IV-21011/43/2009-Prov-I
Government of India
Ministry of Home Affairs

26, Man Singh Road, Jaisalmer House,
New Delhi, 4.6.2010

To

issued P.D.No 06/09 15/09 1/06 1/04 15/09.
on dt. 7/6/2010

The DGs: Assam Rifles/BSF/CISF/CRPF/ITBP/NSG/SSB/BPR&D

Subject:-Amendment in the existing QRs/specifications of Non-Skid Tactical Shoes/Combat Shoes, notified by this Ministry's letter of even number dated 11.3.2010.

Sir,

In partial modification of this Ministry's letter of even number dated 11.3.2010, the following amendment/revision is made with the approval of the Competent Authority:-

QRs for Non-Skid Tactical Shoes.		
particulars	Existing Heading	Required Heading
Variation in the Heading	QRs of Non-Skid Tactical Shoes/Combat Shoes	QRs of Non-Skid Tactical/ Combat/Advanced High Ankle Boot DVS

. Yours faithfully,

O/C

(Suraj Bhan)
Deputy Secretary(Prov)

Copy to:-DD(Procurement),MHA

QRs/SPECIFICATIONS FOR NON SKID TACTICAL/COMBAT SHOES

Description

1. The boots ankle described in this QRs are made from chrome re-tanned full grain cow leather upper. The boots are manufactured with cleated rubber outsold with anti slip design and compression molded EVA (Ethyl Vinyl Acetate) midsole with steel / composite shank by stuck-on lasting process using broad toe last.

2. The boots shall be made with or without zipper fastening system with 32 round eyelets in one pair of boot to facilitate excellent fastening system.

3. The boot shall be made by using broad toe last with minimum "G" fitting.

4. The boot must be additionally secured by stitching with upper and sole at toe and heel region.

5. The outer sole of the boot has wall both at toe and heel region to enhance the aesthetics of the boot.

6. The boot must be black in colour.

Essential Features

7. **Breathability** – Upper leather & linings must be breathable for all day long comfort.

8. **Ergonomically Fit Assessments** – boots must be put on & taken off quickly without discomfort. It must be fitted correctly to be secure on the foot at all times. All normal daily activities i.e, climbing stairs, driving etc can be easily completed.

9. **Slips, oil, heat resistance** – Sole physical testing – The sole must be sure footed underfoot performance. V Soiles must be specifically designed for 'long term' slip resistance. Sole should not breakdown in Pertols & Oils, should resist short term contact at 300 Deg. C. Must be tested for flexing, tear and artificially aged in laboratory ovens to simulate shelf degradation.

10. **Sole abrasion resistance** – Soles must be abrasion resistant.

QUALITY REQUIREMENT OF SOLE

11. Sole is composite in nature. The mid-sole is made of moulded EVA whereas the outer sole is made of rubber.

Sl No	Parameters	Requirements
1	Hardness	60-88
2	Density	1.25 max
3	Tensile strength (kg/ cm²)	80 min
4	% Elongation at breat	300 min
5	% Compression set	30 max
6	Abrasion resistance (mg)	350 max
7	Flexing endurance (Ross) (mm cut growth after 60,000 cycles)	6 max

12. **EVA part:**

Sl No	Parameters	Requirements
1	Hardness	35-55 min
2	Density	0.3 min
3	Tensile strength (kg/ cm²)	24 min
4	% Elongation at break	200 min
5	% Compression set	20 max
6	Flexing endurance (Ross) (mm cut growth after 60,000 cycles)	2.4 max

13. **QUALITY REQUIREMENT OF SHANK (composite / steel)**

Sl No	Parameters	Requirements
1	Hardness (Rockwell)	46-52
2	Stiffness (kgf/cm)	400 min
3	Fatigue resistance (kilo cycles)	3 min

14. QUALITY REQUIREMENT OF INSOLE

Sl No	Parameters	Requirements
1	Tensile strength (kgf/sq cm)	
	Dry (along)	320 min
	(across)	120 min
	Wet (along)	120 min
	(across)	45 min
2	Heel pin holding strength (kgf)	
	Dry	70 min
	Wet	60 min

Points to watch : Relatively low moisture resistance of insole board can lead to nail heads pulling through especially in boots.

15. QUALITY REQUIREMENTS OF INSOLE FOREPART BOARD

Sl No	Parameters	Requirements
1	Flexing Index Cellulose	3.7
2	Scuff resistance (mm)	50 max
3	Tensile strength (kgf/sq cm/wet)	70 min
4	Finish rub fastness	6000
5	Transverse tensile strength	
	Dry (kgf/sq cm)	8 min
	Wet (kgf/sq cm)	6.5 min
	Peel (kgf/sq cm)	0.5 min
6	Dimensional Stability %	

16. QUALITY REQUIREMENT OF INSOLE BACKPART BOARD

Sl No	Parameters	Requirements
1	Longitudinal stiffness (kgf/sq cm)	500 min
2	Fatigue resistance (kilocycles)	5 min

Points to watch for insole : Moulding of insole must match the last pattern.

17. **QUALITY REQUIREMENT OF CAMBRELLA LINING**

General Requirements:

- Must be heat resistant upto 180° C
- Should have sufficient tensile strength to withstand the pressure of lasting.
- Thickness should not be less than 0.7 mm.

Sl No	Parameters	Requirements
1	Weight	120 gm/mt²
2	Tensile strength (a) Along (b) Across	 165 N 170 N
3	Elongation at break	Along : 30% min Across : 35% min
4	Stick tear strength (a) Along (b) Across	 20 N min 20 N min

18. **QUALITY REQUIREMENT OF LEATHER**

Sl No	Parameters	Requirements
1	Flexing endurance	Stand upto 500,000 flexing
2	Tensile strength	200 kg/cm² min
3	Cr. Content	2.5% min
4	Grain crack index	No grain crack and 7mm distention at 20 kg

19. **QUALITY REQUIREMENT OF TOE-PUFF**

Sl No	Parameters	Requirements
1	Hardness Flexing endurance	13 or more (kgf)
2	% resilience	30 min
3	Peel strength (kgf/cm) (a) Dry (b) Wet	 1.0 min 0.6 min
4	Area Shape retention % (a) Initial (b) After 10 collapses	 60-80 50 min
5	% Moisture resistance	80 min

20. **QUALITY REQUIREMENT OF STIFFENER**

Sl No	Parameters	Requirements
1	Hardness Flexing endurance	13 or more (kgf)
2	% resilience	30 min
3	Peel strength (kgf/cm) (a) Dry (b) Wet	 2.0 min 0.6 min
4	Area Shape retention % (a) Initial (b) After 10 collapses	 80 min 75 min
5	% Moisture resistance	80 min

For Toe-puff and stiffener the thickness should be 1.8 – 2.00 mm

21. **QUALITY REQUIREMENT OF ZIP**

Sl No	Parameters	Requirements
1	Transverse strength	More than 150 N/cm
2	Opening Resistance	More than 40
3	Slider pull of strength	More than 50 N
4	Opening and closing of zip	Should withstand min. 10000 cycles

Note: (a) The length of zip should be exact.
(b) The metal must not corrode.

22. **QUALITY REQUIREMENT OF TRIMS**

Sl No	Parameters	Requirements
1	Magnet test	Should not be attracted by magnet
2	Finish peel off migration/ rusting/ deposition of salt	Should be absent

23. **QUALITY REQUIREMENT OF LACE**

Sl No	Parameters	Requirements
1	Breaking strength	Min 75 kg
2	Abrasion resistance	Should withstand min. of 5000 cycles
3	Knot resistance	Min of 1.2 kg
4	Colour migration	Should be absent
5	Bodkin attachment strength (N/lace)	More than 150

Cold Insulation – The boot must protect from injury / discomfort in cold and winter months.

Shock absorption – should have adequate shock absorption property and must absorbs preferably 35 joules of impact force at heel area – Protects knees & Joints from impact injury.

24. **Material features**

The boot must be made from Full Grain leather in vamp, eyelet and counter area and 1680 DENIER ballistic heavy duty nylon mesh in quarter area with or without zip. If zip is used then the zip must be upper circular ykk or equivalent quality.

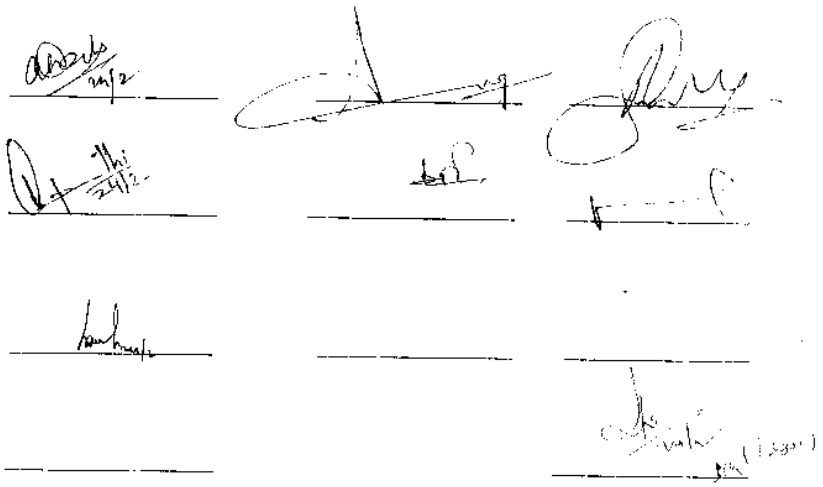
The lining to be made from cambrelle® moisture-wicking lining with agion™ antibacterial treatment for odorless comfort particularly suitable for long day usage.

The upper must be stitched with nylon anti-fraying stitching thread. The boot should have abrasion resistant heel kick pad.

Socks must be made from 3d2 max contoured sock-finer with memory foam with 5 layers of comfort and protection. It has min 3mm comfort foam layer
impact absorbing polyurethane shock pad

Toe-putt must be made of thermoplastic material with adequate thickness so that the shape retention of the boot is enough to withstand the demand of the job.

The boot must be additionally padded in the collar and tongue area for more comfort. Entire lining of the boot must be laminated with PU or other suitable foam for comfort.



Approved/Not Approved

(NPS Aulakh) 26/2
Director General, NSG