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MILITARY SPECIFICATION

MITTEN INSERTS, COLD WEATHER, TRIGGER FINGER

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

1. SCOPE

1.1 Scope. This document covers an ambidextrous, knitted, trigger finger, mitten insert.

1.2 Classification. The mitten inserts shall be of the following sizes as specified (see 6.2).

Schedule of sizes

Medium
Large

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 shall be those listed in the issue of the Department of Defense Index of Specifications and Standards (DODISS) and supplement thereto, cited in the solicitation.

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 8415

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MIL-M-809F

SPECIFICATIONS

FEDERAL

- A-A-203 - Paper, Kraft, Untreated
- DDD-L-20 - Label: For Clothing, Equipage, and Tentage,
(General Use)
- PPP-B-636 - Boxes, Shipping, Fiberboard

MILITARY

- MIL-L-35078 - Loads, Unit: Preparation of Semiperishable
Subsistence Items; Clothing, Personal Equipment
and Equipage; General Specification for
- MIL-T-43624 - Thread, Polyester, Spun

STANDARDS

FEDERAL

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

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

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

2.1.2 Other Government documents, drawings, and publications. The following other Government documents, drawings, and publications form a part of this specification to the extent specified herein. Unless otherwise specified, the issues shall be those in effect on the date of the solicitation.

U.S. DEPARTMENT OF AGRICULTURE (USDA)

Methods of Test for Grades of Wool

(Copies may be obtained from the U.S. Department of Agriculture, Agricultural Marketing Service, Washington, DC 20402.)

MIL-M-809F

Rules and Regulations Under the Wool Products Labeling Act

(Copies may be obtained from the Superintendent of Documents, Government Printing Office, Washington, DC 20402.)

(Copies of drawings, publications, and other Government documents required by contractors in connection with specific acquisition functions should be obtained from the contracting activity or as directed by the contracting activity.)

- * 2.2 Other publications. The following documents form a part of this specification to the extent specified herein. Unless otherwise specified, the issues of the documents which are DOD adopted shall be those listed in the issue of the DODISS specified in the solicitation. Unless otherwise specified, the issues of documents not listed in the DODISS shall be the issues of the nongovernment documents which are current on the date of the solicitation.

AMERICAN ASSOCIATION OF TEXTILE CHEMISTS AND COLORISTS (AATCC)

Chromatic Transference Scale

(Copies should be obtained from the American Association of Textile Chemists and Colorists, P.O. Box 12215, Research Triangle Park, NC 27709-2215.)

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

D 3951 - Standard Practice for Commercial Packaging

(Copies should be obtained from the American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103.)

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

- * 2.3 Order of precedence. In the event of a conflict between the text of this specification and the references cited herein, the text of this specification shall take precedence. Nothing in this specification, however, shall supersede applicable laws and regulations unless a specific exemption has been obtained.

3. REQUIREMENTS

3.1 Samples.

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

MIL-M-809F

3.1.2 Standard sample. The mitten inserts shall match the standard sample for shade and shall be equal to or better than the standard sample with respect to all characteristics for which the standard sample is referenced (see 6.3).

3.1.3 First article. When specified in the contract or purchase order, a sample shall be subjected to first article inspection (see 4.2, 6.2, and 6.4).

3.2 Material.

3.2.1 Yarn. The yarn shall be a wool-nylon blend, mixed, carded, spun, and twisted into the counts and turns per inch as specified in table I.

TABLE I. Yarn counts and turns

	Count of yarn, woolen spun (cut system), (\pm 1 yarn number)	Turns per inch	
		Single (\pm 1 turn)	Ply (\pm 0.5 turn)
Cuff and hand	2 ends 2/15	10	4
Thumb	1 end 2/15	10	4
Finger	1 end 2/15	10	4

3.2.1.1 Wool. The wool shall be virgin fleece or pulled sheep's wool, or a blend of both, not lower in grade than 56's U.S. Standard. The use of noils, card fly, card stripping, reused wool, reprocessed wool, fiber obtained from knitting clips, garnetted hard ends, and similar waste is prohibited.

3.2.1.2 Nylon. The nylon shall be 6 denier virgin nylon, crimped and cut to a staple length of not less than 2-3/8 inches nor more than 3-1/8 inches. The use of regenerated or reprocessed nylon is prohibited.

3.2.1.3 Non-fibrous materials. The finished mitten inserts shall contain not more than 3.0 percent starch and protein including chloroform-soluble and water-soluble material when tested as specified in 4.4.4.

3.2.1.4 Fiber content. The finished mitten inserts (based on a dry, extracted and desized basis) shall contain not less than 25 percent nor more than 32 percent nylon with the remainder all wool when tested as specified in 4.4.4.

3.2.2 Labels.

3.2.2.1 Identification and size label. Each mitten insert shall be marked with a combination identification and size label conforming to type III or IV, class 9 of DDD-L-20, except that the color of the marking medium shall be white.

MIL-M-809F

The label shall be applied to the outside of the mitten insert not to be placed on the ribbed knit cuff, but anywhere between cuff edge and tip of mitten. The marking shall be clearly legible and show fastness to laundering as specified in DDD-L-20. The label legend and size of characters shall be as follows:

Size (minimum 1/2 inch)
 Nomenclature (minimum 1/4 inch)
 Contract No. (minimum 1/4 inch)
 Stock No. (minimum 1/4 inch)
 Wool Products Labeling Act Information
 (minimum 1/4 inch)

3.2.2.2 Instruction slip. A printed slip of paper not less than 4 by 3-1/4 inches nor more than 4-1/2 by 3-1/2 inches containing the following instructions shall be inserted in each mitten insert.

WEARING INSTRUCTIONS - MITTEN INSERTS, COLD WEATHER, TRIGGER-FINGER

Wear only under other mittens
 Inserts absorb moisture and will become wet and cold if worn alone
 Carry two pairs in case one pair becomes wet
 Remove inserts before sweating makes them damp
 Dry slowly away from flame or take them into the sleeping bag at night
 Dirty inserts are cold
 Dryclean or wash in cold or lukewarm water with mild soap
 Don't use hot water - Hot water will shrink inserts
 Keep them clean
 The inserts can be worn on either hand
 Shift them to the opposite hands frequently so they will wear longer

3.2.3 Thread. The thread for sewing (closing) the top of the hand and tips of finger and thumb shall be spun polyester conforming to MIL-T-43624. Ticket No. 50, 3 ply shall be used as the needle thread and ticket No. 70, 3 ply shall be used as the looper thread.

3.2.3.1 Color. The thread shall be dyed shade Olive Drab S-1, C.A. 66022. The color shall show fastness to laundering and perspiration equal to or better than the standard sample. When no standard sample is available, the thread shall show good fastness to laundering and perspiration.

3.3 Color of mitten inserts. The color of the mitten inserts shall be Olive Green 208. The color shall be obtained by stock or yarn dyeing. Speck dyeing is prohibited.

MIL-M-809F

3.3.1 Matching. The color of the finished mitten inserts shall match the standard sample when viewed under filtered tungsten lamps that approximate artificial daylight and that have a correlated color temperature of 7500 \pm 200 K, with illumination of 100 \pm 20 candles, and shall be a good match to the standard sample under incandescent lamplight at 2300 \pm 200 K.

* 3.3.2 Colorfastness. The finished mitten inserts shall show fastness to laundering, and perspiration equal to or better than the standard sample or equal to or better than a rating of "good". The finished cloth shall show fastness to crocking equal to or better than the standard sample or shall have an AATCC Chromatic Transference Scale rating of 3.5. Testing shall be as specified in 4.4.4.

3.4 Design. The mitten inserts shall be an ambidextrous design with plain stitch knit hand, finger, and thumb and true rib knit cuff.

3.5 Figure. Figure 1 is furnished for information purposes only. To the extent of any inconsistencies between the written document and the figure, the written document shall govern.

3.6 Construction.

3.6.1 Cuff. The cuff shall be a true 1 by 1 rib stitch, knitted seamless on a circular machine of not less than 4 inches nor more than 4-3/4 inches in cylinder diameter with not less than 60 nor more than 64 needles for medium size and not less than 68 nor more than 72 needles for large size. The top edge of the cuff shall be knitted with a nonraveling welt. The cuff shall be knitted to conform to the requirements specified in table II.

3.6.2 Hand. The hand fabric shall be a plain stitch, knitted seamless on a circular machine of not less than 4 inches nor more than 4-3/4 inches in cylinder diameter and with not less than 60 nor more than 64 needles for medium size and not less than 68 nor more than 72 needles for large size.

3.6.2.1 Stitching top of hand. The top of the hand shall be stitched (on the inside) with stitch type 401 and seam type SSa-1 with 3/16 to 1/4 inch gage conforming to FED-STD-751 with 10 to 14 stitches per inch, using spun polyester thread (see 3.2.3), to form a curve as shown on figure 1. The stitching shall begin on the hand fabric 1/2 to 3/4 inch below the opening and continue around it to the opposite end of opening and extend 1/2 to 3/4 inch beyond. A chain of 1/2 to 3/4 inch shall be left at each end of opening to prevent raveling of the thread and open seams.

3.6.3 Finger. The finger shall be a plain stitch, knitted seamless, and shall be inserted on a direct line with the edge of the hand and located as specified in table II, so that each mitten may be worn on either the left or right hand. The finger shall be located 7 needles in front and 7 needles in back. Finger tip shall be closed by gathering together with the same yarn as

MIL-M-809F

used for knitting finger, over a round form to insure a well shaped conical finish at the tip, and bound securely to prevent raveling. As an alternate method of closing tip of finger, the stitching shall be done in accordance with 3.6.4.2.

3.6.4 Thumb. The thumb shall be a plain stitch, knitted seamless and shall be inserted so the center of the thumb shall be in line with the edge of the hand and finger and located as specified in table II, so that each mitten may be worn on either the left or right hand. The thumb shall be located 9 needles in front and 9 needles in back. The thumb shall be knitted 10 courses and narrowed two needles on each side of thumb on both the front and back, then knitted straight to the specified length. The tip of thumb shall be gathered together with the same yarn, over a round form, and bound securely to prevent raveling. As an alternate method of closing tip of thumb, the stitching shall be done in accordance with 3.6.4.2.

3.6.4.1 Inserting thumb and finger. The thumb and finger shall be so inserted and reinforced as to prevent undue strain and small holes from developing at the crotch of the finger and thumb.

3.6.4.2 Alternate method of stitching (closing) tips of thumb and finger. The tips of the thumb and finger shall be stitched (on inside) with stitch type 401 and seam type SSa-1 with 1/8 to 3/16 inch gage conforming to FED-STD-751 with 10 to 14 stitches per inch using spun polyester thread as specified in 3.2.3, to form a curve as shown on figure 1. The stitching of the tips of the thumb and finger shall begin 1/4 inch (+ 1/8, -0) below beginning of opening, continue around opening to the opposite end of opening and continue stitching 1/4 inch beyond. A chain of 1/4 to 1/2 inch shall be left at the beginning and end of each row of stitches to prevent raveling of the thread and open seams.

3.6.5 Finishing. The mitten inserts shall be scoured and fullled. After fulling, the inserts shall be brushed on the inside and then formed to proper size. The fulling and brushing characteristics shall be equal to or better than those of the standard sample.

3.7 Physical requirements.

3.7.1 Measurements and weights. The measurements and weights of the finished mitten inserts shall be as specified in table II. The measurements shall be made with the mitten inserts laid out flat under no tension.

3.7.2 Bursting strength. The hand portion of the mitten insert shall have a bursting strength of not less than 150 pounds when tested as specified in 4.4.4.

MIL-M-809F

3.7.3 Cuff stretch. The cuff shall stretch not less than 1.5 inches more than original measurements for sizes medium and large when tested as specified in 4.4.4. The cuff shall return after stretching, to within 0.5 inch of its original width H (figure 1).

TABLE II. Physical requirements

	Figure 1 reference	Size		Tolerance plus or minus
		Medium	Large	
<u>Finger:</u>				
Number of needles	B	28	28	--
Total courses	A	35 to 39	37 to 41	--
Length (inches)	A	2-3/4	2-7/8	1/8
Width (inches) middle of finger	B	1-1/2	1-1/2	1/8
Location (courses from cuff)	F	44 to 46	46 to 48	--
Distance from cuff (inches)	F	4-1/2	4-5/8	1/4
<u>Thumb:</u>				
Number of needles at base		36	36	
Total courses	C	38 to 42	41 to 45	--
Length (inches)	C	2-7/8	3-1/16	1/8
Width (1-1/2 inches from tip)	D	1-1/2	1-1/2	1/8
Location (courses from cuff)	E	24 to 26	26 to 28	--
Distance from cuff (inches)	E	2-3/8	2-1/2	1/8
<u>Cuff:</u>				
Length (inches)	J	4	4	1/4
Courses	J	40 to 44	40 to 44	--
Width (center) (inches)	H	3-1/2	3-3/4	1/4
<u>Hand:</u>				
Length from tip of hand to cuff	K	7-4/3	8-1/2	1/4
Length overall (inches)	L	11-3/4	12-1/2	1/4
Width of hand (inches)	G	4-1/2	4-3/4	1/4
Total courses in hand	K	83 to 87	86 to 90	--
<u>Weight:</u>				
Ounces per dozen pairs (minimum)	--	46	48	--

3.8 Pairing. The finished mitten inserts shall be paired according to size. They shall not be tacked.

MIL-M-809F

- * 3.9 Workmanship. The finished mitten inserts shall conform to the quality and grade of product established by this document. 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 or purchase order, the contractor is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified in the contract or 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 document where such inspections are deemed necessary to assure supplies and services conform to prescribed requirements.

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

- * 4.1.2 Certificates of compliance. Where certificates of compliance are submitted, the Government reserves the right to inspect such items to determine the validity of the certification.

- * 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 6.2), it shall be examined for the defects specified in 4.4.2 and 4.4.3 and tested for the characteristics specified in table IV. The presence of any defect or failure to pass any test 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 all the requirements of referenced documents unless otherwise excluded, amended, modified or qualified in this document or applicable purchase documents.

MIL-M-809F

- * 4.4.1.1 Certification. Components and materials listed below will be accepted on the basis of a contractor's certificate of compliance with the indicated requirements.

<u>Component or material</u>	<u>Requirement</u>	<u>Requirement paragraph</u>
Yarn	Construction, turns per inch, count, ply, and twist	3.2.1 and table I
Wool	Material identification and exclusion of prohibited material	3.2.1.1
Nylon	Material identification, denier, crimp, and staple length	3.2.1.2

4.4.1.2 Wool grade. The wool shall be visually examined for grade (see 3.2.1.1) in scoured form (prior to picking or carding) by comparison with the applicable U.S. Standard. In the event of dispute resulting from the above comparison, the wool grade shall be determined by the width method (wedge) approved by the Government. The examination for grade shall be performed on a composite sample of 1 pound for each 10,000 pounds or fraction thereof in the lot. The composite sample shall be selected from not less than 10 percent of the bales or boxes in the lot. The lot shall be unacceptable if the sample does not conform to the requirements of 3.2.1.1.

4.4.2 End item visual examination. The end items shall be examined for the defects listed below. The lot size shall be expressed in units of mitten inserts. The sample unit shall be one mitten insert. The inspection level shall be II and the acceptable quality level (AQL), expressed in terms of defects per hundred units, shall be 1.5 for major defects and 4.0 for total (major and minor combined) defects.

<u>Defect</u>	<u>Classification</u>	
	<u>Major</u>	<u>Minor</u>
<u>Material defects and workmanship damages</u>		
Burrs or shives firmly imbedded in yarn		X
An accumulation of kemp or undyed fiber in sufficient concentration to cause an unsightly appearance		X
Loose or floated end 1 inch or more in length		X
Slub more than 1/8 inch in thickness		X
Opening in any crotch more than 1/8 inch in diameter	X	

MIL-M-809F

Defect	Classification	
	Major	Minor
<u>Material defects and workmanship damages (cont'd)</u>		
Hole, run, or dropped stitch	X	
Insert improperly or poorly shaped	X	
Inside not brushed equal to standard sample		X
Knots, large, oversized - protruding from surface		X
Mend, any	X	
Overfulled or underfulled, not equal to standard sample		X
Off shade, mismatched for shade		X
Spot or stains more than 1/2 inch in combined directions		X
Thin area in fabric	X	
<u>Cuff</u>		
Raveled, cut, or frayed welt	X	
Uneven or not clearly defined welt		X
<u>Finger and thumb</u>		
Open or insecurely closed	X	
Bulky or poorly formed		X
<u>Seams and stitching</u>		
Wrong stitch	X	
Wrong seam	X	
Open seam	X	
NOTE: A seam shall be considered as being open when one or more stitches joining a seam are broken or when a skipped stitch occurs		
Seam puckered or pleated		X
Needle chews	X	
Gage of stitching from edge:		
Less than 1/8 inch	X	
More than 3/16 inch	X	
Not inseam sewn	X	
Loose tension resulting in a loosely secured seam	X	
Tight tension (stitching breaks when normal strain is applied to the seam or stitching)	X	
One stitch per inch less than specified minimum or more than specified maximum		X
Two or more stitches per inch less than specified minimum or more than specified maximum	X	

MIL-M-809F

Defect	Classification	
	Major	Minor
<u>Assembly</u>		
Improperly or poorly shaped	X	
Stitching chain at beginning and end of closing, missing	X	
Stitching chain at beginning and end of closing, not specified length		X
<u>Labels</u>		
Label markings missing, incorrect, incomplete, illegible, or misplaced		X
Not labeled in accordance with the Wool Products Labeling Act		X
Instruction slip missing, incorrect, or illegible		X

4.4.3 End item dimensional examination. The end items shall be examined for the defects listed below. The lot size shall be expressed in units of mitten inserts. The sample unit shall be one mitten insert and the selection shall be by pairs. The inspection level shall be S-3 and the AQL, expressed in terms of defects per hundred units, shall be 4.0.

Defects

Pair of inserts mismatched by more than 1/4 inch in finger or cuff length. Any measurement that does not meet the dimensional requirements of table II.

4.4.4 End item testing. The end items shall be tested for the characteristics indicated in table IV. The methods of testing specified in FED-STD-191, wherever applicable, and as listed in table IV, shall be followed. When the data in the "Number of determinations per individual sample unit" and "Results reported as" columns are not specified in table IV, they shall be as required by the referenced test method. The physical and chemical values specified in section 3 apply to the average of the determinations made on a sample unit for test purposes as specified in the applicable test method. The lot shall be unacceptable if one or more sample units fail to meet any test requirement specified.

The sample unit and sample size shall be as follows:

- a. One dozen pair of mitten inserts from each size in the lot for determination of conditioned weight. The sample size shall be one sample unit regardless of lot size.
- b. Eight individual mitten inserts from each size in the lot for determination of cuff stretch. The sample size shall be one sample unit regardless of lot size.

MIL-M-809F

- c. Five individual mitten inserts, drawn to represent each size in the same proportion as contained in the lot, for all other tests. The sample size shall be as specified in table III.

TABLE III. Sample size for testing

Lot size (inserts)	Sample size (sample units)
800 or less	2
801 up to and including 22,000	3
22,001 and over	5

TABLE IV. End item tests

Characteristic	Requirement paragraph	Test Method	No. deter. per ind. sample unit	Results reported as
Nonfibrous material	3.2.1.3	2611 <u>1/</u>	---	---
Weight per dozen pairs	Table II	Scale	1	To nearest 0.1 ounce
Wool and nylon content	3.2.1.4	4.5.2	2	1 percent
Colorfastness to:				
Laundering	3.3.2	5614	---	---
Perspiration	3.3.2	5614	---	---
<u>Cuff</u>				
Number of needles	3.6.1	Visual	1	Actual count
Courses	Table II	Visual	1	Actual count
<u>Hand:</u>				
Number of needles	3.6.2	Visual	1	Actual count
Total courses	Table II	Visual	1	Actual count
<u>Finger:</u>				
Number of needles	Table II	Visual	1	Actual count
Total courses	Table II	Visual	1	Actual count
Courses from cuff	Table II	Visual	1	Actual count
Number of needles front and back	3.6.3	Visual	1	Actual count

MIL-M-809F

TABLE IV. End item tests (cont'd)

<u>Characteristic</u>	<u>Requirement paragraph</u>	<u>Test Method</u>	<u>No. deter. per ind. sample unit</u>	<u>Results reported as</u>
<u>Thumb:</u>				
Number of needles at base	Table II	Visual	1	Actual count
Total courses	Table II	Visual	1	Actual count
Courses from cuff	Table II	Visual	1	Actual count
Number of needles front and back	3.6.4	Visual	1	Actual count
Courses to narrow of thumb	3.6.4	Visual	1	Actual count
Number of needles after narrowing	3.6.4	Visual	1	Actual count
Hand bursting strength	3.7.2	5120	---	---
Cuff stretch	3.7.3	4.4.1	---	---

1/ Retain dry, extracted, and desized specimen for the determination of the wool and nylon content.

* 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. Naphthalene flakes improperly applied or missing.
Workmanship	Inadequate application of components such as: incomplete closure of container flaps, loose strapping, improper taping, or inadequate stapling. Bulged or distorted container.
Content	Number of bundles per container is more or less than required. Number per bundle is more or less than required. <u>1/</u>

MIL-M-809F

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

- * 4.4.6 Palletization examination. The fully packaged and palletized end item 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. Interlocking of loads 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.

4.5 Methods of inspection.

- * 4.5.1 Cuff stretch test. The cuff width of each mitten insert in the sample shall be determined three times: once before being stretched, again when it is in the stretched position and the weight has hung freely for 10 seconds, and finally again after the weight used to stretch the insert has been removed. The cuff stretch shall be reported as the difference between the average of the measurements taken when the inserts are in the stretched position and the average of the width measurements taken before the inserts are stretched. A difference of less than 1.5 inches between the averages shall be reported as a failure. The cuff return, after the inserts have been stretched, shall be reported as the difference between the average of the width measurements taken before the inserts are stretched and the average of the width measurements taken after the inserts have been stretched. A difference between the averages that is greater than 0.5 inches shall be reported as a failure. Separate averages shall be reported for each group of inserts of the same size in the sample. All measurements shall be reported to the nearest 0.1 inch. Individual values utilized in expressing the final results shall be reported. The stretch measurement shall be evaluated as described in Method 7540 of FED-STD-191. The mitten insert shall be pulled over the form so that the 2-inch edges are parallel to the cuff of the mitten insert. The indicator pin shall be inserted in the upper 2-inch edge of the separating form and a 6-pound weight slowly applied so as to cause separation of the upper and lower slotted form with resultant stretch of the mitten insert cuff under a uniform load over the 2-inch edge. The mitten insert cuff shall be evaluated after the weight has hung freely for 10 seconds and shall be expressed in inches as the distance between

MIL-M-809F

the upper and lower edges of the separation forms. All stretch and width measurements of the cuff shall be made at its center as indicated by line H on figure 1.

4.5.2 Wool and nylon content test. The wool and nylon content shall be determined in accordance with Method 2102 of FED-STD-191 except that the extracted and desized specimen from the determination of nonfibrous material (Method 2611) shall be used. The wool and nylon content shall be expressed as percent based on the weight of the dry, extracted, and desized specimen and shall be calculated as follows:

$$\text{Wool, percent} = \frac{S-R}{S} \times 100$$

$$\text{Nylon, percent} = \frac{R}{S} \times 100$$

When S = Weight of dry, extracted, and desized specimen

R = Weight of the fiber residue

5. PACKAGING

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

5.1.1 Level A. Ten pairs of mitten inserts of one size only shall be evenly stacked in a bundle with every other pair reversed. The bundle shall be securely tied with cotton tape or twine at each end.

5.1.2 Commercial. The mitten inserts 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. One hundred and twenty pairs of mitten inserts of one size only, preserved as specified in 5.1, shall be packed in a snug-fitting fiberboard shipping container conforming to style RSC-L, grade V2s 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. Inside dimensions of each container shall approximate 23-1/2 inches in length, 15 inches in width, and 15 inches in depth. Approximate dimensions are furnished as a guide only. Six ounces of naphthalene flakes shall be uniformly distributed throughout the entire contents of each shipping container. 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 A-A-203. Each shipping container shall be closed in accordance with method III, water-proofed 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.

MIL-M-809F

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.

5.2.2 Level B packing. One hundred and twenty pairs of mitten inserts of one size only, 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. Inside dimensions of each container shall approximate 23-1/2 inches in length, 15 inches in width, and 15 inches in depth. Approximate dimensions are furnished as a guide only. Six ounces of naphthalene flakes shall be uniformly distributed throughout the entire contents of each shipping container. 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 A-A-203. Each shipping 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 4.4.5.

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 PPP-B-636, except that the inspection shall be in accordance with 4.4.5.

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

* 5.3 Palletization. When specified (see 6.2), mitten inserts, packed as specified in 5.2.2 and 5.2.3 shall be palletized in accordance with load type Ia of MIL-STD-147. Pallet type 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 patterns shall be number 3 in accordance with the appendix of MIL-STD-147. Interlocking of loads shall be effected by reversing the pattern of each course.

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

6. NOTES

6.1 Intended use. The mitten inserts, are for use by military personnel of the Department of Defense. They are to be worn under Mitten-Shells, Cold Weather, Trigger Finger, or Mittens, Shells, Snow Camouflage. They are a component of the standard cold-wet and cold-dry handwear assembly.

MIL-M-809F

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

- a. Title, number, and date of this document
- * b. When a first article is required (see 3.1, 4.3, and 6.4).
- c. Size required (see 1.2).
- d. Selection of applicable 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 Sample. For access to samples, address the contracting activity issuing the invitation for bids.

* 6.4 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 all acquisition instruments regarding arrangements for selection, inspection, and approval of the first article.

* 6.5 Subject term (key word) listing.

Cold weather
 Inserts
 Mittens

6.6 Changes from previous issue. The margins of this document 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.

MIL-M-809F

Custodians:

Army - GL
Navy - NU
Air Force - 99

Preparing activity:

Army - GL
Project No. 8415-0623

Review activities:

Army - MD
Air Force - 11, 82
DLA - CT

User activities:

Navy - CG, MC
Air Force - 45

MIL-M-809F

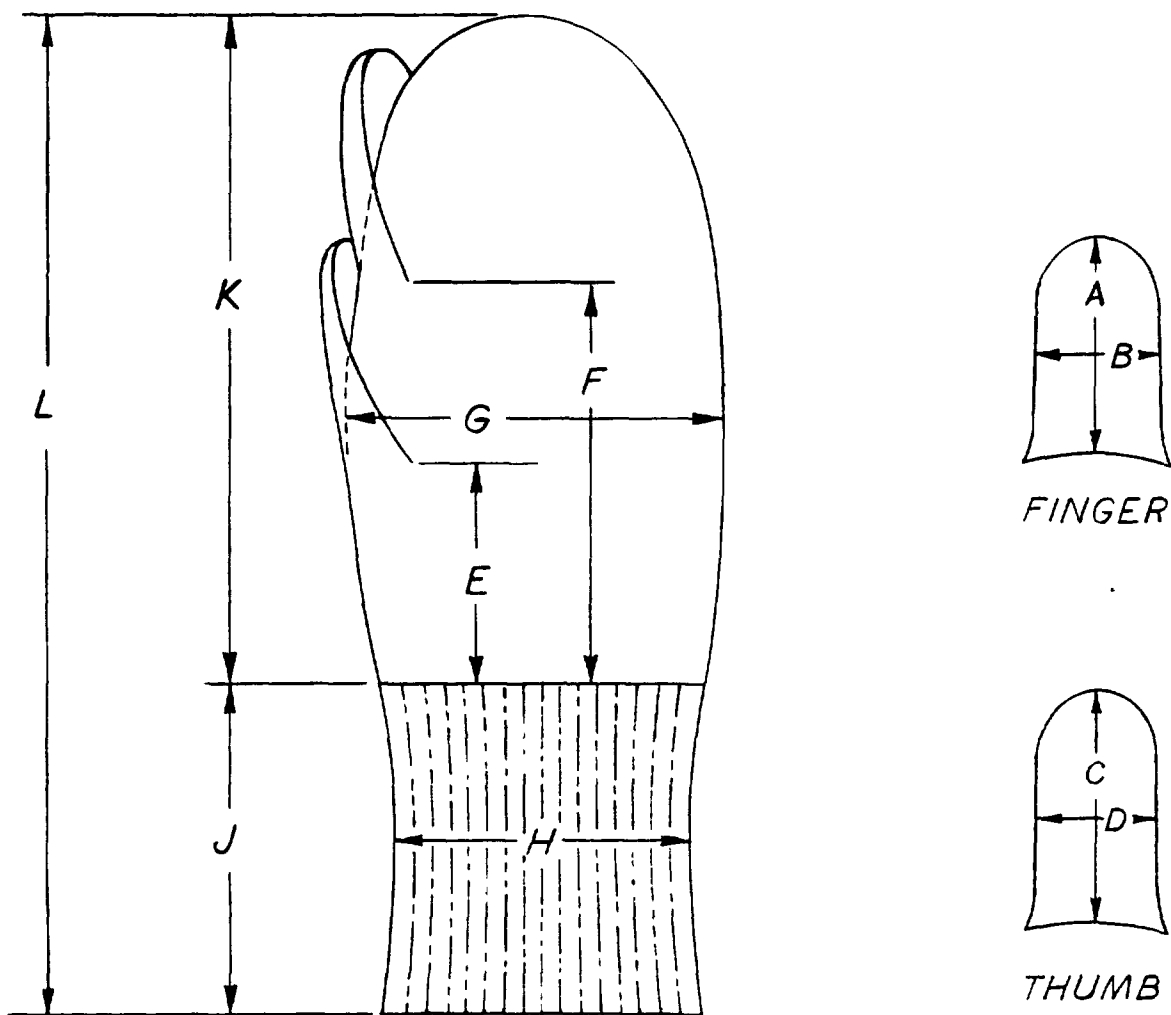


FIG. 1
MITTEN-INSERTS, COLD WEATHER, TRIGGER FINGER
2-1-399B

STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL*(See Instructions - Reverse Side)*

1. DOCUMENT NUMBER MIL-M-809F		2. DOCUMENT TITLE Mitten Inserts, Cold Weather, Trigger Finger	
3a. NAME OF SUBMITTING ORGANIZATION		4. TYPE OF ORGANIZATION (Mark one)	
b. ADDRESS (Street, City, State, ZIP Code)		<input type="checkbox"/> VENDOR	
		<input type="checkbox"/> USER	
		<input type="checkbox"/> MANUFACTURER	
		<input type="checkbox"/> OTHER (Specify) _____	
5. PROBLEM AREAS			
a. Paragraph Number and Wording:			
b. Recommended Wording:			
c. Reason/Rationale for Recommendation:			
6. REMARKS			
7a. NAME OF SUBMITTER (Last, First, MI) - Optional		b. WORK TELEPHONE NUMBER (Include Area Code) - Optional	
c. MAILING ADDRESS (Street, City, State, ZIP Code) - Optional		8. DATE OF SUBMISSION (YYMMDD)	

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NOTE: This form may not be used to request copies of documents, nor to request waivers, deviations, or clarification of specification requirements on current contracts. Comments submitted on this form do not constitute or imply authorization to waive any portion of the referenced document(s) or to amend contractual requirements.

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