag across the center face or on a white paper label inserted within the bag so as to permit ready identification. The required information shall be as follows:

National Stock Number (NSN)
Nomenclature
Contract Number

MIL-S-44016B

6. NOTES

- * (This section contains information of a general or explanatory nature that may be helpful, but is not mandatory.)

6.1 Intended use. The sleeping bag is for use in locations where mean monthly temperature ranges from +45°F to +10°F.

- * 6.2 Acquisition requirements. Acquisition documents must specify the following:

- a. Title, number, and date of this specification.
- b. Issue of DODISS to be cited in the solicitation, and if required, the specific issue of individual documents referenced (see 2.1.1 and 2.2).
- c. When a first article is required (see 3.1, 4.3 and 6.3).
- d. Levels of preservation and packing (see 5.1 and 5.2).
- e. Type and class of unit load required (see 5.2.1).
- f. When weather-resistant grade fiberboard shipping containers are required for level B packing (see 5.2.2.1).
- g. When palletization is required (see 5.3).

- * 6.3 First article. When a first article is required, it shall be inspected and approved under the appropriate provisions of FAR 52.209. The first article should be a preproduction sample. The contracting officer should specify the appropriate type of first article and the number of units to be furnished. The contracting officer should include specific instructions in acquisition documents regarding arrangements for selection, inspection, and approval of the first article.

6.4 Samples. For access to samples, address the contracting activity issuing the invitation for bids or request for proposal.

6.5 Direct marking ink. Suggested ink for applying direct markings is the Markem 8272 black ink from the Markem Co., Keene, NH 03431.

6.6 Subject term (key word) listing.

Individual equipment

- * 6.7 Changes from previous issue. The margins of this specification are marked with asterisks 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 previous issue.

MIL-S-44016B

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