

INCH-POUND  
GL-PD-13-16B  
6 July 2023  
SUPERSEDING  
GL-PD-13-16A  
16 July 2018

## PURCHASE DESCRIPTION

### BOOT, EXTREME COLD WEATHER, INSULATED

This Purchase Description (PD) is approved for use by all Departments and Agencies of the Department of Defense (DoD).

#### 1. SCOPE

1.1 Scope. This document covers a waterproof and mildew resistant insulated boot for use in extreme cold weather climates (down to -60 degrees Fahrenheit).

1.2 Classification. The boot will be available in one (1) type in the following sizes and widths as specified.

##### 1.2.1 Schedule of sizes and widths

Size: 3 to 14 inclusive, in whole sizes

Widths:   Narrow = N  
              Regular = R  
              Wide    = W

#### 2. APPLICABLE DOCUMENTS

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

Comments, suggestions, or questions on this document should be address to: Department of the U.S. Army, DEVCOM-Soldier Center, ATTN: FCDD-SCD-PEI, 10 General Greene Avenue, Natick, MA 01760-5019.
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AMSC N/A

FSC 8430

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## 2.2 Government documents.

2.2.1 Specifications, standards, and handbooks. The following specifications, standards, and handbooks form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those noted in the solicitation or contract.

### DEPARTMENT OF DEFENSE SPECIFICATIONS

MIL-DTL-32075 - Label for Clothing, Equipage and Tentage (General Use)

### DEPARTMENT OF DEFENSE STANDARDS

MIL-STD-282 - Filter Units, Protective Clothing, Gas-Mask Components and  
Related Products: Performance Test Methods

(Copies of these documents are available online at <https://quicksearch.dla.mil>.)

2.3 Non-Government publications. The following documents form a part of this document to the extent specified herein. Unless otherwise specified the issues of these documents are those cited in the solicitation or contract.

### AMERICAN SOCIETY FOR QUALITY (ASQ)

ANSI/ASQ Z1.4 - Sampling Procedures and Tables for Inspection of Attributes

(Copies of this document are available online at <https://asq.org>.)

### ASTM INTERNATIONAL

- ASTM D412 - Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers – Tension
- ASTM D471 - Standard Test Method for Rubber Property Effect of Liquids
- ASTM D573 - Standard Test Method for Rubber Deterioration in an Air Oven
- ASTM D1053 - Standard Test Methods for Rubber Property - Stiffening at Low Temperatures: Flexible Polymers and Coated Fabrics
- ASTM D1630 - Standard Test Method for Rubber Property - Abrasion Resistance (Footwear Abrader)
- ASTM D2240 - Standard Test Method for Rubber Property - Durometer Hardness
- ASTM F1291 - Standard Test Method for Measuring the Thermal Insulation of Clothing Using a Heated Manikin
- ASTM F2913 - Standard Test Method For Measuring the Coefficient of Friction for Evaluation of Slip Performance of Footwear and Test Surfaces/Flooring Using a Whole Shoe Tester

(Copies of these document are available online at <https://www.astm.org.>)

## SATRA GLOBAL TEST METHODS

### TM-144 - Slip Resistance (rough ice method)

(Application for copies should be addressed to SATRA Technology Center, SARTA House; Rockingham Road, Kettering, Northamptonshire; NN 16 9 JH, England.)

2.4 Order of precedence. Unless otherwise noted herein or in the contract, 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 4.2.

3.2 Conformance inspection. When specified, a sample shall be subjected to inspection in accordance with 4.3.

3.3 Standard sample. Unless otherwise indicated, the finished Boots shall match the standard sample for shade and appearance, and shall, be equal to or better than the standard sample with respect to all characteristics for which the standard sample is referenced (see 6.4).

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

### 3.5 Design.

3.5.1 Boot. The boot shall be white blucher type, rigid non-slip sole and heel (outsole), with eyelets and nylon laces. The boot shall have a smooth finish and shall be made from materials that are flexible, waterproof, and chemical resistant. The boot shall be resistant to mold and fungus growth. The general design configuration of the boot shall be similar to Figure 2.

3.5.2 Eyelets. The eyelets shall be aluminum telescopic type not less than 0.015-inch thickness with washer. The eyelets shall have a roll setting barrel that is capable to assure a secure attachment during the service life of the boot. The outside of the eyelets shall be finished with a hard-baked enamel finish, white in color. The eyelets stay shall have a fabric support behind the stay to assure good adhesion to the upper and to minimize the risk of the stay tearing away from the boot.

3.5.3 Outsole. The outsole and heel shall have a Shore A hardness of 50 ( $\pm 5$ ) and an abrasive index (NBS) of not less than 40 when tested as specified in 4.5. The outsole shall be petroleum, oil and lubricant (POL) resistant.

3.5.4 Inside lining. The inside lining shall be polyester and capable of not supporting bacteria growth, with no stitched seams in the foot (bottom) portion.

3.5.5 Insulation. The insulation shall come up to 3-inches from the top ( $\pm 1/2$ ) inch at the back and 3-1/2-inches from the bottom of the eyelet stay at the vamp ( $\pm 1/2$ ) inch for all sizes. The insulation material shall be suitable to meet the minimum clo value requirement specified herein. The insulation material shall be completely impermeable to moisture.

3.5.6 Dimensions. Dimensions for bottom length, bottom width, ball girth, waist girth, and top opening shall be equal to the standard sample ( $\pm 1/4$ ) inch tolerance.

3.5.7 Weight. Each finished boot shall be weighed without laces and instruction tag to the nearest 0.5 ounce. The weight shall be branded on the inner side of the heel of each boot; the weight identifier, "OZ" shall be added in the heel area for clarification. Figures shall be approximately 3/8-inch high and have a minimum depth of 1/32-inch.

3.5.8 Valve. The boot shall incorporate an air valve on the outside upper boot to relieve pressure when airborne and to check boots for leakage. The valve shall be a manually operated valve making a water and airtight seal when closed. The boot at the valve area shall be permanently imprinted on one side with the following: "KEEP CLOSED UNLESS AIRBORNE" and on the other side: "OPEN". Directional arrows shall also be permanently imprinted on each side to illustrate the direction required to open or close the air valve.

### 3.6 Performance characteristics.

3.6.1 Rubber outsole Petroleum, Oil, and Lubricants (POL) resistant. The boot outsole components shall have a maximum volume swell of 40 percent (%) (Fuel B) when tested as specified in 4.5.

3.6.2 Water resistance. The boots shall show no evidence of leakage when tested as specified in 4.5 and 4.6.1.

3.6.3 Slip resistance. The boots shall have a slip-resistant sole and heel and shall have a minimum coefficient of friction of 1.0 for both the forepart and heel on dry stainless steel, 0.3 for both the forepart and heel on wet stainless steel, and 0.1 in flat mode on rough ice when tested as specified in 4.5.

3.6.4 Mildew resistance. The contractor shall submit a certificate of conformance stating that the rubber compound and polyester lining are mildew and bacteria resistant.

3.6.5 Toxicological resistance. The boots shall have a minimum resistance to mustard penetration of 75 minutes and a minimum resistance to Isopropyl methylphosphonofluoridate (GB) vapor of 100 minutes when tested as specified in 4.5 (Table V) and 4.6.2. As an alternative, the test specimen may include only the outer layer of rubber and a single layer of insulation, as they are constructed in the end item.

3.6.6 Thermal insulation. The boot in its completed configuration, shall have a minimum overall total clo value of 1.5 with specific regions as defined in Table I when tested as specified in 4.5 and 4.6.3.

TABLE I. Thermal insulation properties.

Characteristics	Requirements
Toe clo (minimum)	1.7
Heel clo (minimum)	1.8
Sole clo (minimum)	2.8

3.6.7 Low temperature flexibility (Cold Flex). The compounds for the upper, outsole, and heel shall meet the requirements specified in 4.5. The test temperature shall be minus 65°F and the coolant shall be methanol. Each component lot of compound material shall be tested for low temperature flexibility. A lot of compound shall consist of the amount of compound that is produced or compounded in one (1) day. The sample size for testing shall be three (3) sample units for each component compound for each lot. The number of pieces formed to the dimensions shall be as follows:

3.6.7.1 Upper compound – One (1) piece 6 by 6-inches by 0.085 ( $\pm$  0.010) inch.

3.6.7.2 Outsole compound – One (1) piece 6 by 6-inches by 0.085 ( $\pm$  0.010) inch.

3.6.7.3 Heel compound – One (1) piece 6 by 6-inches by 0.085 ( $\pm$  0.010) inch.

3.6.8 Stiffness and color. The rubber components shall meet the requirements as listed in Table II when tested as specified in 4.5.

TABLE II. Rubber components performance.

Rubber Component	Characteristic	Requirement
Upper	100% Modulus (psi) minimum	150
	Hardness (Shore A)	56-66
	Aging 7 days at 70°C - Hardness	56-76
	Aging 7 days at 70°C - 100% Modulus	200
	Aging 7 days at 70°C - Color change	No significant change
	Cold Flex	ASTM D1053

TABLE II. Rubber components performance. - Continued

Rubber Component	Characteristic	Requirement
Back counter	Hardness (Shore D)	40 – 52
Outsole	100% modulus (psi) maximum	270
	NBS Abrasion (%) minimum	40
	Hardness (Shore A)	45 - 55
	Cold Flex	ASTM D1053
	Volume change Fuel B - 46 hours at room T° (%) maximum	40
Heel	NBS Abrasion (%) minimum	40
	Hardness (Shore A)	45 - 55
	Cold Flex	ASTM D1053
	Volume change Fuel B - 46 hours at room T° (%) maximum	40

### 3.7 Physical characteristics.

3.7.1 Weight. The boots shall not weigh more than 7.25 pounds per pair for size 9R boot and shall graduate up or down a maximum of 2-ounces per pair between whole sizes.

3.7.2 Height. The boots shall be 11( $\pm$  1/4) inches in height for a size 9R boot. The boot shall be measured on the outside from the bottom of the heel to the top of the boot.

3.7.3 Color. The color of the boots shall be white.

3.8 Interface. The boots shall be compatible with, and shall not crush, distort or be damaged when used with standard issued ski bindings, crampons, and snowshoes. The boots shall include a ski-strap shelf located on the heel, with distance from the ground graded based on boot size, with construction in accordance with the dimensions specified in Figure 2.

3.9 Marking and identification. The upper inside quarter of each boot shall be marked with the contract number, size, and width. Marking shall be permanent and legible without cutting through at any point. The figures and letters shall be approximately 1/4-inch in height. Each pair of boots shall be bar coded with a Type VIII, Class 18 label/tag of MIL-DTL-32075. The label/tag shall be located so that it is completely visible on the packaged item and shall cause no damage to the item.

3.10 Instruction tag. Instruction tags shall be fabricated using tag stock and printed in black ink. The tag shall be a 6-1/2-inches by 5-1/2-inches tag stock sheet folded length wise to form a four (4)-page booklet having two (2) outer printed pages and two (2) inner printed pages. The tags shall be perforated in the upper left hand corner to provide for insertion of lace end. The printing shall start on page number one (1) and read from top to bottom. The instruction tag for the boots shall be printed on white tag stock and shall contain the printed matter shown on

Figure 3. The size of characters shall be 1/16-inch high minimum except capital letters shall be 3/32-inch minimum.

3.11 Bar code label. Each item shall be individually bar-coded with a paper tag for personal clothing items. The paper tag shall be standard bleached sulfate having a basis weight of 100 pounds. The paper used for the tags shall have a smooth finish to accept thermal transfer and direct printing. The tags shall have a hole and shall be attached to each item by a fastener. The tags shall be clearly legible and readable by a scanner. The bar coding element shall be a 13 digit National Stock Number (NSN). There shall be a 12-digit Universal Product Code (UPC) number assigned for all NSN's by the contracting activity. The initials "UPC" must appear beneath the code. The bar code for NSN and UPC type shall be a medium to high density and shall be located so that it is completely visible on the item when it is folded and/or packaged as specified so it causes no damage to the item. The UPC code must also be placed on all shipping cartons on which the NSN appears.

3.12 Lasts. The boots shall be fabricated on commercial lasts. Size grading for lasts will be provided by the contracting activity and is provided for general guidance purposes only. Commercial lasts will be authorized upon approval.

#### 4. VERIFICATION

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

- a. First article inspection (see 4.2).
- b. Quality conformance inspection (see 4.3).

4.2 First article inspection. When a first article is required (see 3.1 and 6.3), the boot shall be examined in accordance with 4.4 and the tests in 4.5 and 4.6. Sampling for first article inspection shall be as specified in contract or purchase order (see 6.2).

4.3 Conformance inspection. Conformance inspection shall include the examination of 4.4 and the tests in 4.5 and 4.6. Sampling for inspection shall be as specified in the contract or purchase order (see 6.2).

4.4 Visual examination. The boots shall be examined for the following defects as specified in Table III.

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TABLE III. Visual defects. 1/

Examine	Defect	Classification	
		Major	Minor
Pairing	Not properly mated; i.e., not right and left of same size	101	
	Variation in color, luster, or appearance	* <u>2/</u>	
	Variation of more than 1/4-inch in height of pair	102	
Cleanness	Any non-removable spot, stain, or foreign matter affecting appearance on outside or inside of boot;		201
Color and Finish	Color not as specified or not uniform	* <u>2/</u>	
Design	Not as specified	103	
Construction and Workmanship (General)	Any cut, tear, hole, lumps or creases; any burns or marring; wrinkled or full lining; any blisters or pits; any air pockets in the insulated area repair or damage	* <u>2/</u>	
	Any component or assembly omitted, damaged or misplaced, operation omitted, not properly performed.	* <u>2/</u>	
	any component part damaged or cannot serve its intended purpose; uneven lasting; any sharp edge (metal parts, if applicable);	104	
Outersole and Heel	Any malformation, wrong size used	* <u>2/</u>	
Eyelets	Number of eyelets not as specified in each row	105	
	Not the same number of eyelets in each row	106	
	Eyelets/speedlaces not properly spaced within the row or misalignment between the rows to an extent interfering with proper lacing	* <u>2/</u>	
	Any eyelet not securely clinched		202
	Any eyelet malformed or damaged		203
Marking and instruction tag	Missing, incomplete, incorrect, not applied in the specific manner, misplaced, illegible, or not specified size		204

1/ Sampling for visual inspection shall be in accordance with the inspection levels as specified in the contract or solicitation.

2/ This defect shall be scored as major when seriously affecting serviceability or appearance And as a minor when not seriously affecting serviceability.

4.5 Component and end item testing. The boot and its components and shall be tested for the characteristics listed in Tables IV and V. Noncompliance with any specified requirement shall constitute failure of that test. All component and end item testing shall be in accordance with the inspection levels as specified in the contract or solicitation (see 6.2).



TABLE IV. Rubber components testing.

Location	Characteristic	Requirement paragraph	Test Method
Upper	Cold Flex	3.6.7	ASTM D1053
	100% Modulus (psi)	3.6.8	ASTM D412
	Hardness (Shore A)	3.6.8	ASTM D2240
	Aging 7 days at 70°C - Hardness	3.6.8	ASTM D573
	Aging 7 days at 70°C - 100% Modulus	3.6.8	ASTM D573
	Aging 7 days at 70°C - Color change	3.6.8	Visual
Back counter	Hardness (Shore D)	3.6.8	ASTM D2240
Outsole	NBS Abrasion (%)	3.5.3	ASTM D1630
	Hardness (Shore A)	3.5.3	ASTM D2240
	Volume change (Fuel B) - 46 hours at room T° (%)	3.6.1	ASTM D471 <u>1</u> /
	Cold Flex	3.6.7	ASTM D1053
	100% modulus (psi)	3.6.8	ASTM D412
Heel	NBS Abrasion (%)	3.5.3	ASTM D1630
	Hardness (Shore A)	3.5.3	ASTM D2240
	Volume change (Fuel B) - 46 hours at room T° (%)	3.6.1	ASTM D471 <u>1</u> /
	Cold Flex	3.6.7	ASTM D1053

1/ Testing shall be performed on slabs

TABLE V. End item testing.

Characteristics	Requirement paragraph	Test method
Water resistance	3.6.2	4.6.1
Slip resistance	3.6.3	ASTM F2913/ SATRA TM 144 <u>1</u> /
Mildew resistance	3.6.4	<u>2</u> /
Toxicological agents resistance	3.6.5	4.6.2 <u>3</u> /
Thermal insulation	3.6.6	4.6.3 <u>2</u> / <u>4</u> /
Color	3.7.3	Visual

1/ Testing shall be performed on size 9R boots. Sole to be preconditioned with 40 grit sand paper for six (6) cycles.

2/ The mildew resistance and Thermal Insulation tests will be performed on the first two (2) production lots, after which a certificate of conformance will be acceptable for these test characteristics.

3/ The toxicological resistance tests for mustard vapor penetration and GB vapor penetration shall be performed by an approved lab as specified in the contract. The test specimens shall be cut from the boots at the test facility.

4/ Test conducted on size 9R left boot.

#### 4.6 Methods of inspection

4.6.1 Water resistance. The boot shall be immersed in tap water to 2-inches below the top of the boot. Test for leakage by applying 0.5 pounds per square inch (PSI) of air pressure through the air valve and immersing in the water bath for a minimum of 30 seconds. Any stream of air bubbles shall be considered evidence of leakage and a test failure.

4.6.2 Toxicological agents resistance tests. The test specimen shall be cut equally from the toe portion and the upper areas of the boot. Specimen, one (1) from each of the boots, shall be tested for the mustard vapor penetration as specified in Method T 209 or Method T 204 of MILSTD-282. The other specimen shall be tested for GB vapor penetration as specified in Method T 208 or Method 206 of MIL-STD-282.

#### 4.6.3 Thermal insulation.

4.6.3.1 Test methodology. Since there is no ASTM test method to test boots, total thermal insulation of boots is determined using an in-house test methodology, which follows procedures similar to the ASTM F1291 for thermal manikin. A standard issue cold weather sock, per the NSNs listed in Table VI, shall be worn between the 9-zone thermal foot and the boots. The boots encase the 9-zone thermal foot and sock. The ensemble shall be worn as they would be operationally (i.e. excluding rolling of the socks over the 9-zone thermal foot). Tests are conducted in a controlled environmental chamber. Data is collected for thirty minutes of steady state conditions. The thermal foot provides measurements for segments as shown in Figure 1.

TABLE VI. Cold Weather Sock NSNs for Thermal Insulation Testing

<b>Sock</b>	<b>NSN</b>
U4050-XS	NSN #8415016794983
U4050-SM	NSN #8415016794985
U4050-MD	NSN #8415016794986
U4050-LG	NSN #8415016794987
U4050-XL	NSN #8415016794988



FIGURE 1. Thermal Manikin Foot with Numbered Segments.

#### Thermal insulation:

Thermal resistance  $R_t$  ( $\text{m}^2 \cdot ^\circ\text{K}/\text{Watt}$ ) is a quantity used to determine the insulation value of items. It is a measure of the total resistance to dry heat loss measured on a thermal foot to a relatively cool environment. Clo is one of the most widely used units in the clothing industry.  $\text{Clo} = 6.45 \cdot R_t$  or  $1 \text{Clo} = 0.155 \text{ m}^2 \text{K}/\text{Watt}$

Total Clo refers to the weighted average of all segments of the thermal foot. The toe region consists of segments 6 and 7. The heel region consists of segment 9. The sole region consists of segment 8.

$$R_t = (T_s - T_a)A/H$$

where:

- $R_t$  = total thermal resistance (insulation) of the boot and surface air layer ( $^\circ\text{C} \cdot \text{m}^2/\text{W}$ ),
- $A$  = surface area of the thermal foot ( $\text{m}^2$ ),
- $T_s$  = temperature at the thermal foot surface ( $^\circ\text{C}$ ),
- $T_a$  = temperature in the air flowing over the boot ( $^\circ\text{C}$ ), and
- $H$  = power required to heat thermal foot (W).

Test conditions shall be as follows:

Ambient Temperature	15.0°C (59.0°F) or lower depending on the insulation of the boot
Foot Temperature	35.0°C (95.0°F)
Temperature	35.0°C (95.0°F)
Wind Speed	0.9 mph (0.4 m/s)

NOTE. Ideally, three (3) separate samples of the test footwear system are evaluated, and the average value is reported. For source selection purposes, one (1) footwear system shall be tested three (3) times and the average value shall be reported. Rt values shall be converted to the more familiar clo unit for source selection and procurement purposes. Variation of 10 percent shall be used as the basis for determining similarity, inferiority, or superiority when comparing test items to the standard. determining similarity, inferiority, or superiority between samples. Items that are within ( $\pm 10$ ) percent of the insulation provided by the standard/reference shall be considered similar; items that provide less than 90 percent of the insulation provided by the standard/reference shall be considered inferior and items that provide more than 110 percent of the insulation provided by the standard/reference shall be considered superior.

## 5. PACKAGING

5.1 Packaging. For acquisition purposes, the packaging requirements shall be as specified in the contract or order (see 6.2). When actual packaging of material is to be performed by DoD or in-house contractor personnel, these personnel need to contact the responsible packaging activity to ascertain requisite packaging requirements. Packaging requirements are maintained by the Inventory Control Point's packaging activities within the Military Department or Defense Agency, or within the military service's system commands. Packaging data retrieval is available from the managing Military Department's or Defense Agency's automated packaging files, CDROM products, or by contacting the responsible packaging activity.

## 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 boots are intended for military personnel in the United States Army used in extreme cold weather climates by personnel of the Department of Defense (DoD).

6.2 Acquisition requirements. Acquisition documents should specify the following:

- a. Title, number and date of this Purchase Description.
- b. Sizes required (see 1.2).
- c. The specific issue of individual documents referenced (see 2.2).
- d. When first article is required, (see 3.1, 4.2 and 6.3).
- e. Conformance inspection acceptance quality limits (AQLs) (see 3.2 and 4.3).
- f. Determinations required for end item testing if applicable (see 4.5).
- g. Packaging (see 5.1).

6.3 First article. When a first article inspection is required (see 3.1), it will be inspected and approved under the appropriate provisions of FAR 52.209-4. 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 Standard sample. For access to samples and pattern drawings, address the contracting activity issuing the invitation for bids or request for proposal.

6.5 International standardization agreements. Certain provisions of this document are the subject of international standardization agreement as cited in NATO STANAG 2333. When amendment, revision, or cancellation of this document is proposed that will affect or violate the international agreement concerned, the preparing activity will take appropriate reconciliation action through international standardization channels including departmental standardization office, if required.

6.6 Subject term (keyword listing).

Environmental resistant

Footwear

Thermal insulation

Toxicological resistance

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FIGURE 2. Boot, Extreme Cold Weather, Insulated.

FACTS ABOUT THE INSULATED BOOT:

These boots have been designed to protect you in sub-zero conditions and must be worn when actual temperatures of -14 degrees F or below may occur. The part of the boot that keeps the foot warm consists of insulation material. Marching, running, or heavy work for long period will cause the feet to sweat. However, this moisture cannot damage the insulation because of the waterproof lining inside the boot. The feet, even if damp, will stay warm. After a few days, your feet become used to this feeling. If these boots are worn continuously, the skin appears wrinkled as if it had been soaked in water. Drying the feet and putting on dry clean socks will cause this condition to disappear. If ice water spills into the boot, it warms to body temperature rapidly.

FOLLOW THESE INSTRUCTIONS:

Wear with one pair of Socks, Wool, and Cushion Sole. Fold the top of the sock over top of boot to prevent slipping and wrinkling. Field trousers are to be worn outside the boots.

**SIZES:** Boots are supplied in whole sizes. Widths are NARROW, REGULAR, and WIDE. Try on the same size insulated boots as your leather boots. If you were a half size in leather boots, try on the next larger or smaller size for proper fit. Make sure the insulated boots fit properly! They have a “soft” fit. Be sure yours are large enough. They should fit snug, not tight.

Loosen laces and draw boot onto foot, seating the back of the heel firmly on the boot. Pull laces right above the second eyelet firmly to anchor the boot to the foot. Lace rest of boot comfortably. Fold or tuck fullness of gusset rearward on outer side of leg. When doffing boot, loosen laces above second eyelet. Change socks at least once daily. If your feet begin to get cold, button up all your garments and exercise the entire body by swinging the arms, stamping the feet, and rapid movement of the toes. Wash the inside of the boots with soapy water once a month.

Boots should be inspected after each use for holes, cuts, and punctures as the insulation can become wet if the boot is accidentally punctured. Repair all outside and inside punctures immediately to prevent moisture from wetting the sealed insulation, using the “Emergency Repair Patch Kit for Insulated Boots.” If this kit is not available, temporary repairs can be made by patching with rubber or friction tapes, pressure sensitive adhesive cellophane tape, or even chewing gum. Damaged boots should be turned in for repair or new boots.

Do not paint the inside of the boots for identification purposes or polish the boot with shoe polish as this will result in deterioration of the rubber.

The air release valve on the outside of the boot equalizes air pressure at different altitudes. To reduce boot swelling and foot discomfort, open the valve allowing pressure to escape. Back at lower altitudes, close again. Be sure to keep closed except while airborne, in order to eliminate moisture penetration. **DO NOT TAMPER WITH AIR VALVE. USE ONLY WHEN NEEDED!**

FIGURE 3. Instruction Tag For Boots, Extreme Cold Weather, Insulated.

CLEANING:

Sprinkle lightly with general purpose scouring powder or similar cleaning powder. Wet a soap-impregnated steel pad and rub lightly. Rinse with water.

TRENCH FOOT AND FROSTBITE are serious cold injuries, which can cause painful and permanent disability. These injuries can be prevented by proper care of your feet. No boot will keep your feet from freezing in sub-zero weather if you remain motionless for several hours. Wear the insulated boot properly and DO NOT BECOME A COLD WEATHER CASUALTY.

FIGURE 3. Instruction Tag For Boots, Extreme Cold Weather, Insulated. - Continued

Custodians:  
Army - GL

Preparing Activity:  
Army - GL