AMENDMENT NO. 4
ONE PAGE

IHQ OF MOD(NAVY)/DCV SPECIFICATION ON
SHOES BLACK LEATHER DERBY
CAT NO. CNCMT-PSF0031-38

ISSUE DATE: 12 OCT 2012

DIRECTORATE OF CLOTHING AND VICTUALLING
D-II WING, SENA BHAWAN
INTEGRATED HEADQUARTERS
MINISTRY OF DEFENCE (NAVY)
NEW DELHI - 110011
CONTENT OF AMENDMENT NO. 4

1.

For Existing Content as per indicated Amendment Letter No. as follows:-

2.

(a) IHQ/DCV letter No. DCV/CG/3609 DT 19 Dec 05 regarding “Amendment in Specifications Shoes Black Leather Derby.”

Para No. 2 (f) and 3 (d):

Read The rubber sole and heel, conforming to test parameters of Governing specification referred to above is to be attached to upper by Stuck-on Process using the best quality adhesive. The Stuck-on Sole and Heel may be stitched with upper by laying row of stitches within groove provided in sole and heel. The laying of stitches is not mandatory however the shoes should meet all tests for sole adhesion strength as indicated in the specifications. The Sole Bottom Design indicated in the specification is for illustrative purposes only and different bottom design can be offered.
Registered
Integrated Headquarters of
Ministry of Defence (Navy)
Directorate of Clothing & Victualling
Sena Bhawan
New Delhi – 110 011

DCV/CG/IND/NAVY/TC/3778/PC

The Material Superintendent
(for CPPO)
Material Organisation
LBS Marg
Ghatkopar (West)
Mumbai – 400 086

The Base Victualling Officer
Base Victualling Yard
NAD Post
Visakhapatnam

The Base Victualling Officer
Base Victualling Yard
Naval Base
Kochi – 682 004

The Officer-in-Charge
Naval Store Depot
Sewri
Mumbai – 400 033

AMENDMENT IN SPECIFICATION OF
SHOES BLACK DERBY IND/NAVY/TC/3778 (a)

1. Refer to specifications of Shoe Black Derby Rubber Sole and Heel promulgated vide

2. The following amendments are made in the above specifications:

<table>
<thead>
<tr>
<th>Page &amp; Para No.</th>
<th>For</th>
<th>Read</th>
</tr>
</thead>
<tbody>
<tr>
<td>Page 3 para 4.1(i)</td>
<td>Leather Chrome Retan Plain Grain Resin Finished Black for upper.</td>
<td>Buff Smooth Calf Leather 1.2-1.4mm PCP &amp; AZO Dye Free</td>
</tr>
</tbody>
</table>
3. The improved shoe is to be procured by Material Organisations under amended specifications and new item is to be issued only after existing stock is exhausted.

4. The other parameters will remain unchanged.

End: - As above

Copy to: -

The Base Victualling Officer  
Base Victualling Yard  
C/O Navy Office  
Port Blair – 744 102

The Officer-in-Charge  
Material Organisation  
Naval Store Depot  
Karwar

The Base Victualling Officer  
Base Victualling Yard  
Karwar

(Pradeep Rana)  
Captain  
PDCV
DCC/CG/3608

The Flag Officer Commanding-in-Chief
(for Command logistics Officer)
Headquarters Western Naval Command
Shahid Bhagat Singh Marg
Mumbai - 400 023

The Flag Officer Commanding-in-Chief
(for Command logistics Officer)
Headquarters Eastern Naval Command
Visakhapatnam - 530014

The Flag Officer Commanding-in-Chief
(for Command logistics Officer)
Headquarters Southern Naval Command
Kochi - 682004

The Commander-in-Chief
(for Command logistics Officer)
Andaman & Nicobar Islands, Unified Command
Port Blair - 744102

The Directorate of Standardisation
Standardisation Cell, H, Block,
New Delhi

The Directorate of Standardisation
Standardisation Cell
Baderpur Boarder
New Delhi

The Director
Directorate of Quality Assurance (Navy)
West Block No. 5, RK Puram, New Delhi - 110066

The Controller
Controllerate of Quality Assurance
(Textiles & Clothing), Post Box No. 294
Kanpur - 208 001

Contd…2/-

Forwarded to LPRO(NB)
Vide Div Letter DIV/142/3/08
dated 24 Jan 06.
The Material Superintendent  
(For CPRO)  
NSD Ghatkopar (West),  
Mumbai – 400 086

The Material Superintendent  
(For CPRO)  
Naval Store Depot  
Visakhapatnam

The Material Superintendent  
(For CPRO)  
Naval Store Depot  
Kochi

The Base Victualling Officer  
Base Victualling Yard  
Mumbai – 400 005

The Base Victualling Officer  
Base Victualling Yard  
Visakhapatnam – 530 009

The Base Victualling Officer  
Base Victualling Yard  
Kochi – 682 004

The Base Victualling Officer  
Base Victualling Yard  
Port Blair – 744 102

**AMENDMENT IN IND/NAVY/TC/3778(a) - SPECIFICATION OF SHOES**

**BLACK LEATHER DERBY RUBBER/DMS/PVC SOLE & HEEL**

1. Refer IND/NAVY/TC/3778(a) - Specification for above stated item.

2. The following amendments have been made in the above specification:-

<table>
<thead>
<tr>
<th>Sl No.</th>
<th>Page &amp; Para No.</th>
<th>For</th>
<th>Read</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a)</td>
<td>Page 1, Para 1.2</td>
<td>SHOES BLACK LEATHER RUBBER/DMS/PVC SOLE &amp; HEEL</td>
<td>SHOES BLACK LEATHER RUBBER SOLE AND HEEL</td>
</tr>
<tr>
<td>(b)</td>
<td>Page 2, Para 1.1</td>
<td>Shoes Black Leather Derby DVP(Direct Vulcanising Process/DIP(Direct Injection Process</td>
<td>Contd...3/-</td>
</tr>
</tbody>
</table>
(g) Page 5, Para 5.1.9 HEADING
DIRECT VULCANISING/ DIRECT INJECTION
STUCK-ON PROCESS

(h) Page 5 Para 5.1.9.1
The sole and heel of rubber/PVC may be attached by adopting DVP or DIP by process as the case may be.
The sole and heel of rubber may be attached adopting Stuck-on Process.

(j) Page 6, Para 5.1 REQUIREMENTS
Shoes Black Leather Derby DMS/DIP
Shoes Black Leather Derby Stuck-on Process.

(k) Page 6, Para 5.1.1 REQUIREMENTS
Appendix ‘B’ in case of PVC sole
To be deleted.

3. In addition, the following modifications in Shoes Black Leather Derby Rubber sole may be added at para 12, page 8:-

(a) **Padding in Upper Quarters** :- Suitable soft padding/cushioning between upper quarter and quarter lining leather shall be provided.

(b) **Socks Padding** :- Suitable soft padding/cushioning between insole and socks shall be provided to have better cushioning.

(c) **Eyelets** :- The best quality stud type eyelets shall be used in lieu of clenched type star eyelets.

Contd...4/-
(d) **Sole and Heel** - The rubber sole and heel, conforming to test parameters of Governing specification referred to above, attached to upper by Stuck-on Process using the best quality adhesive and Stuck-on Sole and Heel to be stitched with upper by laying row of stitches within groove provided in sole and heel.

4. All other terms and conditions remain unaltered.

[Signature]

(HS Chopra)
Captain
PDCV

Internal

JDCMT (Prov)
MODIFICATION IN SPECIFICATION OF SHOES
BLACK LEATHER DERBY RUBBER SOLE

The basic design of upper and sole/heel of Shoe Black Leather Derby Rubber Sole and its testing parameters shall conform to Governing Specification IND/NAVY/TC/3778(a).

Following modifications in this shoe shall be incorporated:

(A) Padding in Upper Quarters:- Suitable soft padding/cushioning between upper quarter and quarter lining leather shall be provided.

(B) Socks Padding:- Suitable soft padding/cushioning between insole and socks shall be provided to have better cushioning.

(C) Eyelets:- Best quality stud type eyelets shall be used (in lieu of clenched type star eyelets).

(D) Sole and Heel:- The Rubber Sole and heel, conforming to test parameters of Govn Specification referred above, attached to upper by stuck-on technology using best quality adhesive, in lieu of DMS sole is also acceptable subject to stuck-on sole is also secured with upper by laying row of stitches within groove provided in sole and heel. The bonding/adhesion strength of stuck-on sole with upper shall conform to as specified in Govn- Specification for DMS sole viz IND/NAVY/TC/3773(a).

[NM Pandit]
Commodore
DG V
Nov 2002
<table>
<thead>
<tr>
<th>Clause</th>
<th>Additions/Amendments</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.1 (W)</td>
<td>Add &quot;Cellulose Board&quot;</td>
<td>✔ As per the latest technology all the Leather shoes are made on Cellulose Insole Board which has got advantage of being Light Weight &amp; Longer Life.</td>
</tr>
<tr>
<td>4.1 (v)</td>
<td>Add &quot;Continuous Filament Polyester Thread Ticket No. 40&quot;</td>
<td>✔ For Better stitch strength</td>
</tr>
<tr>
<td>4.1 (vi)</td>
<td>Add &quot;Cement Lasted On Hydraulic Lasting M/c&quot;</td>
<td>✔ For Better shape retention &amp; Better bond strength</td>
</tr>
<tr>
<td>4.1 (o)</td>
<td>Add &quot;70 cm for Size 5-8 &amp; 80cm for Size 9-12&quot;</td>
<td>✔ Normal standard for Leather shoes</td>
</tr>
<tr>
<td>5.1.2</td>
<td>Sole Design As Per Approved Sample</td>
<td>✔ For Better Grip and Better Aesthetic Look</td>
</tr>
<tr>
<td>5.1.4</td>
<td>&quot;Heel Grip at Heel Position of Lining&quot;</td>
<td>✔ Better Comfort &amp; Grip at Heel Position</td>
</tr>
<tr>
<td>5.1.7</td>
<td>Shank to be secured with the help of P.U. Adhesive</td>
<td>✔ For Better Adhesion</td>
</tr>
<tr>
<td>5.2.1</td>
<td>Back Height for Sizes 5.6-62 mm, 7-8-66 mm, 9-10-70 mm &amp; 11-12-72 mm (±2 mm)</td>
<td>✔ As Per Approved Sample</td>
</tr>
<tr>
<td>5.2.3</td>
<td>Add &quot;P.P. Last&quot;</td>
<td>✔ As Approved Sample and Better Fit</td>
</tr>
</tbody>
</table>

Appendix 'C' (Dimension of Last)

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Length of Size stick</td>
<td>283 mm</td>
</tr>
<tr>
<td>2</td>
<td>B. Girth</td>
<td>253 mm</td>
</tr>
<tr>
<td>3</td>
<td>Waist Girth</td>
<td>257 mm</td>
</tr>
</tbody>
</table>

Appendix 'D' (Size 10 & 11)

Add "Thermoplastic Coated Non-woven. Toe Puff & stiffness with thickness of 1.0 mm & 1.5 mm respectively. ✔ Better impact strength & Light Weight"
This specification consists of 13 pages.

This specification is the property of the Government of India. This specification or any drawings, pattern or other information issued in connection therewith may only be used for a specific order placed by competent authority. It is not to be used for any other purpose whatsoever without the expressed written sanction of Director General of Quality Assurance or his representative.

All clauses in this specification shall be complied with in every respect irrespective of the source of supply of materials and/or components.

Should any discrepancy be found between this specification and any sample of pattern, loaned for any purpose this specification and/or other connected specification or drawing shall be taken as correct.

All the specification/drawings referred to this specification for any tender or contract shall mean the edition current on the date of such tender or contract.

ISSUED BY

CONTROLLER
CONTROLLER OF QUALITY ASSURANCE
TEXTILE & CLOTHING, POST BOX NO. 294
KALPURI, 209 004
1. **SCOPE**

1.1 This specification covers all the requirements of Shoes — Black Leather Upper, D.R. (Direct Resin Finish) in sizes 5 to 12 in medium fitting.

1.2 The shoes described in this specification are made from chrome sols/heels using the direct method of construction.

1.3 The shoes are supplied with laces and nylon black.

1.4 The shoes are intended for use by naval personnel.

2. **RELATED SPECIFICATION**

2.1 Reference is made in this specification:

- IS:177, Drill Cotton Bleached.
- IS:579 (Pt I), Sole Leather.
- IS:1323, Paper wrappings, waterproof plain bitumen laminated.
- IS:2772 (Pt II), Solid Fibre Board Boxes.
- IS:2951, Chrome Depan Finished Upper Leather.
- IS:3400 (Pt I), Tensile Stress/Strain Properties.
- IS:3400 (Pt II), Rubber Tackness.
- IS:3600 (Pt IX), Density.
- IS:3600 (Pt 22), Chemical Analysis.
- IS:3840, Lining Leather.
- IS:4905, Method of Random Sampling.
- IS:5041, Footwear and Stationary cyclets.
- IS:5719, Solid PVC sole & heel.
- IS:3085 (Pt I), Method of test for footwear.
- IS:8460, Tissue Paper.
- IS:9543, Spun Polyester Sewing Threads.
- IS:10945, Shank for Footwear.
- IS:8115-1, Cardboard Cartons.
- GIGS/US/50, Tack Lasting Mild Steel.
- GIGS/US/0282, Nylon/Polypropylene Strapping.
3. STANDARD PATTERN

3.1 The standard pattern of Shoes Black Leather Derby DEG/DIF held in the custody of the Director of Clothing & Victualling, Naval Headquarters, New Delhi and the Controller Controllerate of Quality Assurance, (Textiles & Clothing), Post Box No. 294, Zangur shall constitute the standard with regard to appearance, general workmanship, finish and any other particulars/properties not noted/defined in this specification.

4. MATERIALS

4.1 The shoes shall be manufactured from the following materials:

(i) Leather Whisky Plain Grain Resin finished Black for upper

(ii) Drill Cotton (at 300 gm/m²) Bleached

(iii) Leather Lining Combination tunnel

(iv) Sole Leather, vegetable tanned (compressed). Leather board 2.5 cm. thick

(v) Thread Machine Linen or No. 50 Black (Rotproofed) or Spun Polyester thread of Equivalent grade

(vi) Tacks lasting, Mild Steel 9 mm, 10 mm and 12 mm long (Rustproof)

(vii) Eyelets Brass/Aluminium hard Enamelled black for shoes

(viii) Shank steel, ribbed rustproof Bamboo Shank

(ix) Laces Nylon Black 60 cm for shoes

(x) Rubber for sole and heel PVC for sole and heel

Conforming to IS:2981

Conforming to IS:177 Variety No. 4

Conforming to IS:2840 (Type I or 3 1979 edition)

Conforming to IS:579 (Pt I)

Conforming to IS:5367

Conforming to IDI/TC/0299

Conforming to Variety No. 2 Ticket No. 100 of IS:9543

Conforming to CISG/NS/95

Conforming to IS:5041

Conforming to IS:10045 along with the relevant plate attached.

Of best trade quality as previously approved by the I.O.

Conforming to IS:6719, IS:8035 (Pt I) and Appendix 'A'

Conforming to IS:8294

NOTE: Besides the above materials a rubber compound/adhesive (based on polyurethane or polyvinyl for permanent bonding), tarred felt, fibre board/light wood (as heel filler), cement to be used as to provide
5. MANUFACTURE

5.1 Shoes shall be manufactured as described below:

5.1.1 CONSTRUCTION

5.1.1.1 The shoe shall be made by the injection process (NPI) direct process of construction on model last No. 5338 conforming to the dimensions stipulated in Appendix 'C'.

5.1.2 SOLE DESIGN

5.1.2.1 The rubber/PVC sole shall conform to the design and dimensions as illustrated in the plates attached to this specification.

5.1.3 CUTTING OF COMPONENTS

5.1.3.1 The various components of shoe shall be cut to the thickness as stipulated in Appendix 'D' to this spec. and the shape and design as illustrated in the plate attached. All the upper components shall be properly prepared. The top edge of the quarters shall be beveled.

5.1.3.2 If loose grain material shall be used in vamp, fabric stays of the same material as the vamp lining shall be provided at the sides of the vamp.

5.1.4 UPPER CLOSING

5.1.4.1 The upper shall be machine closed with lock stitches using thread machine (Linon) 3 cord No. 50 black or spun polyester thread of equivalent grade for upper and lining parts respectively. Then number of stitches should be 20 + 2/sec. Care shall be taken to maintain the spacing and uniform tension of the stitches at all places. The loose ends of the stitching threads shall be as fastened off.

5.1.4.1.1 The back of the two quarter shall be stitched either by lock stitches 3mm apart of by zig zag stitches. The back seams shall be properly rubber clean to avoid ridges/wrinkles.

5.1.4.1.2 The front and top of upper quarters shall be properly folded.

5.1.4.1.3 The back strap shall be centrally positioned over the back joint of quarters and shall be stitched around the exposed edges with a row of stitches 1.5mm apart on either side and 3mm apart at top.

5.1.4.1.4 The quarter lining shall be in two pieces and joint of quarter lining shall fall on the inner side 50 + 2mm apart from centre of the back. An underlay allowance of 9 + 3mm shall be provided in the inner quarter lining. The joint of these two quarters shall be adequately strengthened with two rows of stitches.

5.1.4.1.5 The tongue shall be joined under the vamp with double row of stitches. Joint shall not be visible in the laced condition of the finished shoe.

5.1.4.1.6 The tongue lining shall be properly joined over the vamp lining by means of a row of stitches ensuring that wrinkles are not formed.

5.1.4.1.7 The tongue lining shall be secured by 1.5mm around the exposed edges of the upper tongue and shall be secured with a row of stitches so that tongue lining is also attached with vamp by means of stitches.

5.1.4.1.8 Fabric stays of the same material as used for vamp lining shall be provided on either side of each vamp so that the stays provide proper reinforcement to the joint region.
5.1.4.1.8 The union of two quarters shall be laid over the sides of vamp in proper alignment taking care that no wrinkles occur.

5.1.4.1.1 Each of the side shall strengthen with two rows of stitches being one double row and the other single row of stitches. The distance between these two rows of stitches shall be 3.5 - 4.5mm.

5.1.4.1.2 The upper quarter shall be properly secured with quarter lining by means of row of stitches. Each quarter facing shall be reinforced with the vamp by means of stitching a 15mm long stay at the height of 13 - 15mm from the tip with double row of stitches.

5.1.4.1.9 Four eyelets shall be fitted in each of the quarter facing equidistantly. Each eyelet shall be laced properly without distortion.

5.1.5 LASTING

5.1.5.1 The toe puffs and stiffeners shall be slaved properly so that no ridge is apparent on the finished shoe. They shall be reinforced with cement compound.

5.1.5.2 The upper shall be properly faced through the eyelets before lasting so that the quarters remain in proper alignment.

5.1.5.3 In the lasting operation the upper and the insole shall not be wetted or damped too much.

5.1.5.4 The excess shall be so lasted that the upper gets properly adhered to the last. Lasting shall be done by tack lasting in case of leather insole and adhesive lasting in case the leather board is used.

5.1.5.5 The pleats/wrinkles formed during lasting along the leather line shall be properly cut or removed by pricking or trimming or both. The excess material of the upper stretched beyond the lasting allowance of about 15mm shall be neatly removed.

5.1.6 PIVOTS

5.1.6.1 The lasted edge of the upper leather shall be properly buffed, care shall be taken to ensure that any lasting tacks if found loosened off after pounding or buffing operation shall be replaced with fresh tacks/adhesive.

5.1.7 SHANK FITTING

5.1.7.1 The shank of specified quality shall be fitted at the instep of the insole so that it shall support the vault. The ends of the shank shall be secured by two lasting tacks one each end.

5.1.8 HEEL FILLING

5.1.8.1 The heel filler of plywood board or light wood shall be dipped in adhesive prior to attachment with the insole so that adhesive coating is ensured at all the portions of the filler.

5.1.9 ROUGH VARIOUS/SMOOTH VARIOUS

5.1.9.1 The sole and heel of rubber/PVC may be attached by adopting UTP or DIP Process as the case may be.

5.1.9.1.1 The moulding flash at the sole and heel shall be neatly trimmed.

5.1.10 SEAT SOCK FIXING

5.1.10.1 A seat sock of the lining material shall be struck down neatly at the seat of the insole by means of adhesive.
5.1.11 LACING

5.1.11.1 Each pair of shoes shall be provided with a pair of laces Nylon 50cm for shoes.

5.2 DIMENSIONS

5.2.1 The back height when lasted shall be as given below:

<table>
<thead>
<tr>
<th>Sizes</th>
<th>Back Height (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 to 7</td>
<td>53</td>
</tr>
<tr>
<td>8 to 10</td>
<td>70</td>
</tr>
<tr>
<td>11 to 12</td>
<td>72</td>
</tr>
<tr>
<td>Tolerance</td>
<td>± 1</td>
</tr>
</tbody>
</table>

5.2.2 The thickness of sole and heel from outside without storm welt/rand for all size in the finished shoes shall be as under:

<table>
<thead>
<tr>
<th>S/No.</th>
<th>Components</th>
<th>Thickness (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>At fore part</td>
<td>3 ± 1</td>
</tr>
<tr>
<td>2.</td>
<td>At waist part</td>
<td>5 ± 1</td>
</tr>
<tr>
<td>3.</td>
<td>At heel</td>
<td>23 ± 1</td>
</tr>
<tr>
<td>4.</td>
<td>Depth of cleat at sole and heel</td>
<td>3</td>
</tr>
</tbody>
</table>

5.2.3 The shoes shall be made on wooden lasts taken from model No. 5333 conforming to the dimensions as stipulated in Appendix 'C'.

5.2.4 ALLOWANCES

5.2.4.1 Some of the important allowances which shall be provided in each of the size are as under:

- **Flexing Allowance**
  - At front and top of the quarters: 5 ± 0.5mm
  - Top of the back strap: 3 ± 1mm
  - Underlay allowance: 9 ± 1mm

6. REQUIREMENTS

5.1 The material used in the manufacture of *Shoes Black Leather Derby* shall be tested to the specification/requirements given in clause 4 of this specification.

5.1.1 The material of the sole and heel shall confrom to the requirements prescribed in Appendix 'A' in case of rubber sole and Appendix 'B' in case of PVC sole.

6.2 ADHESION/GOOD STICKING TEST

6.2.1 The testing of sole and heel shall be done after 24 hours.

6.2.2 There shall be no visible parting of the bottom from the upper at a pressure of 250 Newton at the toe and 300 Newton at the seat when tested for Adhesion in accordance with the relevant clause of IS: 3035 (Pt I).

7. MARKING OF SHOES

7.1 The waist portion of the insole shall be legibly and indelibly, steel stamped with the following:

- (a) Name and recognised trade mark.
- (b) Size Fitting and Cat No.
- (c) Name and year of manufacture.

7.1.1 The size and fitting of the shoe shall also be legibly and indelibly marked on the waist of rubber sole and PVC sole.
6. ACCEPTANCE MARK

6.1 Each shoe shall be legibly stamped with indelible ink/paint on the waist near breast portion using steel stamp of size 6mm or 10mm.

9. PRESERVATION

9.1 French chalk conforming to IS:320 shall be adequately dusted at soles and heels before packing of the shoes.

10. PACKING

10.1 The following materials shall be used for packaging of shoes Black Leather Derby 6E/DIP.

<table>
<thead>
<tr>
<th>MATERIALS</th>
<th>CODE/REF.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(i) Tissue paper</td>
<td>IS:9430</td>
</tr>
<tr>
<td>(ii) Cardboard cartons 1.2 to 2.0mm thick of suitable size</td>
<td>JBS:2115-1</td>
</tr>
<tr>
<td>(iii) Tape Paper gummed 25mm wide</td>
<td>IS 4183</td>
</tr>
<tr>
<td>(iv) Paper Strapping Waterproof plain using kraft paper having substance 50g/m²</td>
<td>IS:1392 (Type I)</td>
</tr>
<tr>
<td>(v) Solid fibre Board Boxes</td>
<td>IS:2771 (Pt II)</td>
</tr>
<tr>
<td>(vi) Polypropylene Strapping 0.55mm thick x 19mm wide (for solid fibre board boxes)</td>
<td>GBS/03/222</td>
</tr>
</tbody>
</table>

10.2 METHOD

10.2.1 The shoes shall be delivered in a new, clean and dry condition.

10.2.2 UNIT PACK

10.2.2.1 Each pair shall be wrapped with tissue paper and packed in cardboard cartons of suitable sizes.

10.2.2.2 Cartons shall then be sealed by means of two strips of tape paper gummed which shall be affixed at a distance of 5cm from each end so as to extend completely across the bottom side and top of the carton.

10.2.2.3 The cartons shall then be labelled with two box labels of the size 8 x 6cm, one of which shall be gummed to the top and the other to one of the sides of the carton. These labels shall bear the following markings:

1. Manufacturer’s name.
2. Description and Cat No.
3. Manufacturer’s name, initial or registered trade mark.
4. Month and year of manufacture.
5. Size and fitting of the shoes.

10.2.3 MULTIPLE PACK

10.2.3.1 Unless otherwise specified all the shoes shall be packed in solid fibre board boxes. Packing method in solid fibre board boxes is described as follows:

10.2.3.2 SOLID FIBRE BOARD PACKING

10.2.3.2.1 Sixteen unit packs as indicated in sub-clause 10.2.2 shall be placed in solid fibre board boxes as above. The ends of the flat flaps on either side of the box shall then be sealed by means of 25mm wide tape paper gummed. Galvanized mild steel stapling of 0.55mm wire with 13mm crown and 3mm width shall be used at the joint of the flaps. Each box shall then be strapped at two positions places by means of Polypropylene 19mm wide and securely sealed. Proper precautions shall be exercised so that the strapings do not get stressed during handling.
10.3 PACKING OF PACKAGES

10.3.1 The solid fibre board boxes shall be inscribedly marked/labelled with the following details:

(a) Nomenclature and Cat No. of the store.
(b) Quantity packed in the case.
(c) Lot and serial No.
(d) Name of manufacturer.
(e) Month and year of packing.
(f) Gross mass of box in kg.
(g) Name and address of the consignee.
(h) AT No. and date.
(i) Inspection Note No. and date.

11. SAMPLE PLAN AND CRITERIA OF CONFORMITY

11.1 The sampling plan and criteria of conformity shall be as per Appendix 'E', 'F' and 'G'.

[Signature]

CONTROLLER
CONTROLLER OF QUALITY ASSURANCE
TEXTILES & CLOTHING, P.B. NO. 294
CENTRE 294 (C)
## Chemical/Physical Requirements of Rubber, Sole and Heel of Shoes

<table>
<thead>
<tr>
<th>No.</th>
<th>Characteristics</th>
<th>Requirements</th>
<th>Method of Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Polymer content</td>
<td>50% min of which 35% min shall be natural rubber</td>
<td>IS:3400(Pt 22)</td>
</tr>
<tr>
<td>2.</td>
<td>Carbon Black</td>
<td>30% min</td>
<td>do</td>
</tr>
<tr>
<td>3.</td>
<td>Density</td>
<td>1.2 ± 0.02g/cm²</td>
<td>IS:3400(Pt II)</td>
</tr>
</tbody>
</table>
| 4.  | Tensile Strength -
  (a) Original | 12.3 ± 0.5N/mm² | IS:3400(Pt I) |
  (b) Change after ageing at 100°C ± 1°C for 70 hrs in an air oven | +0% of original | -5% of original |
| 5.  | Elongation at break -
  (a) Original | 225% min      | IS:3400(Pt I) |
  (b) Change after ageing at 100°C ± 1°C for 70 hrs in an air oven | +0% | 30% |
| 6.  | Hardness -
  (a) Original | 55 ± 5 N/mm² | IS:3400(Pt II) |
  (b) Change after ageing at 100°C ± 1°C for 70 hrs in an air oven | +10% of original | -10% of original |
| 7.  | Oil Resistance Liquid (after immersion of 5cm x 2.5cm x 3cm pieces in 1:1 mixture) | IS:3400 |
  (a) Oil haul - 90 to IS 409 | +53% max |
  (b) Diesel oil grade I to IS:1400 at 40°C for 96 hrs. | |

**NOTE:**
1. Other compounding ingredients including mineral fillers, plasticisers, vulcanising agents. The vulcanised rubber shall be non porous homogeneous free from pitting, grit or any other visible defects and shall not contain any natural rubber or reclaimed rubber vulcanised waste or other impurities.
2. A model composition of rubber compound oil resistant sole and heel of shoes non slip.

Composition: An vulcanisate of the following composition is given for the guidance of the manufacturers. It should be cured at 414 kPa Steam Pressure for 15 minutes.

...10
shall be of standard quality.

<table>
<thead>
<tr>
<th>INGREDIENTS</th>
<th>QUANTITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Synprene 1502</td>
<td>100 Parts</td>
</tr>
<tr>
<td>(b) Shellac Orange Grade IV</td>
<td>10 &quot;</td>
</tr>
<tr>
<td>(c) Floren 590 (CP)</td>
<td>10 &quot;</td>
</tr>
<tr>
<td>(d) Stearic Acid</td>
<td>10 &quot;</td>
</tr>
<tr>
<td>(e) Zinc Oxide</td>
<td>2 &quot;</td>
</tr>
<tr>
<td>(f) Semi Reinforcing Furnace Black</td>
<td>5 &quot;</td>
</tr>
<tr>
<td>(g) Sulphur</td>
<td>75 &quot;</td>
</tr>
<tr>
<td>(h) Vulcafors HSS</td>
<td>1.5 &quot;</td>
</tr>
<tr>
<td>(i) Vulcafors HIF</td>
<td>1.25 &quot;</td>
</tr>
<tr>
<td>(j) Crepex</td>
<td>1.00 &quot;</td>
</tr>
</tbody>
</table>

3. The rubber material shall reasonably be free from vulcanised waste reclaimed rubber and deleterious ingredients like copper manganese and their compound.

4. The rubber shall be vulcanised adequately. The vulcanised rubber shall be homogenous and free from sulphur bloom. The surface shall be free from blemishes and defects.

5. The contractor shall supply, alongside the shoes, two test slabs (one 15 x 15cm and 2mm thick), the other 30 x 30cm x 1.5mm thick, of the same compositions and cured to the same degree of vulcanisation as the sole and heel to facilitate testing of the physical parameters.
### APPENDIX 'B'

#### PHYSICAL REQUIREMENTS OF PVC SOLE AND HEEL OF SHOES

<table>
<thead>
<tr>
<th>S/No.</th>
<th>Characteristics</th>
<th>Requirements</th>
<th>Method of Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Relative Density</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(a) Original</td>
<td>1.24 max</td>
<td>IS:679-72</td>
</tr>
<tr>
<td></td>
<td>(b) After ageing at 100°C</td>
<td>30%</td>
<td>IS:11226-1935</td>
</tr>
<tr>
<td></td>
<td>70 hrs max permissible change from original</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Tensile Strength</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(a) Original</td>
<td>52kg/cm² min</td>
<td>IS:6719-72</td>
</tr>
<tr>
<td></td>
<td>(b) After ageing at 100°C</td>
<td>± 15%</td>
<td>IS:11226-1935</td>
</tr>
<tr>
<td></td>
<td>70 hrs max permissible change from original</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Elongation at break</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(a) Original</td>
<td>230% min</td>
<td>IS:6719-72</td>
</tr>
<tr>
<td></td>
<td>(b) After ageing at 100°C</td>
<td>± 15%</td>
<td>IS:11226-1935</td>
</tr>
<tr>
<td></td>
<td>70 hrs max permissible change from original</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Hardness</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(a) Original (at 27° ± 2°C)</td>
<td>55 ± 5</td>
<td>IS:6719-72</td>
</tr>
<tr>
<td></td>
<td>(b) After ageing at 100°C</td>
<td>± 5%</td>
<td>IS:11226-1935</td>
</tr>
<tr>
<td></td>
<td>70 hrs max permissible change from original</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Closing test (min)</td>
<td>1,50,000</td>
<td>IS:12260-1938</td>
</tr>
<tr>
<td>6.</td>
<td>Volatility of plasticiser by weight (max)</td>
<td>1%</td>
<td></td>
</tr>
</tbody>
</table>

**NB:** 1. The PVC material shall reasonably be free from factory reclaimed waste and deteterious ingredients.
2. The PVC shall be moulded adequately. The finished sole and heel shall be free from blisters and other defects like, shrinkage, burning, warping and cold flow marks.
3. Same as Note 3 of Appendix 'A'.

### APPENDIX 'C'

#### DIMENSIONS OF HIDDEN LAST MODEL NO. 5339

<table>
<thead>
<tr>
<th>SIZE</th>
<th>LENGTH OF SIZE STICK (a) (mm)</th>
<th>JOINT Girth (b) (mm)</th>
<th>HINTER Girth (c) (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>21</td>
<td>233</td>
<td>247</td>
<td>251</td>
</tr>
</tbody>
</table>

(a) Increasing or decreasing by 0.5mm for each size.

(b) & (c) Increasing or decreasing by 0.4mm for each size.
NAVAL FOOTWEAR WORKSHOP CUM EXHIBITION

Date: 28 Sep 16

Evening Tea (@ 50 for 100 Personnel)
➢ Cocktail Samosa
➢ Tea/ Coffee

Date: 29 Sep 16

High tea @ Rs375 (Foyer & dining hall) 350 Personnel
➢ Stuffed cottage cheese Croissant
➢ Pin Wheel (Chilly Paneer stuffed rolls)
➢ Chicken Sandwiches / Veg Sandwich
➢ Black forest pastry
➢ Dhokla
➢ Wafers
➢ Tea / Coffee / Fresh Lime
➢ Sauce / Mint Chutney /Imli Chutney

Morning Tea @ Rs 125 (First Floor)
80 personnel
➢ Samosa
➢ Veg cheese Sandwich
➢ Cookies
➢ Tea / Coffee/ Fresh Lime
➢ Sauce/ Mint/ Imli Chutney

Lunch (@ Rs 550/- for 175 Personnel)
Soup - Almond Soup
Salad - Fresh Green Salad & Waldorf Salad

Main Course

Veg
Continental - Baked Corn Florantine, Grilled Paneer with mushroom sauce,
Indian - Mutter Mushroom, Pindi Channa

Non-Veg
Continental - Chicken Stew in white sauce,
Indian - Fish Amratsari

Rice - Jeera Pulao

Bread
Continental - Naan, Laccha Parathas
Indian - Dinner Rolls & Garlic Bread

Yoghurt - Dahi Balle

Dessert
Matka Kulfi

Evening Tea ( @ Rs 50 for 100 personnel )
➢ Cocktail Samosa
➢ Tea / Coffee

Total Expenditure

<table>
<thead>
<tr>
<th>Item</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>28 Sep tea – 50*100 =</td>
<td>5000.00</td>
</tr>
<tr>
<td>29 Sep Morning tea – 125*80 =</td>
<td>10000.00</td>
</tr>
<tr>
<td>29 Sep High Tea - 375*350 =</td>
<td>131250.00</td>
</tr>
<tr>
<td>29 Sep Lunch – 550*175 =</td>
<td>96250.00</td>
</tr>
<tr>
<td>29 Sep Evening Tea – 100*50 =</td>
<td>5000.00</td>
</tr>
<tr>
<td>Water Bottle 200 ml – 700*7 =</td>
<td>4900.00</td>
</tr>
</tbody>
</table>

Total = 252400.00
Vat @12.5% = 31550
Grand Total = 283950
LIST OF PARTICIPANTS FORM INDUSTRY

1. Shri Jitendra Sharma
2. Shri Moti Lal Sethi
3. Shri Praveen Kumar
4. Mrs Simmy
5. Mrs Sunaina Harjai
6. Shri Ashotosh Mishra
7. Shri Sunil Kumar Acharya
8. Mrs Richa Khatri
9. Shri Prakash Chander Mohani
10. Shri Nitin Kohli
11. Shri Raj kumar Gupta
12. Mrs Ravinder Kaur
13. Shri Sunil Kumar Singh
14. Shri Mohammed Iftekhar
15. Shri Syed Anwar Mumtaz
16. Shri Vipan Seth
17. Shri Laiq Ahamad
18. Shri Ramesh Kumar
20. Shri Ramchandran
21. Shri Rohit Sahal
22. Shri Munwar Singh
23. Shri Anil K Sondhi
24. Shri Subhash Kapoor
25. Shri Sanjay Leakha
26. Shri Sushil Gulati
27. Shri Gopal Gupta
LIST OF PARTICIPANTS FORM INDUSTRY

1. Shri Jitendra Sharma
2. Shri Moti Lal Sethi
3. Shri Praveen Kumar
4. Mrs Simmy
5. Mrs Sunaina Harjai
6. Shri Ashotosh Mishra
7. Shri Sunil Kumar Acharya
8. Mrs Richa Khatri
9. Shri Prakash Chander Mohani
10. Shri Nitin Kohli
11. Shri Raj kumar Gupta
12. Mrs Ravinder Kaur
13. Shri Sunil Kumar Singh
14. Shri Mohammed Iftekhar
15. Shri Syed Anwar Mumtaz
16. Shri Vipan Seth
17. Shri Laq Ahamad
18. Shri Ramesh Kumar
20. Shri Ramchandran
21. Shri Rohit Sahal
22. Shri Munwar Singh
23. Shri Anil K Sondhi
24. Shri Subhash Kapoor
25. Shri Sanjay Leakha
26. Shri Sushil Gulati
27. Shri Gopal Gupta