

INCH-POUND
A-A-50371
20 March 1989

COMMERCIAL ITEM DESCRIPTION

BOOTS, FIREMEN'S

1. SALIENT CHARACTERISTICS

1.1 Description. The firemen's boots shall be a knee (bunker) length style and a three quarter length style of standard vulcanized construction meeting minimum design and performance requirements of NFPA 1974, Protective Footwear for Structural Firefighting, 1987 edition. Design features shall include a steel box toe, spike resistant steel insole, cleated outsole, non-slip heel, and a shin reinforcement. The type I boot shall be fitted with a top strap and buckle, and the type II boot shall have pull-on leg loops (see Figure 1).

1.2 Types. The boot shall be supplied in two types (see 4.2):

Type I - Three quarter length

Type II - Knee length

1.3 Sizes. Both types of boots are supplied in sizes 5 to 13 (inclusive), whole sizes only (see 4.2 and 4.3).

1.4 Materials.

1.4.1 Rubber compound. The rubber compound shall be natural, synthetic or a blend of both. The upper part of the boot shall be black with white or yellow bumper toe caps and foxing. Tensile strength (ASTM D-412) requirement for the upper compound shall be not less than 1450 pounds per square inch and ultimate elongation (ASTM D-412) not less than 350 percent. The soles and heels shall have an abrasive index (ASTM D-1630) of not less than 45 before aging and not less than 34 after aging. Hardness (ASTM D-2240) of the sole and heel compounds shall be 60 to 70 before aging and not more than 75 after aging. Aging test shall consist of 16 hours of 212° F heat in a circulating air oven.

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: Officer in Charge, Navy Clothing and Textile Research Facility, 21 Strathmore Road, Natick, MA 01760-2490 by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

ASMC N/A

FSC 8430

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

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1.4.2 Leg and top lining material. The leg and top linings shall consist of a 50% aramid/ 50% para-aramid blend Maliwatt fabric with the following characteristics:

Weight (minimum)	5.5 oz/sq yd
Warp (gauge) (minimum)	11 per inch
Weft (stitches) (minimum)	14 per inch
Tensile strength	(FED-STD-191 - TM 5100)
Warp (minimum)	60 lbs.
Weft (minimum)	24 lbs.

1.4.3 Shin reinforcement. The shin reinforcement shall be either an inner shin guard made of a minimum .100 hardened rag or an exterior shin protector made of heavy knurled rubber.

1.5 Construction. The boots shall be constructed in accordance with the contractor's patterns and lasts, utilizing component parts listed herein, as applicable. Sequence of construction shall be in accordance with the contractor's standard practice. All overlapped parts shall be firmly rolled or pressed before vulcanization.

1.6 Height measurements. The inside height of the type I boot shall be not less than 29 inches. The inside height of the type II boot (excluding leg loops) shall be not less than 13 inches. The height shall be measured on a finished boot at the inside heel area to the top, back of the boot.

1.7 Labels.

1.7.1 ANSI labeling. All boots shall be labeled to indicate that they conform to class 75 safety toe requirements outlined in American National Standards Institute's Standard Z41 PT. Below the label of 1.7.2, the following label shall be legibly stamped or printed with indelible ink of a contrasting color:

ANSI Z41 PT 83
MI/75 C/75

1.7.2 Contract #, NSN, and size label. Each boot shall have a label containing the contract number, NSN, and size. The information shall be legibly printed or stamped with indelible ink of a contrasting color on the inside of the boot approximately 1 inch from the top edge, or on the outside of the boot just below the leg loop.

1.8 Workmanship. The boots shall be uniform in quality and shall be free from irregularities or defects which adversely affect performance, reliability or durability.

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1.9 Approved styles. The following styles meet the requirements of this description:

Type I

Ranger - Style 41280
 Servus - Style 11468

Type II

Ranger - Style 31280
 Servus - Style 11467

Other manufacturers may submit their styles to the procuring activity for evaluation by the specification preparing activity, and ultimate inclusion in this document, if approved.

1.10 Product demonstration models. During the solicitation phase, interested firms (including the manufacturers of the above approved styles), shall provide the procuring agency with two product demonstration models (one pair) of the item they propose to furnish for evaluation. The two samples provided by the successful offerer shall be tagged and sealed. One boot shall be retained by the procuring agency and the other furnished the assigned QAR for use as a reference in performing the examination in paragraph 2.2 and the scoring of defects in design, material, and workmanship not otherwise classified herein.

2. QUALITY ASSURANCE

2.1 Certification. When requested by the contracting officer, the contractor shall certify that the product offered meets the salient characteristics of this description and the product demonstration model. It shall conform to the producer's own drawings, specifications, standards and quality assurance practices when it is the same as the product offered for sale in the commercial marketplace.

2.2 Examination of the end item. The boots shall be inspected in accordance with MIL-STD-105. Defects found during the examination of the end item shall be classified as below. The applicable inspection levels and AQL's shall be as indicated in 2.3. The lot size shall be expressed in units of boots. The sample unit shall be one completely fabricated boot, and the selection shall be in pairs. For pairing defects, the boots shall be paired together. Pairing defects shall be counted as a single defect.

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DEFECTS	Classification	
	MAJOR	MINOR
I. MATERIAL DEFECTS (RUBBER PARTS)		
A. Any cut, hole, or tear	X	
B. Lump or blister, up to and including 1/4 inch		X
C. Lump or blister, over 1/4 inch		X
D. Color of any part not as specified		X
E. Embedded foreign material	X	
F. Looseness or poor adhesion of any part	X	
G. Vulcanization poor or incomplete	X	
H. Marred, scarred, or wrinkled stock, up to and including 1/4 inch		X
I. Marred, scarred, or wrinkled stock, over 1/4 inch	X	
II. MATERIAL DEFECTS (TEXTILE PARTS)		
A. Any cut, hole, or tear	X	
B. Full, tight, or twisted	X	
III. WORKMANSHIP		
A. Part malformed, affecting serviceability	X	
B. Part malformed, not affecting serviceability		X
C. Part missing or misplaced, affecting serviceability	X	
D. Part missing or misplaced, not affecting serviceability	X	
IV. PAIRING		
A. Right and left not of same size and type	X	
B. Variation in height more than 1/2 inch	X	
V. LABEL		
A. Any label missing, incorrect, or illegible		X
VI. HEIGHT		
A. Height not as specified	X	
VII. GENERAL		
A. Any defect not otherwise classified herein but at variance with the approved style/product demonstration model		X

2.3 Inspection levels and AQL's. The inspection levels and acceptable quality levels (AQL'S) expressed in defects per 100 units, for visual and dimensional examination, shall be as follows:

	AQL's	Inspection level
Major	2.5	II
Total (Major and minor combined)	6.5	II

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3. PACKAGING, PACKING AND MARKING

3.1 Packaging. Each mated pair of boots of one type only shall be secured together with cotton tape or twine to prevent separation. As an alternate, each mated pair of boots may be placed in a polyethylene bag with the open end closed by means of a aluminum band, paper, or plastic covered steel wire tie.

3.2 Packing. Four pairs of type I boots, or five pairs of type II boots, of one size only, packaged as specified in 3.1, shall be packed in a fiberboard shipping container, assembled, closed and reinforced according to type CF, class domestic, variety DW, grade 275, size 3A of MIL-B-17757. The fiberboard for the liner shall conform to type CF, class domestic of MIL-B-17757. When mated boots are secured together with tape or twine as specified in 3.1, the container shall have the contents completely covered on the top and bottom with a sheet of commercial grade kraft paper.

3.3 Marking. The unit package, intermediate and outer container and the palletized load, as applicable, shall be marked in accordance with MIL-STD-129.

3.4 Palletization. When specified, see 4.2, boots, packed as specified in 3.2, shall be palletized on a 4-way entry pallet in accordance with load type 1A of MIL-STD-147. Each prepared load shall be bonded in accordance with means C, K, and L or O or P. Pallet patterns shall be in accordance with appendix of MIL-STD-147. The pallet shall be 4-way, Type IV; Type V, Class 1, Size 2; or Type VIII, fabricated from wood group I, II, III, IV, Grade A of NN-P-71, or 4-way, Style 1, Size A, Type I, Class 1 fabricated from wood groups of MIL-P-15011. Interlocking of loads shall be effected by reversing the pattern of each course. If the container is of a size which does not conform to any of the patterns specified in MIL-STD-147, the pallet pattern used shall first be approved by the contracting officer.

4. NOTES

4.1 Intended use. The type I boots are intended to be worn by damage control personnel in shipboard environments, and the type II boots are intended to be worn with the damage control firefighter's coverall and the combination structural/proximity coat and trousers.

4.2 Acquisition requirements. The acquisition document shall specify the following:

- (a) Title, number and date of this document.
- (b) Type and sizes required (see 1.3)
- (c) When palletization is required (see 3.4)

4.3 Additional sizes. The approved suppliers may also commercially supply boots in additional sizes to those provided by this document.

Preparing Activity:
Navy - NU

Project Number:
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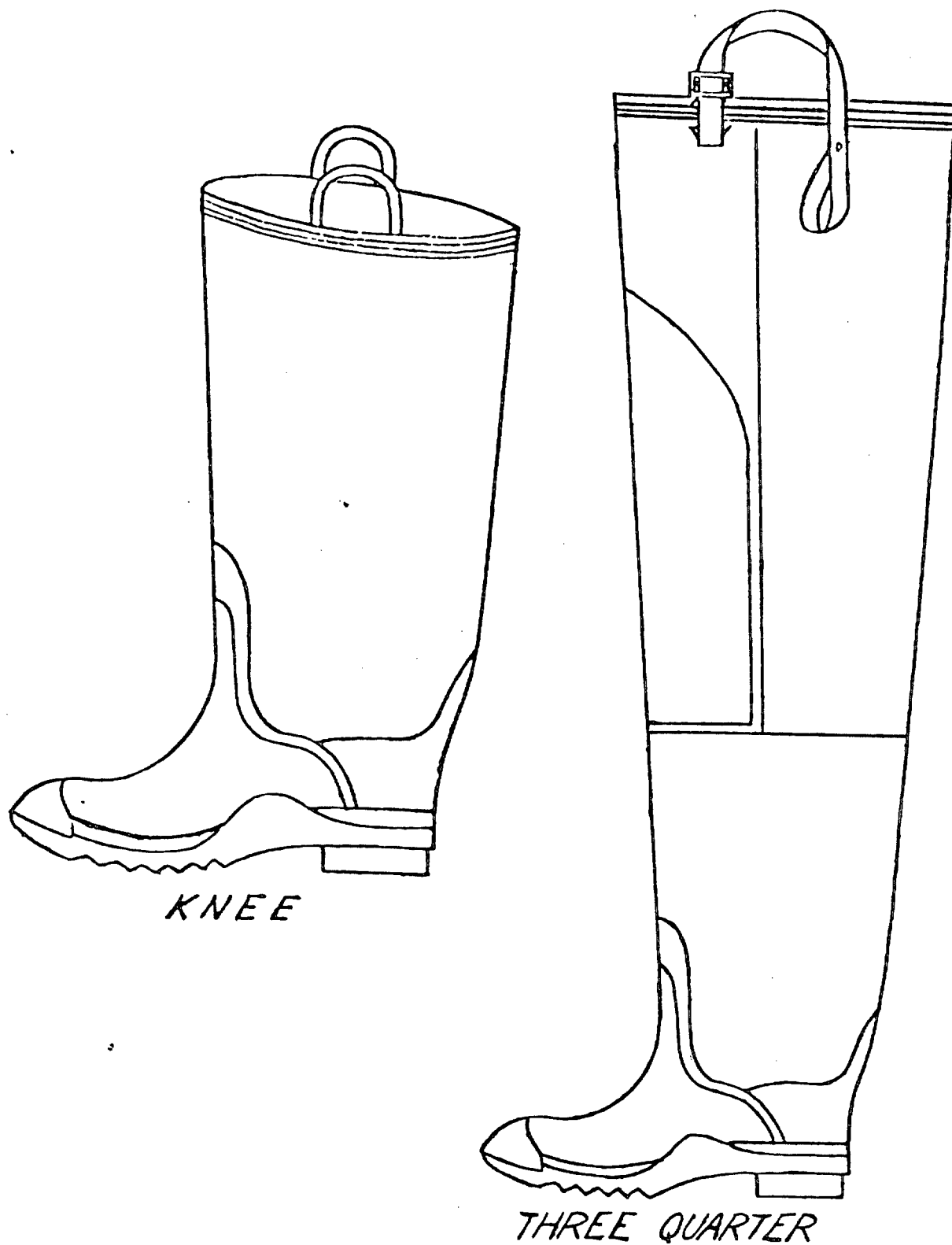


Figure 1 - Boots, Firemen's