

(23)

No.U.II-98(Spec)/12-13-Prov
Government of India/Bharat Sarkar
Ministry of Home Affairs/Grih Mantralaya
P.M. Division/Prov-I Desk

26, Man Singh Road, Jaisalmer House
New Delhi, dated 7th Dec'2012

To,

DsG: AR/BSF/CISF/CRPF/ITBP/SSB/NSG & BPR&D

Subject:- QRs/Specification on Jungle Shoes PU Sole.

The QRs of Jungle Shoe PU Sole as per annexure have been accepted by the Competent Authority in MHA.

2. Henceforth, all CAPFs should procure the above items required by them, strictly as per the laid down QRs/Technical Specifications.

Encl: - As above

Yours faithfully,



(Smt. S.B. Nanda)

Under Secretary to the Govt. of India

Copy forwarded for necessary action to:-

- (i) Director, NIC, MHA: It is requested to host the QRs (soft copy attached) on the MHA website (under the page of Original Set up Police Modernisation Division under C & T head (Clothing Equipment list) - Qualitative Requirements) and confirm to this Division promptly. Softcopy is being sent through email also.



(R.K. Soni)

Section Officer (Prov-I)

Copy to : Director (Procurement), MHA
Copy for information to : PS to JS(PM)

BOARD PROCEEDINGS

Proceedings of : A Board of officers

Constituted vide : GOI/ MHA OM No. U.II-1019/2011-12-Proc-II
dated 19/09/2012

Assembled at : Directorate CRPF, Block No. 01, CGO Complex
Lodhi Road, New Delhi

Assembled on : 19/10/2012

Purpose : For framing of QRs/ Specification of Jungle Shoe
(PU) Sole.


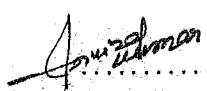
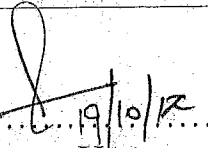
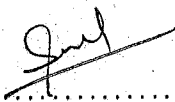
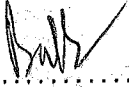
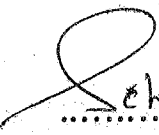
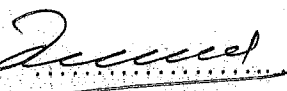

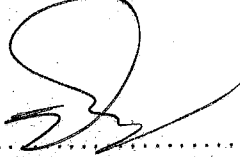
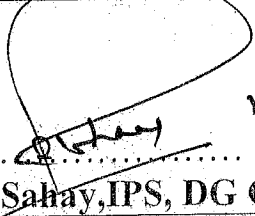
COMPOSITION OF BOARD

Chairman	:	Shri Pranay Sahay, IPS, DG CRPF
Member	:	Shri G.D Pewal, IG(Prov) CRPF
Member	:	Shri M.P.S Negi, DIG(Prov) CRPF
Member	:	Shri Rajendra Pandey, DIG(CTS), BSF
Member	:	Shri S Chattarjee, SSO(U&A) BPR&D
Member	:	Shri Arun Kumar, DC(LO), Assam Rifle
Member	:	Shri Balbir Singh Dy Comdt, ITBP
Member	:	Shri Arvind Kumar Asst Comdt, SSB
Member	:	Shri Sunil Kumar , SC(Proc) , NSG
Member	:	Insp Ratari Chand, CISF

In pursuance to the orders of GOI/ MHA OM No. U.II-1019/2011-12-Proc-II dated 19/09/2012, the sub group of officers assembled at Directorate CRPF, Block No. 01, CGO Complex Lodhi Road, New Delhi for finalization of Specification of Jungle Shoe PU Sole. The Specification framed by FDDI after incorporating the suggestions of trades and finalized by the Sub Group is enclosed as per appendix- A.

Cont. on next page.....

The above said QRs/ Specification was published in CRPF website from 21/09/2012 to 06/10/2012 and comments received from trade have been incorporated in the QRs/ specification so made.

Member:  Insp Ratan Chand, CISF	Member:  Shri Arvind Kumar AC, SSB
Member:  Shri Arun Kumar DC(LO) Assam Rifle	Member:  Shri Sunil Kumar NSG
Member:  Shri Balbir Singh DC, ITBP	Member:  Shri S Chattarjee, SSO(U&A) BPR&D
Member:  Shri Rajendra Pandey, DIG(CTS), BSF	Member:  Shri M.P.S Negi, DIG(Prov) CRPF
Member :  Shri G.D Pewal, IG(Prov) CRPF	
Chairman :  Shri Pranay Sahay, IPS, DG CRPF	



FDDI/SPEC/JUNGLE BOOT/024: 2012

**SPECIFICATION
FOR
BOOT ANKLE TEXTILE (JUNGLE BOOT), DIRECT INJECTED PU SOLE**

1. SCOPE

- 1.1 This specification covers the requirement of Jungle Boot PU Sole in sizes 5 - 12.
- 1.2 Jungle Boots described in this specification has been designed to provide smart, durable and comfortable footwear to cater the needs of various State Police Organisations, Railways & Central Para Military Forces etc.
- 1.3 The design also caters for adequate ankle support. It also meets the requirement of wear comfort for long hours. These boots are made with bucket type cleated PU sole and heel by Direct Injection Process.
- 1.4 Materials are specified in this specification, so as to provide to provide added comfort and functionality while undertaking long combat actions. Instep support and cushioning is provided by way of moulded EVA rubber sheet as part full insoles.
- 1.5 This specification covers the constructional, manufacturing and other requirements of the upper & lining fabric, PU Sole and other materials used in the manufacture of Jungle Boots, Ankle High having PU Sole and Heel.

2. REFERENCES

Reference is made in this specification to the followings:

- | | | |
|------|------------------------------------|---|
| i) | IS: 2050-1991 | Glossary of terms relating to footwear |
| ii) | IND/TC/0304 | Laces Nylon Black |
| iii) | IS: 5041-1978 | Specification for Footwear and Stationery Eyelets |
| iv) | IS: 7329-1974
(Reaffirmed 1986) | Metal Lasts for canvas ankle boot |
| v) | IS:4905-1968 | Method of random sampling |
| vi) | IS: 15298 (Part 1) | Requirements and test methods for Safety, Protective and occupational footwear for professional use |

The Standards mentioned above or anywhere in this specification contain provisions which through reference in this text, constitute provisions of this standard.

3. TERMINOLOGY

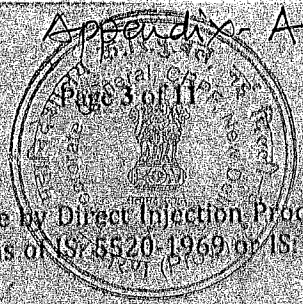
For the purpose of this specification the definitions and terminology given in IS:2050-1991 are applicable

Ver:18.10.2012

Jungle Boot, PU Sole – Specification

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 Professor (Hons.)/Associate (Technical)
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 Ministry of Commerce & Industry, Govt. of India
 P-109, गेट-२४, मुंबई-२०१२०१
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मौलौ मीर परमवीर/य. डी. Parvalkar
 सलाहकार (तकनीकी) / Advisor (Technical)
 एन. वी. डिजाइन एंड डेवलपमेंट इंस्टीट्यूट
 100 Year Design & Development Institute
 बालिका एन. सी. रोड, मंगरुवा, मुंबई ४०००४४
 Ministry of Commerce & Industry, Govt. of India
 १/१०/१, Sector-24, NOIDA-201301
 A-10/A, Sector-24, NOIDA-201301



- 6.1 The boots shall be made by Direct Injection Process (DIP) of construction on lasts confirm dimensions of IS: 5520-1969 or IS: 7329-1974 or equivalent 'H' fitting last.
- 6.2 The boots shall conform to the design and shape as illustrated in the fig.1 attached to this specification. The front portion of the upper, comprising of vamp and toe cap, shall be lined. The toe cap and arch piece shall be of Black colour full chrome tanned leather.
- 6.3 All upper components shall be cut in such a way to ensure adequate shaping of the components.
- 6.4 The patterns of the quarters, vamp, lining, toe cap and toe puff etc. shall be so designed and shall be correctly fitted in such a way that these do not form excessive pleats at toe and counter regions during lasting.
- 6.5 The upper components shall be stitched on lock-stitch machine, which shall be reinforced with Polyester Black binding. Nylon /Polyester sewing thread shall be used for stitching.
- 6.6 Full Chrome leather Toe Cap shall be reinforced with two rows of stitches to the vamp to cover the entire toe portion.
- 6.7 The back seams shall be reinforced with 25 mm wide upper fabric and the edges shall be folded inside having inside turning of 12 mm on each side. The reinforcement shall also form a loop as shown in the drawing.
- 6.8 The joining of quarter and vamp shall be done with two rows of stitches. The tab shall be reinforced with two parallel rows of stitches at a distance of 4 to 5mm away from the face stitching and in the manner illustrated in the drawing. The length of tab stitches shall be between 10 to 12 mm.
- 6.9 The tongue shall be full bellows made from upper fabric with cushion & lining and stitched with the vamp. The open end at the top of the tongue facing shall be bound with polyester black binding.
- 6.10 After closing all ends of the stitching threads be tied and all seams hammered down.
- 6.11 Tow Puff and stiffener components shall be correctly moulded after attachment.
- 6.12 8 nos. aluminum eyelets of size no. 7.5 + 0.5 mm collar diameter shall be fitted in each face.
- 6.13 The upper shall be stroble stitched to the insole.
- 6.14 The Upper shall be force lasted after moulding of the counter and stiffeners.

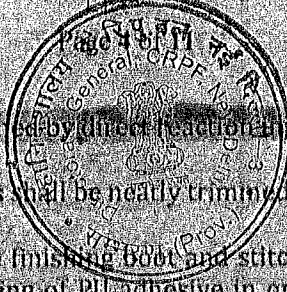
Ver:18-10-2012

Jungle Boot, PU Sole - Specification

श्री श्री प्रसाद/व.ड. Parvathkar
नगरपालिका (म.प्र. १००) (म.प्र. १००)
नगरपालिका (म.प्र. १००) (म.प्र. १००)
Nagar Design & Development Institute
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Ministry of Commerce & Industry, Govt. of India
G-10/3, Sector-24, NOIDA-201 301
A-10/1A, Sector-24, NOIDA-201 301

Handwritten signatures and initials at the bottom left, including 'CRPP', '19/10', 'BSP', '17/10', 'AL', and 'NSQ'.

Appendix - A



- 6.15 The PU sole shall be formed by direct reaction injection process.
- 6.16 The sole and heel flashes shall be neatly trimmed smooth.
- 6.17 All closing seams on the finishing boot and stitches on the flange upper shall be given a suitable coating of PU adhesive in order to ensure that all needle holes are completely filled.
- 6.18 A full insock of the specified material shall be struck down neatly on the insole.
- 6.19 Each pair of boots shall be provided with a pair of Nylon Black Laces of 130 cm long.
- 6.20 Each boot shall also have the "Name/Trade Mark of Manufacturer" and "Size of Boot" on the waist of outer sole, during moulding.
- 6.21 The socks of the Shoe shall be legibly stamped with the manufacturers name/ recognized trademark and size. Month & year of manufacture shall be marked on inside of the tongue.

7. REQUIREMENTS AND TESTS

7.1 The material used in the manufacture of boots shall be tested to the requirements given in this specification.

7.2 Whole Footwear

7.2.1 Mass

The Mass of one pair of finished boots of Size 8 shall be in the range 750 gms to 850g with an increase or decrease of 50 gms for each bigger or smaller size respectively.

7.2.2 Leg Height

The leg height of the boots when tested in accordance with IS 15298 Part 1 shall be 160 ± 2 mm for Size 8 with an increase or decrease by 2.0 mm for each bigger and smaller size. The leg height of the pair shall be equal.

7.2.3 Upper/Outsole Bond Strength

When these boots are tested in accordance with the method given in IS 15298 Part 1, the bond strength shall be no less than 4.0 N/mm.

7.2.4 Electrical Resistance

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Jungle Boot, PU Sole - Specification

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Jungle Boot, PU Sole - Specification
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CRPA
19/10/2012
BSF
AR
MSB

When measured in accordance with the method described in IS: 15298 Part I after conditioning in a dry and wet atmosphere, the electrical resistance shall be not less than 100 kΩ and not greater than 1000 MΩ.

7.2.5 Energy absorption of seat region

When footwear is tested in accordance with the method described in IS: 15298 Part I, the energy absorption of the seat shall be not less than 20 J

7.2.6 Resistance to harsh environments

7.2.6.1 Heat insulation of sole complex

When footwear is tested in accordance with the method described in IS: 15298 Part I, temperature increase on the upper surface of the insole shall be not greater than 22°C

7.2.6.2 Cold insulation of sole complex

When Footwear is tested in accordance with the method described in IS: 15298 Part I, the temperature decrease on the upper surface of the insole shall be not more than 10°C

7.2.7 Hydrolysis Test

The Boots shall be placed in High Humidity (100%) at a temperature of 70°C for 5 days and then tested for whole shoe flexing for 100000 cycles. No Crack or damage to the sole is acceptable.

7.3 Upper & Lining

- i) Upper (Outer Layer)
Polyester Viscose Fabric Annexure-B
- ii) Lining (Inner Layer)
100% Non Woven Nylon (Cambrelle type) Fabric Annexure-C

7.4 Outsole

7.4.1 Outer thickness and cleat height shall be as under:

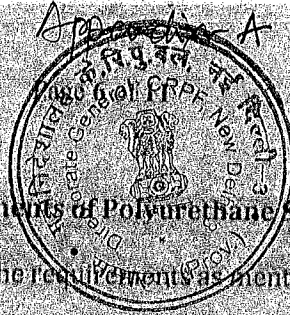
S.No.	Description	Thickness
1.	Minimum Thickness of sole	4 mm
2.	Cleat Height	2.5 mm (Min)
3.	Thickness of sole when measured from outside with side wall	
a.	At Forepart	20 mm (Min)
b.	At Waist	16 mm (Min)
c.	At Heel	35 mm (Min)

Ver:18.10.2012

Jungle Boot, PU Sole - Specification

Dr. B. V. Parvathikar
Technical Director
Footwear Design & Development Institute
Ministry of Commerce & Industry, Govt. of India
B-10/A, Sector-24, Gurgaon-201 301
A-30/A, Sector-24, Gurgaon-201 301

CRPA
19/10/12
BSP
17/10/12
RR
NEG



7.4.2 Physical requirements of Polyurethane Sole

PU Sole shall conform to the requirements as mentioned in Annexure A.

8. MARKING

- 8.1 Each boot shall be legibly marked by the manufacturer using indelible ink on the insole with the detail of Name / Trademark of the manufacturer, Nomenclature, Year of Manufacture, Size of the Boot.
- 8.2 Month and Year of manufacture shall also be marked on inside of the tongue.

9. SAMPLING AND CRITERIA FOR CONFORMITY

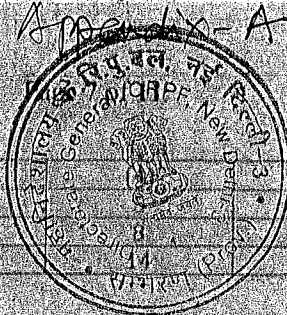
- 9.1 Manufacturers/ Contractors must satisfy themselves first by carrying out thorough pre-inspection of each lot/ batch that the stores manufactured are in accordance with the contract and fully conform to the specification, before tendering to QA officer nominated under the terms of contract.
- 9.2 A declaration by the Contractor that necessary pre-inspection/ tests have been carried out on the stores tendered and the same are fit for inspection and test shall be rendered along with the challan. The declaration shall include the method followed in pre-inspection showing features checked / tested and the test reports be submitted along with challan.
- 9.3 The jungle boot pairs of the same description nomenclature and of the same batch belonging to one size and fitting or a set of sizes and fittings offered against one challan shall constitute a lot.
- 9.4 The lot size shall not exceed 10000 pairs.
- 9.5 In all cases samples shall be drawn using technique of random sampling as per IS: 4905. The sampling officer shall first draw the samples for visual, dimensional, and construction parameters and for compliance to approved sample as per col 2 & 3 of the following table-3.
- 9.6 If found satisfactory on examination as above, the officer may draw (out of it) and send samples for lab testing as per col 2 & 5 of table-3. The samples so drawn shall be subject to testing (Composite testing)
- 9.7 If found satisfactory, lot shall be accepted and inspection report shall be prepared.

Table-3: SAMPLING PLAN

S.No.	Lot Size in Pairs	For Visual, Dimensional, Constructional Parameters and compliance to approved sample		For Laboratory Testing for Physical and Chemical Parameters	
		Number of samples to be drawn	Permissible no. of non-conforming samples	Number of samples to be drawn	Permissible no. of non-conforming samples

Ver:18.10.2012

Jungle Boot, PU Sole Specification
 Prepared by: V. D. J. Prasad
 Checked by: V. D. J. Prasad
 Approved by: V. D. J. Prasad
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 Phone: 0122-2412412, 2412413, 2412414, 2412415, 2412416, 2412417, 2412418, 2412419, 2412420, 2412421, 2412422, 2412423, 2412424, 2412425, 2412426, 2412427, 2412428, 2412429, 2412430, 2412431, 2412432, 2412433, 2412434, 2412435, 2412436, 2412437, 2412438, 2412439, 2412440, 2412441, 2412442, 2412443, 2412444, 2412445, 2412446, 2412447, 2412448, 2412449, 2412450, 2412451, 2412452, 2412453, 2412454, 2412455, 2412456, 2412457, 2412458, 2412459, 2412460, 2412461, 2412462, 2412463, 2412464, 2412465, 2412466, 2412467, 2412468, 2412469, 2412470, 2412471, 2412472, 2412473, 2412474, 2412475, 2412476, 2412477, 2412478, 2412479, 2412480, 2412481, 2412482, 2412483, 2412484, 2412485, 2412486, 2412487, 2412488, 2412489, 2412490, 2412491, 2412492, 2412493, 2412494, 2412495, 2412496, 2412497, 2412498, 2412499, 2412500, 2412501, 2412502, 2412503, 2412504, 2412505, 2412506, 2412507, 2412508, 2412509, 2412510, 2412511, 2412512, 2412513, 2412514, 2412515, 2412516, 2412517, 2412518, 2412519, 2412520, 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(1)	(2)	(3)	(4)	(5)	(6)
1.	Up to 2500	50	3	0	
2.	2501-6000	90	5	0	
3.	6001-10000	150	7	1	

10. PACKING

- 10.1 Each pair of boots shall be wrapped in tissue paper and shall be packed in a three ply corrugated box that will form a unit pack.
- 10.2 A paper label with Nomenclature, Manufacturer's name/ Trade mark, Size and Month and Year of Manufacture shall be securely pasted on front of the unit box, which shall be clearly readable.
- 10.3 Suitable number of unit packs shall further be packed in one corrugated carton strong enough to withstand transit hazards and to the satisfaction of inspecting officer.
- 10.4 The Carton, thereafter shall be sealed with adhesive tapes and tape bound with polypropylene tapes. Each package shall be legibly marked with:
- Nomenclature of the store;
 - Quantity packed in the package;
 - Lot and serial No. of the package;
 - Month and year of manufacturer;
 - Gross mass of the package in kg;
 - Name and address of the consignee;
 - Name and recognized trade mark of the supplier.


11. STORAGE


These Jungle Boots with PU Sole shall have shelf life of minimum of 12 months for normal PU sole.

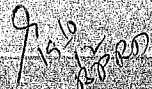

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Ministry of Commerce & Industry, Govt. of India
ए-10/1A, सेक्टर-24, नोएडा-201 301


Ver:18.10.2012


Jungle Boot PU Sole - Specification



CRPA



ASB


1910


BSE


Bull


AK


Nee



Annexure A

POLYURETHANE SOLE (DIP PU SOLE)

PARAMETERS	NORMS
Shore 'A' Hardness	50 to 60 Shore "A"
Moulded density (kg/m ³)	500 to 600
Trouser tear strength (IS 15298 part 1) in kN/m	5 Min.
Flexing life test (IS: 15298 part 1)	30,000 flexes cut growth 4mm max.
Abrasion test (IS: 15298 part 1)	250 mm ³ max.
Hydrolysis test as per (IS: 15298 part 1)	6 mm cut growth maximum

Annexure B

REQUIREMENTS OF UPPER MATERIAL

S.N	Parameter	Requirement/Norm	Test Method
1.	Blend Composition (for Guidance)	a. Polyester (%) 80 ± 3 b. Viscose: Remainder	IS: 11195
2.	Weave	Twill 2/1	Visual
3.	Mass (gm / m ²)	290 ± 10%	IS: 1964
4.	Breaking Load in kg (min) (5x20 cm strip)		IS: 1969
	a. Warp	200	
	b. Weft	100	
5.	Elongation in % age	20 % (min.)	IS: 1969
6.	Tear Strength in N. Min.		IS: 6489 Part 4
	a. Warp	200	
	b. Weft	150	
7.	Mullen Burst in Kg / cm ²	10 (min.)	IS: 1966 Part 1
8.	pH Value	6.0 - 8.5	IS: 1390 (Cold method)
9.	Colour Fastness		
	a. Light	3/4 or better	IS: 2454
	b. Washing	3/4 or better	IS: 764
	c. Perspiration	3/4 or better	IS: 971

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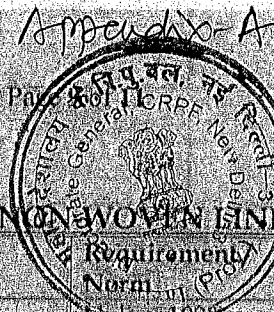
Jungle Boot, PU Sole - Specification

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 Ministry of Commerce & Industry, Govt. of India
 4-10/9, Sector-24, NOIDA-201 301
 A-10/9, Sector-24, NOIDA-201 301

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Annexure C

REQUIREMENTS OF NON WOVEN LINING MATERIAL

Sl. No.	Parameter	Requirement/ Norm	Test Method
1.	Blend Composition	Nylon 100%	IS: 11195
2.	Weave	Non Woven	Visual
3.	Thickness	0.7mm (min.)	-
4.	Mass (gm / m ²)	150 ± 25	IS: 1964
5.	Tear Strength in N/ Min	15	IS: 15298 (part 1)
6.	Mullen Burst in Kg / cm ²	5 (min)	IS: 7016 Part-6/ IS: 1966 Part-1
7.	Abrasion Martindale, Min	25,600 Cycles (dry) 6400 Cycles (wet)	IS: 15298 Part 1
8.	Colour Fastness		
	a. Light	3/4 or better	IS: 2454
	b. Washing	3/4 or better	IS: 764
	c. Perspiration	3/4 or better	IS: 971

Annexure D

The material used should meet the following eco-friendly quality parameters:

Sl	Material	Test	Quality Norm	Test Method
1	Upper, lining fabric	Azo dyes	IS 14898	LC - 4 of IS 14816/ ISO 17234/ ISO 14362
		Pentachlorophenol (PCP)		IS 14575/ ISO 17070
		Formaldehyde		LC - 3 of IS 14816/ ISO 17226
2	Sole	Lead	IS 12254	IS 12240 (Part 5)/ EN 1122
3	Metal parts eg eyelets, buckles, zip etc	Nickel free	SG Criteria	DIN EN 12471

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Jungle Boot, PU Sole - Specification

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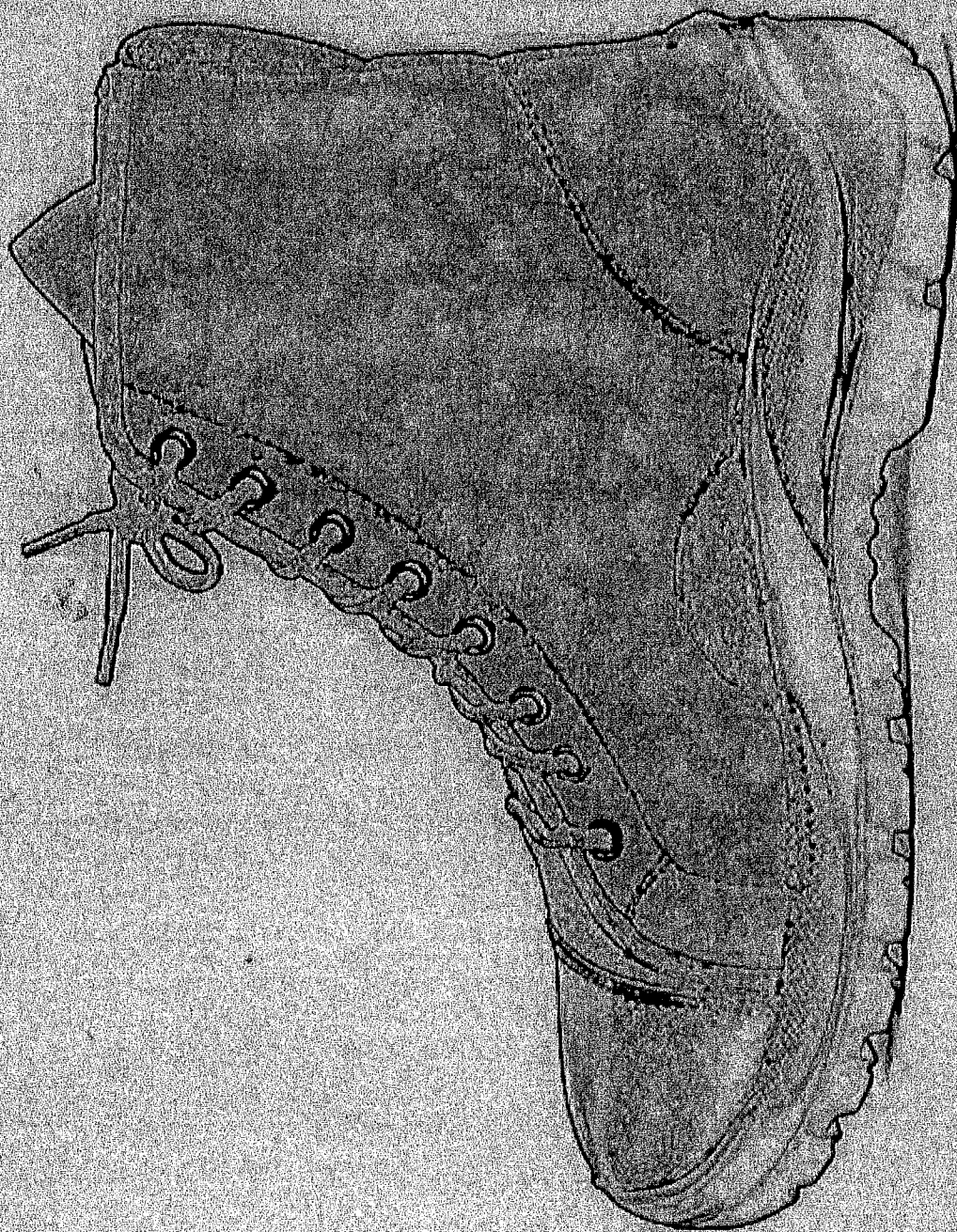


Fig.1: Upper Design of Jungle Boot, PU Sole

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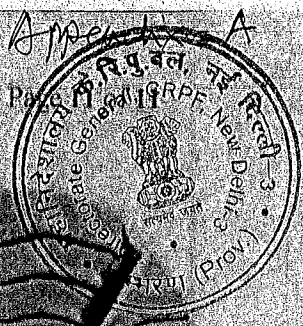
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Note:- This illustration is diagrammatic only for reference and is not intended to illustrate details of the sole design

Fig.2: Sole Design for Jungle Boot, PU Sole

Jungle Boot, PU Sole - Specification

Ver.18.10.2012

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Handwritten signatures and initials at the bottom left, including 'CRPF', '9/9', '01/12', 'BSF', '17/10', 'AR', and 'MSG'.