PRIVATE SPECIFICATION

Prepared for the

ORIGINAL

South African Navy

COVERALL, ONE-PIECE NEW (KHAKI)

SAN 123

Revised October 2004

1. Scope

This specification covers the material, cut and make of one-piece coveralls for personnel of the South African Navy.

2. Definitions

acceptable: acceptable to the Directorate, Naval Logistics

nominal: subject to the tolerances normal to good manufacturing practice

3. Style

- front slide fastener closure
- shirt type collar
- shoulder straps
- two breast pockets with flaps
- two side pockets
- reinforced seat, knees and elbows
- centre back seam
- long sleeves with cuffs
- plain bottoms with draw-cords
- left sleeve shall have a sewn-on embroidered badge of the National Flag

Tenderer's comments

4. Illustrations

ORIGINAL

5. Materials - General

The embroidered national flags, NSN 8345-18 177-7789 (see Annex A), will be supplied by the South African Navy

Tenderer's comments

- The materials specified in 6 and 7 are to be supplied and used by the manufacturer (unless otherwise specified in the order or contract)

A trim chart containing a sample of each component material (as given in 7.1 to 7.6) must accompany the pre-production samples

6. Outer material

The outer material to:

- be a cotton drill fabric that complies with the requirement for type D59 of SANS 1387-4 "Woven cotton and similar apparel fabrics Part 4: Cotton jean and drill fabrics"
- be of an acceptable khaki colour as agreed upon between the South African Navy and the supplier

(three metres of fabric shall be submitted for colour registration purposes: see Annex A)

7. Component materials

7.1 Pocketing

Tenderer's comments

- to comply with the requirements for type PT 56 of SABS 1387-10 "Woven cotton and similar apparel fabrics Part 10: Pocketing"
- colour to be an acceptable match to the colour of the outer material

7.2 Slide fastener

- two-way closed-end (incorporating two sliders)
- corrosion resistant metal
- comply with the relevant requirements of class D of SANS 1822 "Slide fasteners"
- colour to be an acceptable match to the colour of the outer material

7.3 Press-stud fasteners

- male and female ring type
- intrinsically corrosion resistant metal with a smooth finish
- inside diameter of the hole to be 7 mm
- colour to be an acceptable match to the colour of the outer material

7.4 Draw tape

- woven cotton tape
- to comply with the requirements for type TA 10 of SABS 877 "Woven cotton tapes"
- colour to be an acceptable match to the colour of the outer material

7.5 Buttons

- acceptable dope-dyed four hole plastics
- nominal diameter of 15 mm
- colour to be an acceptable match to the colour of the outer material

7.6 Threads

- to comply with relevant requirements of SANS 1362 "Sewing threads"
- colour to be an acceptable match to the colour of the outer material

sewing thread:

- polyester-and-cotton core-spun **OR**
- staple polyester
- ticket No 80 in both cases

overlocking thread:

- a crimp-textured polyester thread
- ticket No 140

8. Workmanship

SAMPLE

The coveralls shall be:

- cut and made with first-class workmanship throughout
- of uniform and acceptable make, colour and finish

Shall be free from:

- defects, that affect their appearance or may affect their serviceability (or both)
- marks
- spots
- stains, incurred in the making-up

Seams and stitches shall be:

- smooth and uniform
- free from twists, pleats and puckers
- sufficiently extensible to avoid seam cracking and undue shrinkage in use

Ends of sewing shall be:

- trimmed and loose threads removed
- back-tacked if unsecured

ORIGINAL

9. Sizes

Tenderer's comments

Coverall measurements: F ↔ F

MEASURING POINT		DESCRIPTION
A - A	Chest circumference	Measure at the base of the scye, with garment spread completely flat and front slide fastener closed, and multiply by two.
B - B	Waist circumference	Measure the waist along the waist seam, and multiply by two
C - C	Seat circumference	Measure across the width of the garment, at seat level (widest point), and multiply by two.
D - D	Cuff circumference	Measure across the bottom edge of the cuff with the button fastened and multiply by two.
E - E	Knee circumference	Measure across the width, 50 mm above the midpoint position determined by folding the bottom edge of the leg to the crotch seam, and multiply by two.
F - F	Bottom hem circumference	Measure across the width at the bottom edge of the garment, with draw-cord unfastened and multiply by two.
G - G	Back neck to waist	Measure from the centre back neck seam to the waist.
B - F	Outside leg length	Measure from the waist seam to the bottom edge of the leg.
H - F	Inside leg length	Measure from the crotch seam to the bottom edge of the leg.
J - I - K	Sleeve length	Measure the length from the centre back (at hind-arm sleeve pitch level) round the elbow to the outer edge of the cuff.
I - I	Back width	Measure across the width of the back at the midpoint of the armhole, with front slide fastener closed, from sleeve seam to sleeve seam.

Table 1 - size range

1	2	3	4	5	6	7	8	9	10	11	12	13
NSN[1]	Size Desig-nation[2]	Nominal finished garment measurements, cm										
		Circumference of						Length of				
		Chest	Waist	Seat	Cuff	Knee	Bottom	Back neck to waist	Outside Leg	Inside Leg	Sleeves	Back width
8415-18-096-9625	RS/76	96	79	99	23	50	49	47	102	74	77	36
8415-18-096-9626	RS/81	101	84	104	23	51	49	48	102	74	78	38
8415-18-096-9627	RS/87	107	90	110	23	52	50	49	103	74	79	40
8415-18-096-9628	RS/92	112	95	115	24	53	50	50	103	74	80	42
8415-18-096-9629	RS/97	117	100	120	24	54	50	51	104	74	81	44
8415-18-096-9630	RS/102	122	105	125	25	55	50	52	104	74	82	46
8415-18-096-9631	RS/107	127	110	130	25	56	51	53	105	74	83	48
8415-18-096-9632	RS/112	132	115	135	26	57	51	54	105	74	84	50
8415-18-096-9633	RS/117	137	120	140	26	58	51	55	106	74	85	52
8415-18-096-9634	RS/122	142	125	145	26	59	51	56	106	74	86	54
8415-18-096-9635	RS/127	147	130	150	27	60	52	56	107	74	87	56
8415-18-096-9637	RS/132	152	135	155	27	61	52	57	107	74	88	58
8415-18-096-9638	RS/137	157	140	160	27	62	52	57	108	74	89	60
8415-18-096-9639	RS/142	162	145	165	28	63	52	58	108	74	90	62
8415-18-096-9640	RS/147	167	150	170	28	64	53	58	109	74	91	64
8415-18-096-9644	RR/76	96	79	99	23	50	49	48	107	79	79	36
8415-18-096-9647	RR/81	101	84	104	23	51	49	49	107	79	80	38
8415-18-096-9649	RR/87	107	90	110	23	52	50	50	108	79	81	40
8415-18-096-9650	RR/92	112	95	115	24	53	50	51	108	79	82	42
8415-18-096-9651	RR/97	117	100	120	24	54	50	52	109	79	83	44
8415-18-096-9652	RR/102	122	105	125	25	55	50	53	109	79	84	46
8415-18-096-9653	RR/107	127	110	130	25	56	51	54	110	79	85	48
8415-18-096-9654	RR/112	132	115	135	26	57	51	55	110	79	86	50
8415-18-096-9655	RR/117	137	120	140	26	58	51	56	111	79	87	52
8415-18-096-9656	RR/122	142	125	145	26	59	51	57	111	79	88	54
8415-18-096-9657	RR/127	147	130	150	27	60	52	57	112	79	89	56
8415-18-096-9658	RR/132	152	135	155	27	61	52	58	112	79	90	58
8415-18-096-9659	RR/137	157	140	160	27	62	52	58	113	79	91	60
8415-18-096-9663	RR/142	162	145	165	28	63	52	59	113	79	92	62
8415-18-096-9665	RR/147	167	150	170	28	64	53	59	114	79	93	64
8415-18-096-9668	RL/76	96	79	99	23	50	49	49	112	84	81	36
8415-18-096-9669	RL/81	101	84	104	23	51	49	50	112	84	82	38
8415-18-096-9670	RL/87	107	90	110	23	52	50	51	113	84	83	40
8415-18-096-9671	RL/92	112	95	115	24	53	50	52	113	84	84	42
8415-18-096-9672	RL/97	117	100	120	24	54	50	53	114	84	85	44
8415-18-096-9673	RL/102	122	105	125	25	55	50	54	114	84	86	46
8415-18-096-9674	RL/107	127	110	130	25	56	51	55	115	84	87	48
8415-18-096-9675	RL/112	132	115	135	26	57	51	56	115	84	88	50
8415-18-096-9676	RL/117	137	120	140	26	58	51	57	116	84	89	52
8415-18-096-9677	RL/122	142	125	145	26	59	51	58	116	84	90	54
8415-18-096-9678	RL/127	147	130	150	27	60	52	58	117	84	91	56
8415-18-096-9679	RL/132	152	135	155	27	61	52	59	117	84	92	58
8415-18-096-9680	RL/137	157	140	160	27	62	52	59	118	84	93	60
8415-18-096-9681	RL/142	162	145	165	28	63	52	60	118	84	94	62
8415-18-096-9682	RL/147	167	150	170	28	64	53	60	119	84	95	64

1) Special measurements to be ordered against National stock number 8415-18-174-5086.
2) Based on the figure type, height and chest circumference in centimetres, of the intended wearer.

10. Make

Illustrations are not to scale and are for guidance only, and unless inconsistent with the text, all measurements are nominal.

Tenderer's comments

10.1 Foreparts

Each forepart shall have:

- a blouse section
- a trouser section
  - the two sections shall be joined together at the waist

Foreparts:

- to have a slide fastener
  - shall extend from 15 mm below the breakpoint of the lapel, towards the crotch seam
  - to be secured to the right front with two rows of stitches on the relevant stringer
  - top end of each stringer to be vertically bar-tacked
- fitted with a press-stud fastener
  - positioned 15 mm above the slide fastener at the breakpoint of the lapel
  - male section to be positioned in the left front facing only
  - female section in the right forepart
- to have a fly closure of finished width 30 mm
  - concealing the slide fastener
  - fly to be a continuation of the left forepart (cut-on)
- fly-catch shall be of finished width 30 mm
  - to be a continuation of the right front

- shall have sewn-on facings
  - of finished width 80 mm at the gorge seam
  - shaped to 30 mm at the bottom (bottom end to be adjacent to the top edge of the slide fastener)
  - stitched down
  - edge-stitched 2 mm along front edge of the gorge seam and facing
- each blouse section shall have a patch pocket with a flap
- each trouser section shall have a side pocket
- each front knee area shall be reinforced from side seam to inner leg seam
  - to be of outer material
  - to be of finished depth 23 cm
- to have a crease on each trouser leg
  - to be edge-stitched 1 mm
  - commencing in line with the bottom end of the slide fastener to the bottom hem

ORIGINAL

Tenderer's comments

10.2 Pockets

a) Breast pockets:

- to be of outer material
- to be patch pockets with square corners
- to be positioned with the top edge of the pocket 30 mm above the base of the scye
  - sides parallel to the front edges of the garment
  - front edge of pocket to be positioned 25 mm from the centre front of the garment
    → on size designation 97, and graded proportionally on the other sizes
- each to have a pocket mouth hem of finished depth 25 mm
- raw outside edges of the pocket shall be turned in 10 mm and stitched down 2 mm and 7 mm from the turned-in edge
- the corners of each pocket mouth shall be secured with horizontal bar-tacks
  - bar-tacks should not reduce the effective width of the pocket mouth opening
- finished pocket width and depth shall be 15 cm and 17 cm respectively
  - on size designations up to and including 92 cm
- finished pocket width and depth shall be 16 cm and 18 cm respectively
  - on size designations larger than 92 cm
- to have pocket flaps
- each to be fitted with a button
  - to be in a corresponding position to the buttonhole on the flap

Pocket flaps:

- to be of outer material
- to be lined with outer material
- to be a rectangular flap of finished depth 55 mm
- to have a button fly of folded outer material
  - 10 mm narrower than the flap
  - incorporated into each side of the flap
  - with a vertical buttonhole of length 20 mm centred in the flap
    → positioned 5 mm below the fold of the fly
  - fly shall be tacked to the lining of the flap
    → 35 mm from each side of the buttonhole
- to be attached 15 mm above the pocket mouth, turned over and stitched down 7mm from the fold
- top-stitched 7 mm from the free edges
- shall extend 3 mm beyond each end of the pocket mouth

Tenderer's comments

ORIGINAL

b) Side pockets

Each side pocket to have:

- a swing type pocket bag
  - of pocketing
  - of finished width and depth 17 cm and 15 cm respectively (measured below the lower bar-tack)
- a slanting pocket mouth
  - of finished length 18 cm
  - top edges carried into the waist seam
  - positioned 60 mm forward of the side seam
  - positioned at the waist seam
  - edge-stitched 2 mm and 7mm
- a bearer
  - of outer material
  - of finished width 90 mm at the waistband seam

10.3 Back

Each back shall have:

- a blouse section
- a trouser section
  - the two sections shall be joined together at the waist

Back:

- blouse section shall be plain with a seam at the centre back
- trouser section shall have a reinforcing patch at the seat across the full width
  - side seam to side seam
  - of finished depth 23 cm
- to have a crease on each trouser leg
  - to be edge-stitched 1 mm
  - commencing from below the reinforcing seat patch to the bottom hem

10.4 Collar

- shirt type collar
- lined with outer material
- shall have a width at the centre back of 75 mm
- shall have a width at the points of 60 mm
- lapel step to be of finished depth 25 mm
- free edges to be top-stitched 2 mm

10.5 Sleeves and elbow patches

- long one-piece shirt type sleeves
- seamed under the arm
- have an opening at the hind arm that is bound with outer material (of width 8 mm)
  - opening to be of finished length 10 cm
    → measured from the centre of the buttonhole to the top edge of the opening
- sleeves to have a knife pleat
  - positioned 30 mm from the hind arm opening
  - of finished depth 15 mm
- sleeves to have reinforcement patches across the full width
  - positioned at the elbow area
  - of finished depth 18 cm
  - attached with two rows of stitches 2 mm and 7 mm from the edge
  - sewn in with underarm seam

ORIGINAL

Tenderer's comments

- centred on the left sleeve shall be a sewn-on embroidered badge of the National flag
  - positioned 30 mm below the crown of the sleeve
  - to be supplied by the SA Navy

10.6 Cuffs

- at the end of each sleeve shall be a cuff of folded outer material
- of finished width 40 mm
- to have square corners
- to fasten with a button and buttonhole
  - buttonhole to be positioned centrally into the upper cuff and 15 mm in from the front edge
  - button to be in a corresponding position to buttonhole
- free edges shall be edge-stitched 7 mm

ORIGINAL

Tenderer's comments

10.7 Shoulder straps

- to be square straps of outer material
- lined with outer material
- of finished width 55 mm at the sleeve seam, tapering to 45 mm at the free end of the strap
- of minimum length 15 cm (measured from the shoulder seam to the end of the strap)
- a buttonhole shall be positioned centrally and 20 mm from the end of the strap
  - a button to be positioned in each forepart in a corresponding position to the buttonhole
- free edges shall be stitched 2 mm
- shoulder strap shall be so positioned on the shoulder that the longitudinal centre-line of the strap is 5 mm forward of the natural shoulder line

10.8 Bottoms

- to be plain
- folded in and stitched down
- of finished width 30 mm
- on each front hem shall be two shirt type buttonholes
  - positioned 15 mm on each side of the front crease
  - of finished length 15 mm
  - vertical
- each bottom hem shall be fitted with draw-tape
  - to be long enough to provide a protrusion through the buttonholes of 10 cm at each end (before adjustment)
  - to be secured by stitching through the hem and the draw-tape at the back crease-line

10.9 Hanger

- of double folded outer material
- of finished length and width 75 mm and 10 mm respectively
- sewn in with the collar at the centre back on the inside of the coverall

10.10 Buttons and buttonholes

Buttonholes:

- to be 25 mm long
- neatly made
- gimped and barred

Buttons:

- all buttons to be in corresponding positions to that of the relevant buttonhole

11. Stitches, seams and stitchings

Tenderer's comments

11.1 Stitches

overlocking: three-thread overlocking stitch

main seaming: safety stitch

other stitches: single needle lock stitch

11.2 Seams

Seams to be at least 10 mm wide (unless otherwise stated):

Main seams: seam type SSa-2 or LSc-2

SSa-2: Superimpose two or more plies of material and seam with two rows of stitches positioned at the specific distance(s) from the aligned edges.

LSc-2: turn in and interlap the edges of two plies of material and seam with the appropriate number of rows of stitches.

Breast pocket flaps to blouse: seam type LSs-2

So superimpose two plies of material that their edges are the specified distance apart, and seam with one row of stitches at the specified distance from the edge of the top ply. Then turn the top ply back at the seam and seam with one row of stitches through the top and bottom plies.

Breast pocket to blouse: seam type LSd-2

Turn in the edge of one ply of material, lap it on the body of a second ply (at the specified distance from the edge of the second ply), and seam with the appropriate number of

rows of stitches.

Side swing-pocket bags: seam type SSe-2 or BSc-2 or BSe-2

ORIGINAL

Tenderer's comments

SSe-2: Form seam Type SSa-1, using two plies of material. Then turn back each ply at the seam and seam through the turned edges with the appropriate number of rows of stitches.

BSc-2: Turn in both edges of a binding strip, fold it round the edge of a ply or plies of material, and seam with the appropriate number of rows of stitches

BSe-2: Turn in both edges of a binding strip, fold it round the aligned edges of plies of material, seam with one row of stitches, and seam the plies of material with another row of stitches, positioned clear of the strip.

Other seams: seam type SSa-1

Superimpose two or more plies of material and seam with the appropriate number of rows of stitches positioned at the specific distance(s) from the aligned edges.

11.3 Stitchings

all exposed raw edges: stitching type EFd-1

Stitch over the edge of a ply of material with one row of stitches.

Bottom hems: stitching type EFb-1

ORIGINAL

Tenderer's comments

Turn in the specified width at the edge of a ply of material, fold back the turned edge, and stitch the turned-in and folded portion with the appropriate number of rows of stitches.

11.4 Number of stitches

All seams: 38 ± 4 per 10 cm

overlocking: 32 ± 2 per 10 cm

top-stitching: 36 ± 4 per 10 cm

bar tacks: 20 ± 1 per 1 cm

buttonholes: 12 ± 1 per 1 cm

12. Packing, care-labelling and marking

12.1 Packing

The coveralls shall be:

- delivered in a commercially dry condition
- so packed that they will not be damaged in transit or in storage
- neatly folded and individually packed in a plastics envelope of suitable size and shape
- unless otherwise specified in the order or contract, acceptably packed (in units of 10) for transportation in acceptable bulk containers that comply with the requirements of RSA-MIL SPEC 296 "Corrugated board boxes for clothing"

Coveralls:

- of the same size designation to be packed together in a bulk container (unless quantities ordered are such that packing together of the same size only is not justified).
- of different size designations may also be packed together to accommodate the last part of an order or contract

12.2 Care-labelling

- Each garment to have a woven or printed label that is permanently secured and that

provides (in accordance with SANS 10011 "Care-labelling of textiles and clothing") correct and appropriate care instructions

- printed labels to comply with the requirements of SANS 1309 "Printed labels for textiles"
- all care-labels and their markings to be such that they outlast the garments.

Tenderer's comments

12.3 Marking

12.3.1 Coveralls:

Each coverall to have, centrally secured to the back of the collar stand, a white woven fabric label that complies with the requirements of SANS 1309 "Printed labels for textiles", and provides the following information in legible and indelible block letters of height at least 3 mm:

- the manufacturer's name or trade mark or both
- the size designation
- the composition of the fabric in accordance with the requirements of SANS 10235 "Fibre-content labelling of textiles and textile products"
- the National Stock Number
- the year of manufacture

12.3.2 Envelopes

Each envelope to be clearly marked with the following information:

- the designation, i.e "Coverall, one-piece, new (khaki)"
- the size designation
- the National Stock Number

12.3.3 Containers

Each bulk container to have a label securely attached to the outside visible when the containers are stacked and providing information as specified in RSA-MIL SPEC 296 "Corrugated board boxes for clothing".

12.4 Additional marking

When so required by the South African Navy, coveralls, envelopes or containers (or any combination of these) to bear information additional to that specified above.

13. Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this specification. All standards are subject to revision and, since any reference to a standard is deemed to be a reference to the latest edition of a standard, parties to agreements based on this specification are encouraged to take steps to ensure the use of the most recent editions of the standards indicated below. Information on currently valid national and international standards may be obtained from Standards South Africa.

RSA-MIL SPEC 296, *Corrugated board boxes for clothing.*

SANS 877 (SABS 877), *Woven cotton tapes.*

SANS 1309, *Printed labels for textiles.*

SANS 1362, *Sewing threads.*

SANS 1387-4 (SABS 1387-4), *Woven cotton and similar apparel fabrics- Part 4: Cotton jean and drill fabrics.*

SANS 1387-10 (SABS 1387-10), *Woven cotton and similar apparel fabrics - Part 10: Pocketing.*

SANS 1822 (SABS 1822), *Slide fasteners.*

SANS 10011 (SABS 011), *Care-labelling of textiles and clothing.*

SANS 10235 (SABS 0235), *Fibre-content labelling of textiles and textile products.*

ORIGINAL

Annex A
(normative)

Special conditions of tender

A-1 General

A-1.1 Unless otherwise stated, the South African Bureau of Standards, shall be the inspecting authority.

A-2.2 Three pre-production sample coveralls, shall have been inspected, tested and approved by the inspecting authority before bulk production is commenced. Each one of these samples shall be accompanied by a trim chart containing a sample of each component material (as given in 7) and the relevant certificates. Three metres of the outer material fabric shall also be submitted by the successful tenderer to make swatches for colour registration purposes. It shall be the duty of the manufacturer to give adequate notice to the inspecting authority of the availability of these samples.

A-1.3 Three embroidered national flags shall be supplied to the successful tenderer to be used for the three pre-production samples. The balance shall be supplied once the three pre-production samples have been approved, and on receipt of a written request.

A-1.4 The coveralls shall be subject to inspection during the course of manufacture. The inspector shall, during normal working hours, be given all reasonable facilities for carrying out his duties and shall have the right of entry into the contractor's factory and the factory or works of any subcontractor where work on trousers supplied to this specification may be in progress.

A-1.5 The contractor shall inspect the finished trousers for compliance with the specification before submitting them to the inspecting authority for final inspection.

A-1.6 Before acceptance, the coveralls shall have been inspected and tested by the inspecting authority and found to comply with the requirements of the specification.

A-1.7 Any applications for deviations from drawings or the specification, or any laid down process, treatment or procedures as set out in this specification, must be made to the SA Navy Office, Pretoria.

A-2 Documentation

One container of each consignment shall be marked "Documents" and shall, in addition to the coveralls, contain the following

1) The packing slip/delivery note;
2) where applicable, the certificate(s) of conformance; and
3) a copy of the invoice containing the following:
   a) The order number
   b) The financial authority number
   c) a full description of the consignment, i.e items, size(s), quantity, etc.