

PRIVATE SPECIFICATION

Prepared for the



SOUTH AFRICAN AIRWAYS

A STAR ALLIANCE MEMBER 

FLIGHT DECK CREW, CAP



Item Number: FM09
Document Number: SAA 005
Version 04.0/August 2015

1. Scope

This specification covers the material, cut and make of peak caps of Flight Deck Crew of the South African Airways.

2. Definitions and Abbreviations

For the purpose of this specification the definitions given in SANS 10371 "Terms and definitions for clothing" and the following shall apply:

acceptable: acceptable to the South African Airways

body: the upright sides of a cap

braid bow: a knotted bow of narrow ribbon that is attached to the headband

crown: the flat top surface of a cap

headleather: a soft leather strip attached to the inner lower edge of the body of a cap

inductively coupled plasma (ICP): precise and accurate multi-element analytical technique for the determination of trace elements in a variety of liquid and solid sample materials

nominal: subject to the tolerances normal to good manufacturing practice

SANS: South African National Standard

X-ray fluorescent spectrometry: is a non-destructive analytical technique used to identify and determine the concentrations of elements present in solid, powdered and liquid samples

3. Style

The style is as follows:

- ♦ soft top
- ♦ ventilation eyelets in the bevels
- ♦ adjustable chin strap
- ♦ piping in the crown-to-bevel-seam
- ♦ outer material covered peak
- ♦ fitted with metal buttons on the outer edges of the chin-strap
- ♦ fitted with a hatband
- ♦ fitted with gold wire hand embroidery and a metal badge at centre front

It is of paramount importance that the cap features the traditional roll in the bevels ("Jippo-style")

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4. Illustrations

Illustrations are not to scale and are for guidance only.



Figure 1 – Front



Figure 2 – Side view

5. Client Furnished Materials

No materials will be supplied by the South African Airways.

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6. Component Materials

The following materials shall be supplied and used by the manufacturer. Trim charts shall also be submitted by the manufacturer (see Annex C).

NOTE: All components listed below shall be manufactured in the Republic of South Africa. In instances where the raw material and/or finished components are not available in the Republic of South Africa, the onus shall be on the bidder to apply for exemption certificates from DTI. Exemption certificates, where relevant, shall be submitted together with each bid.

6.1 Outer material

- ♦ to comply with the requirements as given in table 1
- ♦ colour to be a match, in terms of SANS 10076-5, "The assessment of defects in textile piece-goods and made-up articles Part 5: Defects in woven woollen and worsted piece-goods", to Colour No. 543c-2007 "SAA Navy suiting" of CKS 129 "Colours for textiles"

6.2 Lining

- ♦ polyester lining that complies with the requirements for types L61P of SANS 1387-7 "Woven cotton and similar apparel fabrics – Part 7: Jacket linings"
- ♦ colour to be black

6.3 Plastics reinforcement material

- ♦ an acceptable firm polyethylene strip, capable of bending onto itself without cracking
- ♦ not to become brittle with time and of nominal thickness 1 mm

6.4 Greaseproof lining

- ♦ an acceptable transparent plastics sheeting that does not become brittle with time
- ♦ nominal thickness 0.8 mm

6.5 Peak insert

- ♦ to be made from a cellulosic and elastomeric bonded construction material
- ♦ so treated as to form a hardened flexible surface
- ♦ nominal thickness of 2.75 mm
- ♦ dimensional stability to be such that it shall neither shrink nor expand
- ♦ standard application of product: cellulosic insole material that is treated to prevent growth of bacteria

6.6 Headleather

- ♦ an acceptable tan coloured leather (excluding pig leather)
- ♦ nominal finished width of 50 mm \pm 3 mm

6.7 Eyelets

- ♦ steel or brass eyelets with washers

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- ◆ nominal inside diameter 3 mm – 3.5 mm
- ◆ coated black and corrosion resistant

Table 1 – Outer material requirements

1	2	3
Property	Requirement	SANS standard unless otherwise specified
Composition	All wool	AATCC method 20
Weave	2/1 Z twill	Visual examination
Mass per unit area , g/m ² , min.	210	79
Number of threads per centimetre ^a		7211-2
Warp, min.	24	
Weft ^b	24	
Breaking strength , N.		13934-1
Warp, min.....	400	
Weft ^b	334	
Resistance to pilling , rating, min.		6116
After dry-cleaning	4	
Dimensional changes after dry-cleaning , % max.		ISO 3175-2
Warp and weft	2	
Non-fibrous material content , %, max.	2,5	5113
Colour fastness to:		
Light , rating, min.....	6	105-B02
Dry-cleaning , rating, min.		105-D01
Colour change	4	
Staining	4	
Perspiration , rating, min.		105-E04
Colour change	4	
Staining	4	
Abrasion resistance , no. of rubs to end point, min.....	30 000	6009
Mothproofing	Mothproof ^c	5580 and 5582
^a Recommended mean wool fabric diameter: 22µm. ^b Subject to a tolerance of –10 %. ^c In terms of SANS 979.		

6.8 Felt

- ◆ an acceptable felt fabric of weight to be such as to be fit for purpose
- ◆ two applications:
 - inside of cap: colour to be black or dark green
 - patch positioned behind the gold wire embroidery: heavy duty and of an acceptable navy blue colour as agreed upon between SAA and the successful bidder

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6.9 Gold Mylar lace

- ♦ to comply with the quality and design as identified by the following trade description: Lace Gold Mylar 2-guts thread
- ♦ to be of nominal width 12 mm
- ♦ colourfastness requirements to dry-cleaning and light to comply with those specified for the outer material
- ♦ colour to be an acceptable match to colour No. 974c-2015 “SAA Gold Braid (Cap & Epaulette)” of CKS 129 “Colours for textiles”



6.10 Gold wire (for hand embroidery)

- ♦ tubular wire
- ♦ types used:
 - Matt and Brilliant gold wire
 - Jaceron
- ♦ wire to have a nominal outside diameter in the range 0,8 mm to 1.1 mm (depending on where it is applied in the design)
- ♦ to be tarnish treated and the composition shall be as given in table 2
- ♦ colours to be acceptable matches to the relevant colours of the sealed samples held by the South African Airways
- ♦ in case of a dispute, the content shall be tested by the following
 - assaying, X-ray fluorescent spectrometry, inductively coupled plasma (ICP)

Table 2 – Composition of gold wire

1	2
Metal type	Content %
Nickel	3
Copper	95
Gold	2 (min.)
Silver	1

6.11 Webbing

- ♦ acceptable nylon or polyester webbing
- ♦ of nominal width 58 mm
- ♦ nominal mass 65.6 g/m

6.12 Braid bow

- ♦ braided rayon ribbon, of finished width 6 mm
- ♦ colour to be an acceptable match to that of the headleather

6.13 Front support

- ♦ of acceptable polyethylene sheeting that is bonded to a layer of felt
- ♦ of nominal dimensions as given in figure 3
- ♦ of polyethylene to be of nominal thickness 1 mm

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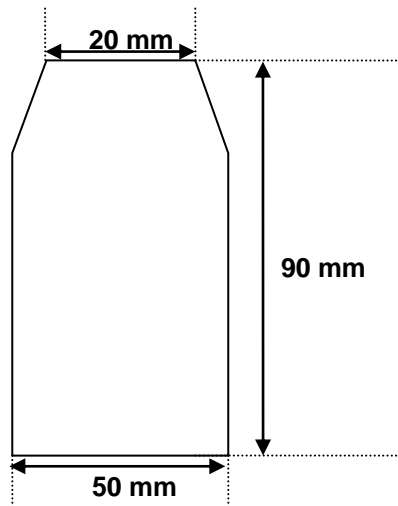


Figure 3 – Shape and dimensions of front support

6.14 Button

- ♦ to be acceptable gold plated metal buttons with shanks
- ♦ to be collar struck
- ♦ made of brass that complies with the relevant requirements of Type Designation CZ101 (90/10 brass), condition ½ Hard, of SANS 1303-1
- ♦ dimensions to be as given in figure 4
- ♦ buttons (obverse and reverse) to be gold plated that shall comply with the requirements as given in Annex A
- ♦ design to incorporate the following:
 - a rim around the outside edge
 - registered SAA tail logo centred in the button
 - rim and SAA tail logo to be bright gold
 - background on obverse of button to be sandblasted (matt)
 - **shank to be horizontal in relation to the tail logo on the significant surface**
 - shank to be long enough to protrude through all relevant layers

NOTE: The attachment mechanism shall be such that the button stays in the exact position after attachment, with the base of the tail logo parallel to the horizontal.

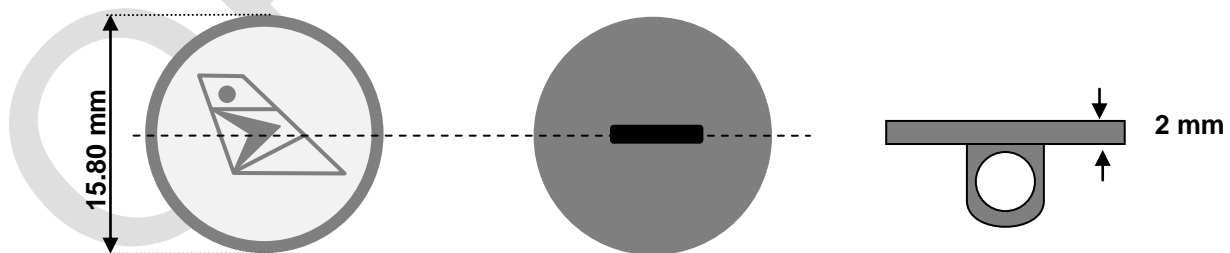


Figure 4 – Button

6.15 Piping cord

- ♦ acceptable plastics piping cord
- ♦ of nominal diameter 2.5 mm

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6.16 Braid (Hatband)

- ♦ an acceptable all-wool braid woven in the “Hercules” design
- ♦ of nominal finished width of 43 mm (+ 2 mm; - 1 mm)
- ♦ colour to be black

6.17 Metal badge

- ♦ made of brass that complies with the relevant requirements of Type Designation CZ101 (90/10 brass), condition ½ Hard, of SANS 1303-1
- ♦ design to be as given in figure 1
- ♦ dimensions to be as given in figure 5
- ♦ badges to be gold plated, painted and epoxy coated
- ♦ finished product to comply with the requirements as given in Annexes A and B
- ♦ design to incorporate the following:
 - shape to be that of a shield
 - registered SAA tail logo centred in the badge
 - tail logo and background to be colour filled and epoxy coated (see Annex B)
 - to incorporate a 1 mm gold border around the outer edge of the badge

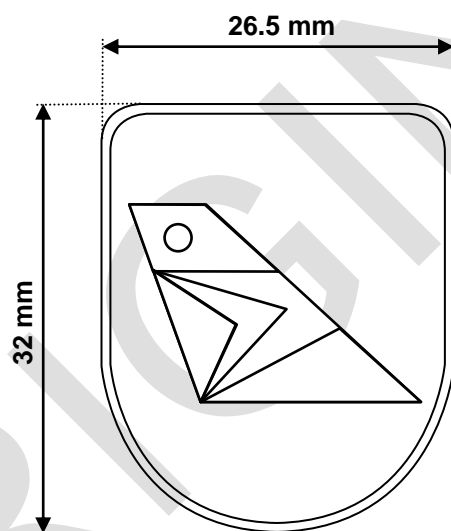


Figure 5 – Outside dimensions of metal badge

9.18 Rivets

- ♦ acceptable double-headed rivets
- ♦ steel or brass rivets
- ♦ corrosion resistant

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9.19 Badge securing mechanism

- ♦ to comply with the design as given in figure 6
- ♦ such as to secure the badge to the cap

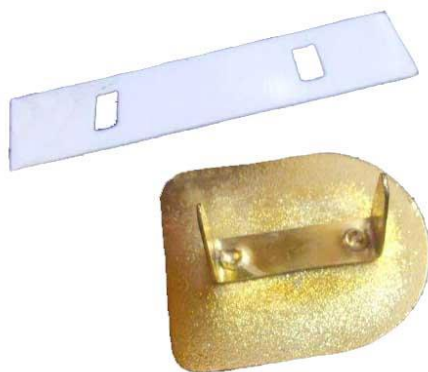


Figure 6 – Badge securing mechanism

6.20 Sewing threads

- ♦ to comply with relevant requirements of SANS 1362 “Sewing threads”
- ♦ colour to be an acceptable match to the colour with which it is used

Headleather and chin strap:

- ♦ continuous filament, untexturized polyester thread
- ♦ ticket No. 36 or 50

Seaming and other sewing:

- ♦ staple polyester thread
- ♦ ticket No. 80

7. Workmanship

The caps 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 or 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

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Ends of sewing shall be:

- ♦ trimmed and loose threads removed
- ♦ back-tacked if unsecured (at least 15 mm)

8. Sizes and dimensions

The caps shall be supplied in one or more of size designations as given in table 3 (as specified in the order or contract).

Table 3 - Size range

1 Size designation	2 Item Number
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51	
52	
53	
54	
55	
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58	
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62	
63	

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9. Make

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

9.1 General

- ♦ outer material for the bevels and crown shall be so bonded to an acceptable felt layer that the bonded material:
 - is resistant to dry-cleaning
 - has a uniform finish
 - is free from perforations, untreated areas and other imperfections (e.g. blisters and ripples)
- ♦ the adhesive used for bonding shall
 - not contain any constituent that may have a toxic or irritating effect on the skin
 - be such that it adheres to both materials and will not under any circumstances emit an unpleasant odour

9.2 Crown

- ♦ of bonded outer material
- ♦ fitted with greaseproof lining (transparent plastics sheeting)
 - crown circle of greaseproof lining to be sewn in with the crown-to-bevels seam
- ♦ diameter of the crown for a cap of size designation 57, measured from front to back, to be 26 cm, excluding the piping (± 3 mm)
- ♦ diameter of the crown for a cap of size designation 57 measured from side to side, to be 25 cm, excluding the piping (± 3 mm)
- ♦ on smaller and larger size designations, these measurements shall be so increased or decreased proportionately as to ensure a 10 mm (per size) increase or decrease in the internal circumference of the body of the cap
- ♦ fitted with piping around the outer edges of the crown
 - a strip of outer material to cover a length of plastics piping cord
 - inserted in the crown-to-bevels seam
 - the ends so seamed together at the centre back of the cap
- ♦ crown-to-bevel seam to be off-centre

9.3 Bevels

- ♦ each cap to have four bevels of bonded outer material
 - seamed together at the centre front, centre back and at the sides
 - then seamed to the crown
- ♦ finished depth of the bevels to be, excluding the piping (± 2 mm):
 - 50 mm at the centre front
 - 45 mm at the sides
 - 45 mm at the centre back
- ♦ fitted with four eyelets in each cap
 - eyelets to be positioned 15 mm - 20 mm from each side of each bevel side seam (centres)

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- 15 mm - 20 mm from the body-to-bevels seam (centres)
- each eyelet shall pass through the bonded bevel and shall be properly clinched over its washer on the inside of the cap
- ◆ crown-to-bevel seams shall be covered with felt strips around the full circumference of the seam
- ◆ fitted with a front support insert (see 6.13 and 9.5)

9.4 Body

- ◆ a single strip of outer material
- ◆ ends seamed together at the centre back
- ◆ finished depth (all round) of 50 mm
- ◆ shall incorporate a welt (pin-tuck) of depth 2 mm
 - forming a support for the lower edge of the braid
 - positioned 8 mm from, and parallel to the body's lower edge
- ◆ fitted with a hatband
 - to extend along the full circumference of the body
 - to rest on the welt (pin-tuck)
 - joined at centre front, seam to be folded open and edge-stitched 2 mm on either side of the seam
- ◆ inside of body to be fitted with:
 - a supporting length of webbing at the back (see 6.11)
 - covered with greaseproof lining on both sides
 - a supporting strip of plastics reinforcing material (see 6.3)
 - of finished depth 57 mm
 - outer ends of plastics strip shall overlap and be sewn to the cut ends of the webbing
 - inner side of webbing and plastics strip shall be covered by lining and secured by rows of stitches
 - on the assembled cap the lower edge of the webbing and plastics strip to be covered by the body material being folded up 13 mm onto the inner surface of the webbing and plastics strip and secured with a row of stitching
 - headleather
 - headleather to be attached to the body of the cap by means of hand stitching
 - cut edges to be positioned at centre back and shall be securely tacked
 - cut ends to overlap a minimum of 12 mm
 - a braid bow to be tacked with stitches at the overlap at centre back

9.5 Front support

- ◆ attached in such a way that the layer of felt shall face towards the wearer of the cap
- ◆ top end of the support shall be positioned behind the felt covering strip of the crown-to-bevels seam (at the centre front)
- ◆ lower end of the support shall be properly secured to the body reinforcing plastics strip (concealed by the headleather)
- ◆ front support shall be so fitted that the front of the cap does not sag or stretch and that the support ensures a smooth continuous line of the crown, piping and bevels

9.6 Peak

- ◆ the peak insert to be covered with outer material on both sides
 - on the concave edge of the peak insert, the two layers of outer material shall be so sewn together that no creases form over the peak insert and that sufficient material is provided

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- for the seaming of the assembled peak onto the body of the cap
- seam joining the two layers of outer material on the outer edge shall be located on the underside of the peak and 3 mm away from the outer edge
- ♦ finished depth of the peak at centre front shall be 56 mm ± 2 mm (measured on upper side of peak)

9.7 Adjustable chin strap

- ♦ to be constructed from 12 mm gold Mylar naval lace (see 6.9) which shall be backed with PVC
 - the two layers shall be attached to each other by means of 2 mm edge-stitchings along all edges
- ♦ positioned at the base of the body of the cap
- ♦ outer edges to be cut with mitred points
- ♦ mitred points to extend 35 mm beyond the outer edges of the peak on both sides (measured to the mitred points)
- ♦ chin strap to be attached to the body of the cap by means of buttons that shall be secured with acceptable metal rings on the inside of the cap
 - buttons to be positioned on the outer edges of the strap
 - shank to protrude through all layers
 - positioned in such a way that the base of the tail emblem shall be parallel to the horizontal (see figure 4)
- ♦ adjustability to be achieved by means of constructing the strap from 5 cut lengths and constructed as given in figures 7 and 8
 - one upper long length
 - to be cut with two mitred points
 - one outer edge to be attached to the cap by means of a button
 - other outer edge to be secured to the loop on the left (refers to when cap is viewed from the front)
 - one back long length
 - to be cut with one mitred point and one straight end
 - the mitred end to be attached to the cap by means of a button
 - other outer straight edge to be secured to the loop on the right (refers to when cap is viewed from the front)
 - one short length
 - cut with one mitred point and one straight end
 - straight end to be attached to the right loop (refers to as when viewed from the front)
 - two loops with cut ends secured by means of rivets

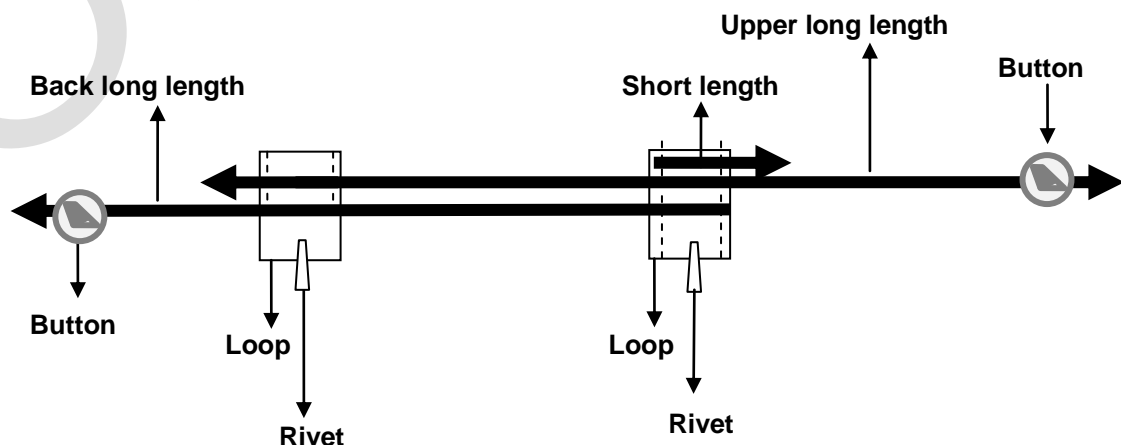


Figure 7 – Construction of adjustable chin strap

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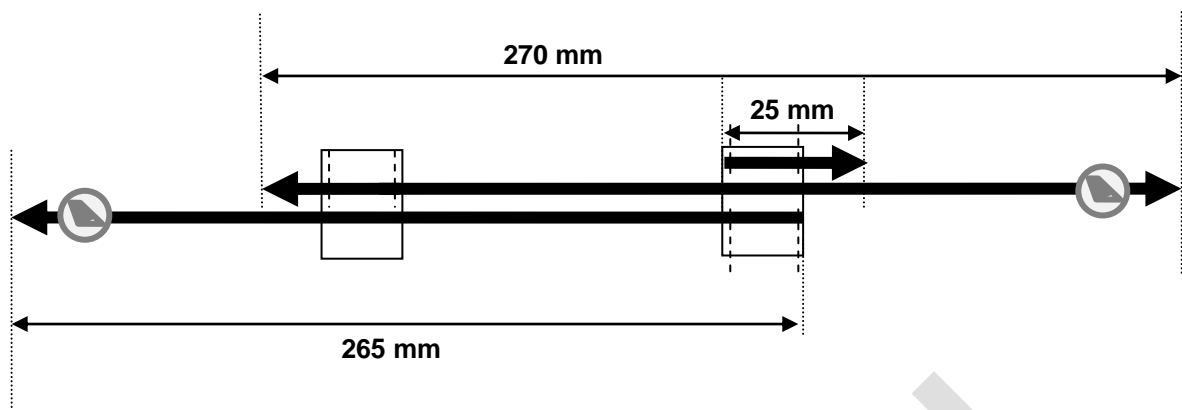


Figure 8 – Dimensions of adjustable chin strap

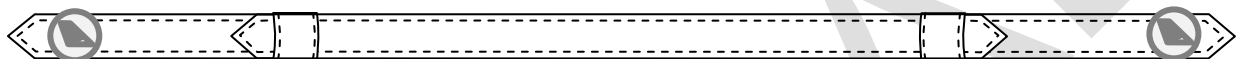


Figure 9 – Design of adjustable chin strap

9.8 Gold wire embroidery

- ♦ to be made to the design as given in figure 10
- ♦ application of different types of gold wire to be as given in figure 11
- ♦ made to the dimensions as given in figure 12 (a tolerance of ± 2 mm applies to all measurements given below)
- ♦ to be hand embroidered
- ♦ the pieces of gold wire shall be laid close together so that no outer material is visible between the lays
- ♦ positioned on top of a felt patch and centred over centre front (see figure 13)
 - felt patch to be backed with wadding
 - felt patch to be attached to centre front by means of hand stitches
 - shape of patch to follow the outside contours of the gold wire embroidered design and shall extend approximately 5 mm – 10 mm beyond the outer edges of the embroidery
 - top edge of patch to be positioned 15 mm below the crown-to-bevel seam (excluding the piping)



Figure 10 – Design of gold wire hand embroidery

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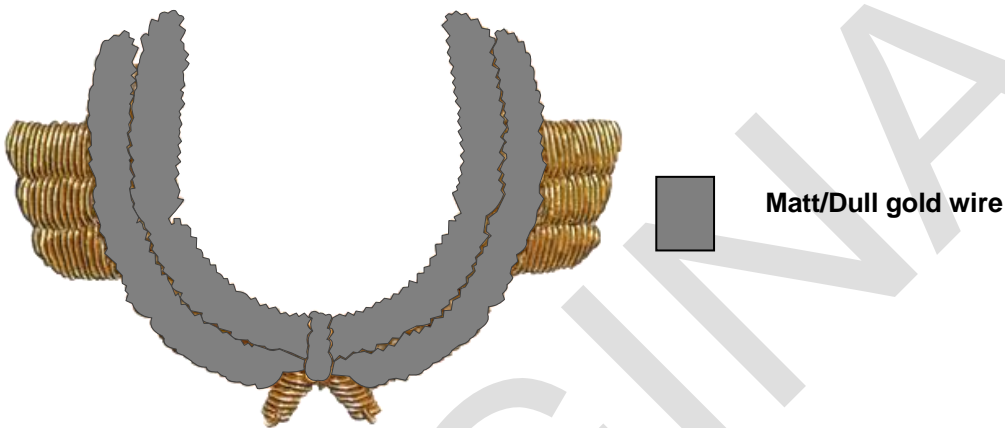
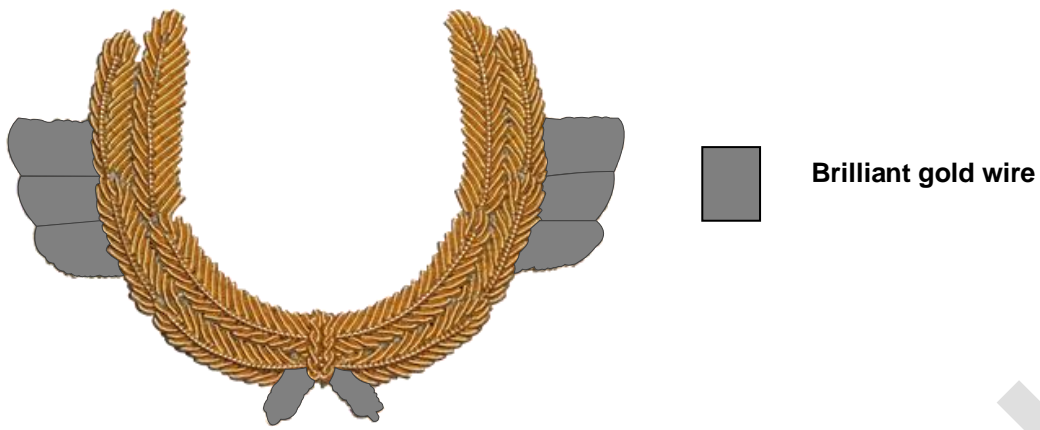


Figure 11 – Gold wire application

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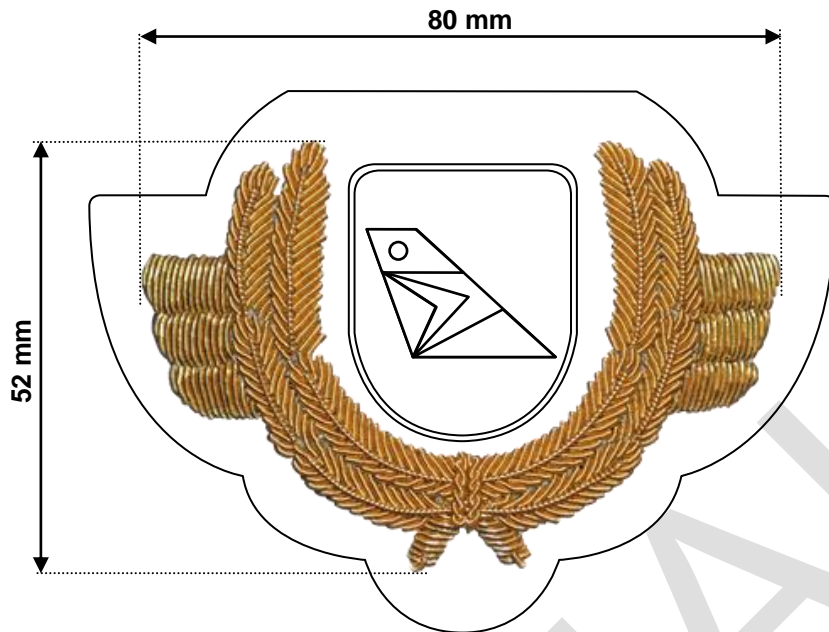


Figure 12 – Dimensions of gold wire hand embroidery



Figure 13 – Positioning of embroidered design, felt patch and badge

9.9 Metal badge

- ◆ to comply with the information given in 6.17
- ◆ to be centrally positioned on the front and as given in figure 13
- ◆ attached in such a way that it shall be secured on the inside with a mechanism as given in 6.19
- ◆ attached through all layers and such that it shall not come undone, without it being the intention

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10. Applicable Documents

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

AATCC method 20, *Fiber analysis: Qualitative*. Available from World Wide Web <http://www.aatcc.org/Technical_Test_Methods/scopes/tm20.cfm>

CKS 129, *Colours for textiles*.

ISO 3175-2, *Textiles – Dry cleaning and finishing – Part 2: Procedures for tetrachloroethene*.

ISO 6940, *Textile fabrics – burning behaviour – determination of ease of ignition of vertically oriented specimens*.

SANS 79, *Textiles - Mass per unit area of conditioned fabrics*.

SANS 105-B02/ ISO 105-B02, *Textiles - Tests for colour fastness Part B02: Colour fastness to artificial light: Xenon arc fading lamp test*.

SANS 105-D01/ISO 105-D01, *Textiles - Tests for colour fastness Part D01: Colour fastness to dry cleaning*.

SANS 105-E04/ISO 105-E04, *Textiles - Tests for colour fastness Part E04: Colour fastness to perspiration*.

SANS 979, *Textile products - Permanent mothproofing*.

SANS 1303-1, *Wrought copper alloys Part 1: Chemical composition of copper-zinc alloys (non-leaded and leaded)*.

SANS 1362, *Sewing threads*.

SANS 1387, *Woven cotton and similar apparel fabrics Part 7: Jacket linings*.

SANS 5113, *Non-fibrous material content of wool*.

SANS 5580, *Pesticides: Biological evaluation of mothproof textiles containing wool*.

SANS 5582, *Pesticides: Biological evaluation of dry-cleaning-durability properties of mothproof textiles containing wool*.

SANS 6009, *Abrasion resistance of textile fabrics (Martindale test)*.

SANS 6116, *Resistance of textile fabrics to pilling and fuzzing (Random tumble method)*.

SANS 7211-2/ISO 7211-2, *Textiles - Woven fabrics - Construction - Methods of analysis Part 2: Determination of number of threads per unit length*.

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SANS 10076-5, *The assessment of defects in textile piece-goods and made-up articles Part 5: Defects in woven woolen and worsted piece-goods.*

SANS 10235, *Fibre-content labelling of textiles and textile products.*

SANS 10371, *Terms and definitions for clothing.*

SANS 13934-1/ISO 13934-1, *Textiles - Tensile properties of fabrics Part 1: Determination of maximum force and elongation at maximum force using the strip method.*

11. Stitches, Seams and Stitchings

11.1 Stitches

headleather to body seam: hand felling

other stitches: single needle lock stitch

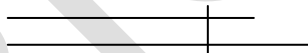
11.2 Seams

headleather to body: seam type SSak (adapted)



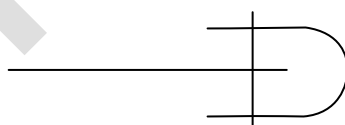
Superimpose a strip on the fold of a ply of material and seam with the appropriate number of rows of stitches.

peak to body: seam type SSbd



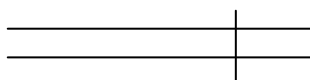
Superimpose two plies of material with their edges positioned at the specified distance apart and seam with the appropriate number of rows of stitches.

felt seam covering: seam type BSa



Fold a binding strip round the edge of a ply or plies of material and seam with the appropriate number of rows of stitches.

other seams: seam type SSa



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

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11.3 Number of stitches

headleather to: 20 ± 2 per 10 cm

seams: 40 ± 4 per 10 cm

peak-to-body: 22 ± 2 per 10 cm

12. Labelling and Marking

12.1 Label properties

All labels shall:

- ♦ be white woven rayon labels that are printed
- ♦ comply with SANS 1309 "Printed labels for textiles"
 - information to be in legible and indelible block letters of height at least 3 mm
 - ink used for printing shall comply with SANS 432 "Indelible marking ink for textile fabrics"
- ♦ permanently secured and covered be such that they outlast the caps (including the markings)

12.2 Marking

- ♦ Each cap to have, secured to the inside of the crown and covered with plastics sheeting, a label that provides the following information:
 - the size designation
 - the manufacturer's name or trade mark or both
 - the year of manufacture

13. Preparation, Packaging and Marking

13.1 Packaging

13.1.1 The caps shall be:

- ♦ delivered in a commercially dry condition
- ♦ so packed that they will not be damaged in transit or in storage
- ♦ fitted with a polyethylene strap around the cap to retain the shaping of the bevels while not being worn
- ♦ individually packed in plastics envelope and then in a cardboard box of suitable size and shape
- ♦ unless otherwise specified in the order or contract, acceptably packed (10 units per bulk container) for transit in acceptable bulk containers

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13.1.2 Caps:

- ♦ of the same size designation and type 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 and types may also be packed together to accommodate the last part of an order or contract

13.2 Marking of packaging

13.2.1 Cardboard boxes

Each cardboard box to be clearly marked with the following information:

- ♦ the item number
- ♦ the item description
- ♦ the size designation

13.2.2 Bulk containers:

Each bulk container shall have a label securely attached to the outside. This label shall be visible when the containers are stacked and shall provide the information in legible and indelible markings as follows:

- ♦ the item number and description
- ♦ the quantity
- ♦ the order number
- ♦ the manufacturer's name or trade mark or both
- ♦ the year and month of manufacture
- ♦ the size designation

13.3 Additional marking

When so required by the South African Airways, caps, plastics envelopes, cardboard boxes, or containers (or any combination of these) to bear information additional to that specified above.

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ANNEX A

(Normative)

Gold plating requirements

The significant surface as well as the reverse of the buttons and badges shall be electroplated with gold:

The gold coating shall:

- ♦ be electroplated with a uniform and bright deposit of gold
- ♦ have a minimum gold content of at least 995 parts per 1 000, when tested with an acceptable non-destructive test method (e.g. an instrument operating on the beta-ray back-scatter principle)
- ♦ colour to comply with the sample held by the South African Airways
- ♦ have no contact marks from the electroplating process
- ♦ render a clean surface
- ♦ adhere firmly to the base metals
- ♦ when viewed at a distance of 350 mm, be free from the following defects
 - blisters, pits, roughness, cracks, stains, discoloration and/or mechanical damage

The thickness of the coating shall be:

- ♦ 1µm at any point
- ♦ be tested by using an acceptable non-destructive test method (e.g. an instrument operating on the beta-ray back-scatter principle) to determine the thickness on the obverse and reverse sides of the button and badge

The discontinuity of the coating shall be tested as follows:

- ♦ use a volume fraction of 50% aqueous solution of nitric acid at 25°/25° C = 1,42 maintained at 18 °C ± 2°C
- ♦ immerse the badge to a suitable depth, in the acid for (60 ± 2) s

Regard the following as evidence of discontinuity:

- ♦ evolution of gas bubbles during immersion
- ♦ imparting of a blue colour to the acid solution
- ♦ definite change on the obverse or reverse sides of the button on removal from the acid solution
- ♦ more than 6 pinpoint defects on the obverse or reverse of the button

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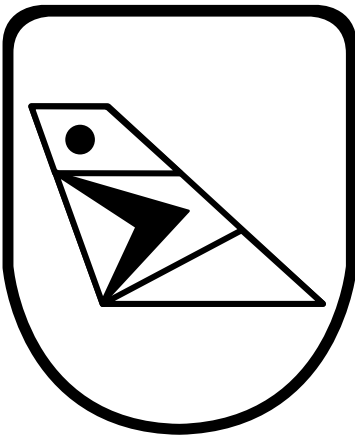
ANNEX B

(Normative)

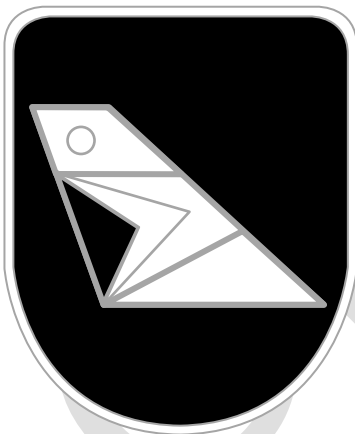
Metal badge requirements

The paint shall:

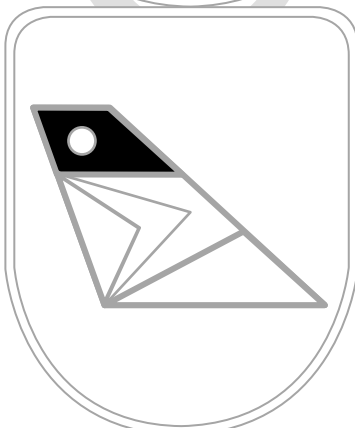
- ♦ be heat resistant and non-fading
- ♦ be an acceptable match to the colours as given in the figure below
- ♦ be confined to the area prescribed by the design
- ♦ be covered with epoxy coating
 - be an acceptable clear epoxy resin coating of acceptable hardness
 - be of nominal thickness 0,5 mm
- ♦ when viewed at a distance of 350 mm, be free from the following defects (applicable to the paint and epoxy coating): bubbles, spots, inclusions, cracks, crazing



Gold plating

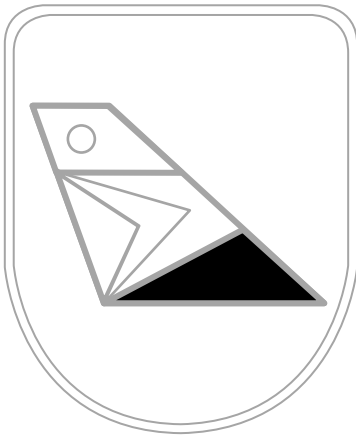


Pantone® "Black"

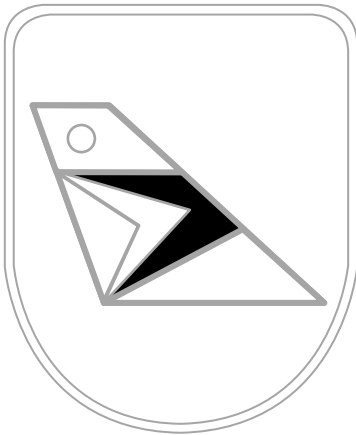


Pantone® 1797c "Red"

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Pantone® 662c “Blue”



Pantone® 348c “Green”

ORIGINAL

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ANNEX C

(Normative)

Special Conditions Of Tender

C-1 GENERAL

C-1.1 Unless otherwise stated, the Procurement Authority (or an organization deputed by it) shall be the inspecting authority.

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 Airways and verified by the inspection authority. All applications must be submitted in writing.

C-1.2 Three pre-production sample caps, shall have been inspected, tested and approved by the inspecting authority before bulk production is commenced. Each sample shall be accompanied by a trim chart containing a sample of each component material (as given in 6) and the relevant compliance certificates for all components as ***well as for the outer material used***. It shall be the duty of the manufacturer to give adequate notice to the inspecting authority of the availability of these samples.

C-1.3 The caps 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 caps supplied to this specification may be in progress

C-1.4 The contractor shall inspect the finished caps for compliance with the specification before submitting them to the inspecting authority for final inspection.

C-1.5 Before acceptance, the caps shall have been inspected and tested by the inspecting authority and found to comply with the requirements of the specification.

C-2 DOCUMENTATION

One container of each consignment shall be marked "DOCUMENTS" and in addition to the caps, shall contain the following:

- a) The packaging slip or delivery note;
- b) where applicable the inspection certificate(s);
- c) a copy of the invoice containing the following information:
 - the order number
 - the financial authority number
 - a full description of the consignment, i.e. Item number, quantity, etc

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HISTORY SHEET				
DOC ISSUE	DATE	AMENDMENTS/HISTORY	CHECKED	
			NAME	INIT.
1	May 2007	First release		
2	December 2011			
3	August 2015	Re-do of specification Omit Flammability requirement Kept old colour reference Add more detail according to sample Addressed button shank position Add CKS 129 Colour of braid for chin strap		
4	August 2015	Add reference to outer fabric certificates in Annex C Add colour fastness requirement to gold braid		

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