

MIL-R-44354
27 September 1988

MILITARY SPECIFICATION

RUFF, PARKA, EXTENDED COLD WEATHER

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 attachable synthetic fur ruff for use with the parka in the Extended Cold Weather Clothing System.

1.2 Classification. The ruff shall be one type in the following sizes:

X-Small
Small
Medium
X-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

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

MIL-R-44354

SPECIFICATIONS

FEDERAL

- V-T-285 - Thread, Polyester
- DDD-L-20 - Label: For Clothing, Equipage, and Tentage
(General Use)
- PPP-B-636 - Boxes, Shipping, Fiberboard

MILITARY

- MIL-F-10884 - Fasteners, Snap
- MIL-F-21840 - Fastener, Tapes, Hook and Loop, Synthetic
- MIL-L-35078 - Loads, Unit: Preparation of Semiperishable
Subsistence Items; Clothing, Personal Equipment,
Equipage,; General Specification For
- MIL-C-43824 - Cloth, Synthetic Fur, Knitted
- MIL-C-44187 - Cloth, Laminated, Water-Proof and Moisture-Vapor
Permeable

STANDARDS

FEDERAL

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

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.)

2.2 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.

MIL-R-44354

COLOR ASSOCIATION OF THE UNITED STATES, INC.

Department of Defense Standard Shades

(Copies may be obtained from the Color Association of the United States, Inc., 343 Lexington Avenue, New York, NY 10016.)

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

D 3951 - Standard Practice for Commercial Packaging

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

3.2 First article. When specified in the contract or purchase order, a sample shall be subjected to first article inspection (see 4.3, 6.2, and 6.4).

3.3 Material.

3.3.1 Cloth, laminated. The basic material for the ruff shall be cloth, laminated, water-proof and moisture-vapor permeable, conforming to MIL-C-44187.

3.3.2 Synthetic fur ruff strips. The synthetic fur for the ruff shall conform to MIL-C-43824.

3.3.3 Fastener, tape, hook and loop. The nylon fastener tapes shall be 1 inch wide hook tape and 2 inch wide hook and loop tapes, Olive Green 106 conforming to type II, class 1 of MIL-F-21840.

3.3.4 Snap fastener. The stud and post parts of the snap fastener shall be style 2A, finish 2, complete, conforming to MIL-F-10884.

MIL-R-44354

3.3.5 Thread. The thread for all seaming and stitching shall be polyester, size B, 2 or 3 ply, shade S-1, C.A. 66022 conforming to type I, class 1, subclass B of V-T-285.

3.3.6 Wire. The wire for the edge of the ruff shall be bright, 0.080 ± 0.003 inch diameter copper wire, dead soft, and shall not crack or break down when tested as specified in 4.4.1.1.

3.3.7 Labels. Each ruff shall have a class 4 identification and size label and a class 3 instruction label conforming to type VI of DDD-L-20. The label color shall be Medium Green, C.A. 70034, 70130, or 70131 and shall show fastness to laundering.

3.3.7.1 Identification and size label. The identification and size label shall first state the size and then read "Ruff, Parka, Extended Cold Weather".

3.3.7.2 Instruction label. The instruction label shall be as follows:

Launder ruff by hand, shake out water and air dry; or machine launder, using warm water (90° - 110°F) and mild powdered laundry detergent. Rinse thoroughly in clean warm water. NOTE: Do not use bleach or starch. Air dry.

WARNING: Do not tumble dry.

3.3.7.3 Combination label. The size and identification label and the instruction label may be combined into one label, conforming to class 14 of DDD-L-20. The size and identification label shall be placed above the instruction label with a space of 1/2 inch minimum maintained between the labels.

3.4 Design. The ruff shall be camouflage pattern with a natural white synthetic fur strip, a wire stiffener, snap fastener studs for attaching to the parka, and hook and loop fastener tape closures.

3.5 Patterns. Standard patterns, which provide an allowance of 5/8 inch will be furnished by the Government. The Government patterns shall not be altered in any way and are to be used only as a guide for cutting the contractor's working patterns. The working patterns shall be identical to the Government patterns.

3.5.1 Pattern parts. The pattern components for the ruff shall be cut from the material as specified and according to the number of parts listed in table I.

TABLE I. List of pattern parts

Material	Nomenclature	Parts
Cloth, synthetic fur	Fur strip	1
Cloth, laminated	Ruff	2

MIL-R-44354

3.6 Construction. Construction shall conform in all respects to the requirements specified in table II and herein. Figure 1 is furnished solely for guidance and information. Should variation from the document appear in figure 1 the document shall govern.

3.6.1 Stitches, seams, and stitching. All stitches, seams, and stitching shall conform to FED-STD-751. The seam type, stitching type, and stitches per inch shall be as specified in table II. Seam allowances shall be maintained with seams sewn so that no raw edges, run-offs, pleats, puckers, or open seams occur. When two or more methods of seams or stitches are given for the same operation, any one may be used.

3.6.1.1 Type 301 stitching. Ends of all stitching shall be backstitched or overstitched not less than 1/2 inch except where ends are turned under or caught in other seams or stitching. Ends of a continuous line of stitching shall overlap not less than 1/2 inch. Thread tensions shall be maintained so that there will be no loose stitching resulting in loose bobbin or top thread or excessively tight stitching resulting in puckering of the materials sewn. The lock shall be embedded in the materials sewn.

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

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

b. Except for prestitching, thread breaks or two or more consecutive skipped or run-off stitches noted during inspection of the item shall be repaired by overstitching. The stitching shall start a minimum of 1/2 inch in back of the defective area, continue over the defective area, and continue a minimum of 1/2 inch beyond the defective area onto the existing stitching. Loose or excessively tight stitching shall be repaired by removing the defective stitching without damaging the materials, and restitching in the required manner. 1/

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

3.7 Manufacturing operations requirements. The ruff shall be manufactured in accordance with operation requirements specified in table II. The contractor is not required to follow the exact sequence of operations listed. The use of drill holes is prohibited except for marking locations of snap fasteners in which case drill holes shall be no larger than 1/16 inch diameter.

MIL-R-44354

NO.	TABLE II. MANUFACTURING OPERATIONS REQUIREMENTS	STITCH TYPE	SEAM AND STITCHING TYPE	STITCHES PER INCH	T H R E A D	
					NEEDLE	BOBBIN/ LOOPER COVER
1.	<p><u>Cutting.</u></p> <p>The ruff shall be cut in strict accordance with the patterns furnished which show size, placement of snaps, hook fastener tapes, and notches for proper assembly of all parts.</p>					
2.	<p><u>Shade and size marking.</u></p> <p>Mark, ticket, or bundle all components to ensure uniform shade and size throughout the ruff.</p>					
3.	<p><u>Replacement of defective or damaged parts.</u></p> <p>During the spreading, cutting, and manufacturing process, components having material defects or damages that are classified as defects in 4.4.2 shall be removed from production and replaced with non-defective and properly matched components.</p>					
4.	<p><u>Make ruff.</u></p> <p>a. With face sides together and edges aligned, seam along the top, bottom, and one end.</p> <p>b. Turn face side out, push out points, insert the wire into the ruff and stitch as close to the wire as possible to enclose it.</p> <p>c. Turn the open end seam allowance in and raise stitch 3/16 to 1/4 inch from edges all around.</p>	301	SSe-2(a)	10-12	B	B
		301	SSa-1	10-12	B	B
		301	SSe-2(b)	101-2	B	B

NATICK Form 903
1 Dec 76

EDITION OF 1 OCT 76 WILL BE USED UNTIL EXHAUSTED.

MIL-R-44354

NO.	MANUFACTURING OPERATIONS REQUIREMENTS	STITCH TYPE	SEAM AND STITCHING TYPE	STITCHES PER INCH	THREAD		
					NEEDLE	BOBBIN/LOOPER	COVER
4.	<p><u>Make ruff.</u> (cont'd)</p> <p>d. Position 3-3/4 to 4 inches 2-inch wide hook and loop fastener tape, one at each end of the ruff running from the chin edge to the attaching edge, one on the inside, and one on the outside. Stitch on all four sides 1/16 to 1/8 inch from edge.</p> <p>e. Position the fur strip to the side of the ruff with the loop fastener tape per marks on patterns and stitch on all four sides 3/16 to 1/4 inch from edges.</p> <p>f. Position eight 2-1/2 inch long strips of 1 inch hook fastener tape to the ruff per marks on patterns and stitch on all four sides 1/16 to 1/8 inch from edges.</p>	301	LSbj-1	10-12	B	B	
5.	<p><u>Set studs.</u></p> <p>Set seven studs to the inside of the ruff per marks on patterns.</p>	301	LSbj-1	101-2	B	B	
6.	<p><u>Clean ruff.</u></p> <p>a. Trim all thread ends to 1/4 inch maximum length.</p> <p>2. Remove all loose threads, spots, stains, and shade and size tickets.</p>	301	LSbj-1	10-12	B	B	

NATICK Form 903

1 Dec 76

EDITION OF 1 OCT 76 WILL BE USED UNTIL EXHAUSTED.

MIL-R-44354

3.8 Finished measurements. The finished measurements for the ruff shall conform to table III.

TABLE III. Finished measurements (in inches)

	X-Small	Small	Medium	Large	X-Large	Tolerance
Length	33-3/4	34-1/4	34-7/8	35-1/2	36	+ 1

NOTE: The finished measurement shall be taken with the ruff lying flat on a table, fur face down, and measuring from end to end along snap fastener edge.

3.9 Workmanship. The finished ruff shall conform to the quality of product established by this document and 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 otherwise 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 Responsibility for dimensional requirements. Unless otherwise specified in the contract or purchase order, the contractor is responsible for assuring 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.

MIL-R-44354

4.1.3 Certificate of compliance. When certificates of compliance are submitted, the Government reserves the right to check test such items to determine the validity of the certification.

4.2 Classification of inspection. The inspection requirements specified herein are classified as follows:

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

4.3 First article inspection. When a first article is required (see 3.2), it shall be examined for the defects specified in 4.4.2. The presence of any defect shall be cause for rejection of the first article.

4.4 Quality conformance inspection. Unless otherwise specified, sampling for inspection shall be 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 document.

4.4.1.1 Component and material certification. Unless otherwise specified, a certificate of compliance will be acceptable as evidence that the wire conforms to the requirements specified in 3.3.6.

4.4.2 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 ruffs. The sample unit shall be one ruff. 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 15.0 for total (major and minor combined) defects.

TABLE IV. End item visual defects

Examine	Defect	Classification	
		Major	Minor
Materials defects and damages	Any smash, multiple float or loose slub	X	
	Cut, tear, mend, burn, needle chew, or hole	X	
Cleanliness	Any spot, streak, or stain of a permanent nature on any portion of ruff which would be visible when ruff is worn	X	
	Removable spot, streak, or stain on outside of ruff		X
	Thread ends not trimmed throughout ruff		X

MIL-R-44354

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

Examine	Defect	Classification	
		Major	Minor
Component and assembly	Any component part omitted	X	
	Any required operation omitted or improperly performed	X	
Labels	Missing, illegible or incorrect	X	
	Incorrectly placed or attached		X
Seams and stitching	Seam badly twisted, pleated, or puckered		X
	Part of ruff caught in any unrelated operation or stitching.	X	
	Thread break secured by stitching back of break less than 1/2 inch		X
	Ends of all seams and stitchings when not caught in other seams or stitching, backtacked less than 1/2 inch		X
	Color of thread not as specified		X
	Gage of stitching not as specified		X
Open seams	More than 1/8 inch up to 1/4 inch		X
	More than 1/4 inch	X	
	NOTE: One or more broken or two or more continuous skipped or run-off stitches constitute an open seam. On double stitched seams, a seam is considered open when one or both sides of the seam are open. Raw edge not securely caught in stitching shall be classified as an open seam.		
Seam and stitch types	Not specified seam or stitch type	X	
Stitch tension	Loose tension in any area:		
	- more than 1 inch but not more than 2 inches		X
	- more than 2 inches	X	
	Tight tension (stitches break when normal strain is applied to the seam or stitching)	X	

MIL-R-44354

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

Examine	Defect	Classification	
		Major	Minor
Stitches per inch (to be scored only when the condition exists on major portion of the seam)	Less than minimum specified:		
	- one stitch		X
	- two or more stitches	X	
	More than maximum specified		X

4.4.3 End item dimensional examination. The end items shall be examined for conformance to the measurements specified in table III. Any dimension not within the specified tolerance shall be classified as a defect. The lot size shall be expressed in units of ruffs. The sample unit shall be one ruff. The inspection level shall be S-3 and the AQL, expressed in terms of defects per hundred units, shall be 4.0.

4.4.4 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

4.4.5 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.

MIL-R-44354

<u>Examine</u>	<u>Defect</u>
Finished dimensions	Length, width, or height exceeds specified maximum requirement
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

5. PACKAGING

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

5.1.1 Level A. Each ruff shall be laid out flat. Six ruffs, alternately reversed, shall be stacked to form a bundle. The bundle shall be securely crosstied with cotton tape or twine.

5.1.2 Commercial. Ruffs 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. Twenty-four ruffs of one size only, preserved as specified in 5.1, shall be packed in a snug-fitting fiberboard box 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. The inside dimensions of each shipping container shall approximate 37 inches in length, 16 inches in width, and 6 inches in depth. Approximate dimensions are furnished as a guide only. 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 4.4.4. 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. Twenty-four ruffs of one size only, preserved as specified in 5.1, shall be packed flat 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. The inside dimensions of the box shall be as specified in 5.2.1.

MIL-R-44354

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 4.4.4.

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 PPP-B-636, except that the inspection shall be in accordance with 4.4.4.

5.2.3 Commercial packing. Ruffs of one size only, preserved as specified in 5.1, shall be packed in accordance with ASTM D 3951.

5.3 Palletization. When specified (see 6.2), ruffs packed as specified in 5.2.2 or 5.2.3, 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 94 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, unit packs, 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 ruff is intended for use by members of the Department of Defense as an attachable component of the Extended Cold Weather Clothing System.

6.2 Ordering data. Acquisition documents should specify the following:

- a. Title, number, and date of this document.
- b. Size required (see 1.2).
- c. When a first article sample is required (see 3.2, 4.3, and 6.4).
- d. Selection of the applicable level 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 5.2.3).
- g. When palletization is required (see 5.3).

6.3 Standard samples. For access to standard samples, address the contracting activity issuing the invitation for bids.

MIL-R-44354

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
Parka
Ruff

Custodians:

Army - GL
Navy - NU
Air Force - 99

Preparing activity:

Army - GL
Project No. 8415-0656

Review activities:

Army - MD
Air Force - 82
DLA - CT

MIL-R-44354

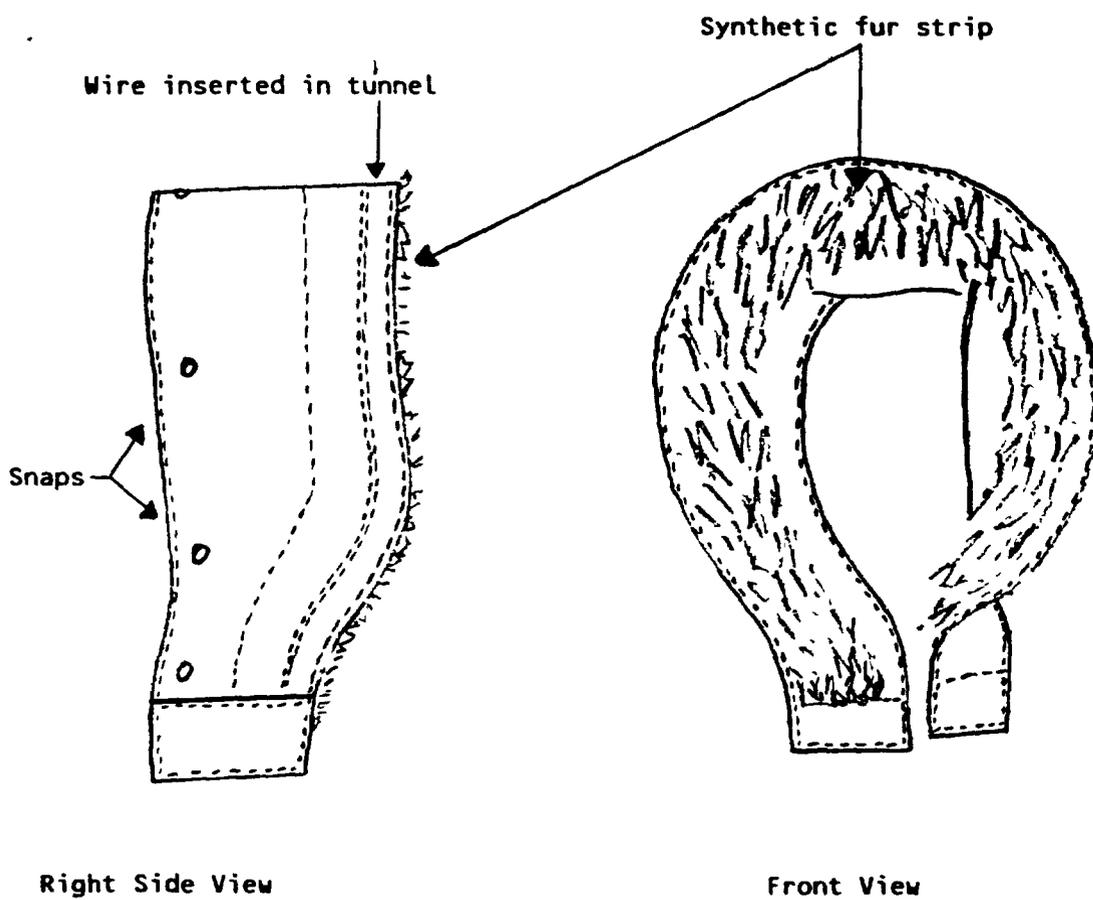


Figure I. Ruff, Parka, Extended Cold Weather

STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

(See Instructions - Reverse Side)

1. DOCUMENT NUMBER MIL-R-44354		2. DOCUMENT TITLE RUFF, PARKA, EXTENDED COLD WEATHER	
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	
5. PROBLEM AREAS		<input type="checkbox"/> MANUFACTURER	
		<input type="checkbox"/> OTHER (Specify) _____	
		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)	

INSTRUCTIONS: In a continuing effort to make our standardization documents better, the DoD provides this form for use in submitting comments and suggestions for improvements. All users of military standardization documents are invited to provide suggestions. This form may be detached, folded along the lines indicated, taped along the loose edge (*DO NOT STAPLE*), and mailed. In block 5, be as specific as possible about particular problem areas such as wording which required interpretation, was too rigid, restrictive, loose, ambiguous, or was incompatible, and give proposed wording changes which would alleviate the problems. Enter in block 6 any remarks not related to a specific paragraph of the document. If block 7 is filled out, an acknowledgement will be mailed to you within 30 days to let you know that your comments were received and are being considered.

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.

(Fold along this line)

(Fold along this line)

DEPARTMENT OF THE ARMY

U.S. ARMY NATICK RESEARCH, DEVELOPMENT
and ENGINEERING CENTER
ATTN. STRNC-ES
Natick, MA 01760-5014



NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE \$300

BUSINESS REPLY MAIL
FIRST CLASS PERMIT NO 12062 WASHINGTON D C

POSTAGE WILL BE PAID BY THE DEPARTMENT OF THE ARMY

Commander
U.S. Army Natick Research, Development
and Engineering Center
ATTN: STRNC-ES
Natick, MA 01760-5014

