South African Police Service

Specification for

BODY ARMOUR: FEMALE BULLET RESISTANT VEST, LIGHTWEIGHT (BLUE AND BLACK)

SAPS 323357/25
Version 01.0/June 2026

1. Scope

This specification covers the material, cut and make of lightweight body armour (bullet resistant vests) intended to be worn over the wearer's clothing/uniform for female members of the South African Police Service. The bullet resistant vests shall be supplied in two colour variations as given below:

1.1 SAPS field dress grey

1.2 Jet Black

NOTE : *Attention is drawn to the Compulsory Compliance Declaration as given in Annex K. The bidder must indicate in writing with a **COMPLY** for compliance with the requirements and a **DO NOT COMPLY** for non-compliance with the requirements in the relevant column of every specification field. Failure to do this will be interpreted as **DO NOT COMPLY** and will result in the disqualification of the bid.*

2. Definitions

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 Police Service
BRV:	Bullet resistant vest
Complete body armour ensemble:	The combination of all individual manufactured items specified in this specification, i.e. the front panel and back panel of the outer vest, the front and back soft ballistic armour packs, the front and back hard ballistic armour plates, the user manual and carry bag.
Fair shot: soft ballistic armour pack	A bullet that impacts the soft ballistic armour pack sample at an angle of incidence no greater than ± 5° from the intended angle of incidence, no closer to the edge than 76 mm and no closer to a prior hit (centre to centre) than 50 mm, at an impact velocity within ± 9 m/s of the required reference test velocity and which does not produce a penetration or exceed the maximum allowable back face deformation in the backing material.
Fair shot: hard ballistic armour plate	A bullet that impacts the hard ballistic armour plate sample at an angle of incidence no greater than ± 5° from the intended angle of incidence, no closer to the edge than 50 mm and no closer to a prior hit (centre to centre) than 100 mm, at an impact velocity within ± 9 m/s of the required reference test velocity and which does not produce a penetration or exceed the maximum allowable back face deformation in the backing material.
Inspection Authority:	An organization deputed by the SAPS to conduct evaluations on behalf of the SAPS.
Model:	A manufacturer's designation (name, number, or other description) that serves to uniquely identify a specific configuration of body armour based upon the details of the ballistic panel construction (i.e., the number of layers of one or more types of ballistic resistant material assembled in a specific manner or the manner in which the armour is held in place upon the torso).

As an example, differences in stitching (e.g. box stitch versus quilt stitch) would make the ballistic panels different models. If a model of armour fails compliance testing, the manufacturer may never resubmit any armour under that model designation.

Nominal: Subject to the tolerances normal to good manufacturing practice

Panel:

a) Front outer panel The complete manufactured unit of the front outer vest

b) Back outer panel The complete manufactured unit of the back outer vest

SANS: South African National Standard

Soft ballistic armour pack: A complete manufactured unit that consists of 21 cut layers/plies of soft ballistic textile material (aramid) that are enclosed in a PVC casing

Stack: A grouping of 7 layers/plies of soft ballistic textile material (aramid) which shall be treated as a unit, i.e. each front soft ballistic armour pack shall consist of three stacks

3. Style (Overview)

Each complete body armour ensemble shall consist of eight individual items which shall be as given in table 1:

Table 1 – Summary of the complete body armour ensemble

1		2	3
Item		**Overview of design features**	**No. of units**
A	**Bullet resistant vest (outer garment):**		
	(i) Front panel	3-panel front Concealed hard ballistic armour plate mouth opening Hard ballistic armour plate pouch Female touch and close fastener sections Securing straps at the shoulders Printing Housing of inner soft ballistic armour pack Padded front lining Flap at centre front to facilitate attachment of a chest badge Bust darts	1

Table 1 – Summary of the complete body armour ensemble (continued)

1		2	3
Item		**Overview of design features**	**No. of units**
	(ii) Back panel	3-panel back Darts at the upper back and base Concealed hard ballistic armour plate mouth opening Hard ballistic armour plate pouch Printing Torso straps at the sides that fasten with touch and close fastener Padded attachment straps at the shoulders that fasten with touch and close fastener An additional supporting elasticated waist belt sewn to the inside lining Inner soft ballistic armour pack housing Padded back lining	1
B	**Removable inner soft ballistic armour packs:**		
	(i) Front pack	High-frequency sealed edges Markings to be colour coded according to the size	1
	(ii) Back pack	High-frequency sealed edges Markings to be colour coded according to the size	1
C	**Removable hard ballistic armour plates**		
	(i) Front plate	Long cut-aways at top	1
	(ii) Back plate	Different shape than front plate (Unisex)	1
D	**User manual**	Laminated printed board Fitted in carry bag	1
E	**Carry bag**	Colour coded binding according to the size To house items A to D	1
		TOTAL NUMBER OF ITEMS	**8**

4. Illustrations

Illustrations are not to scale and are for guidance only.

Figure 1(a) – Face side of front outer panel

Figure 1(b) – Face side of front outer panel

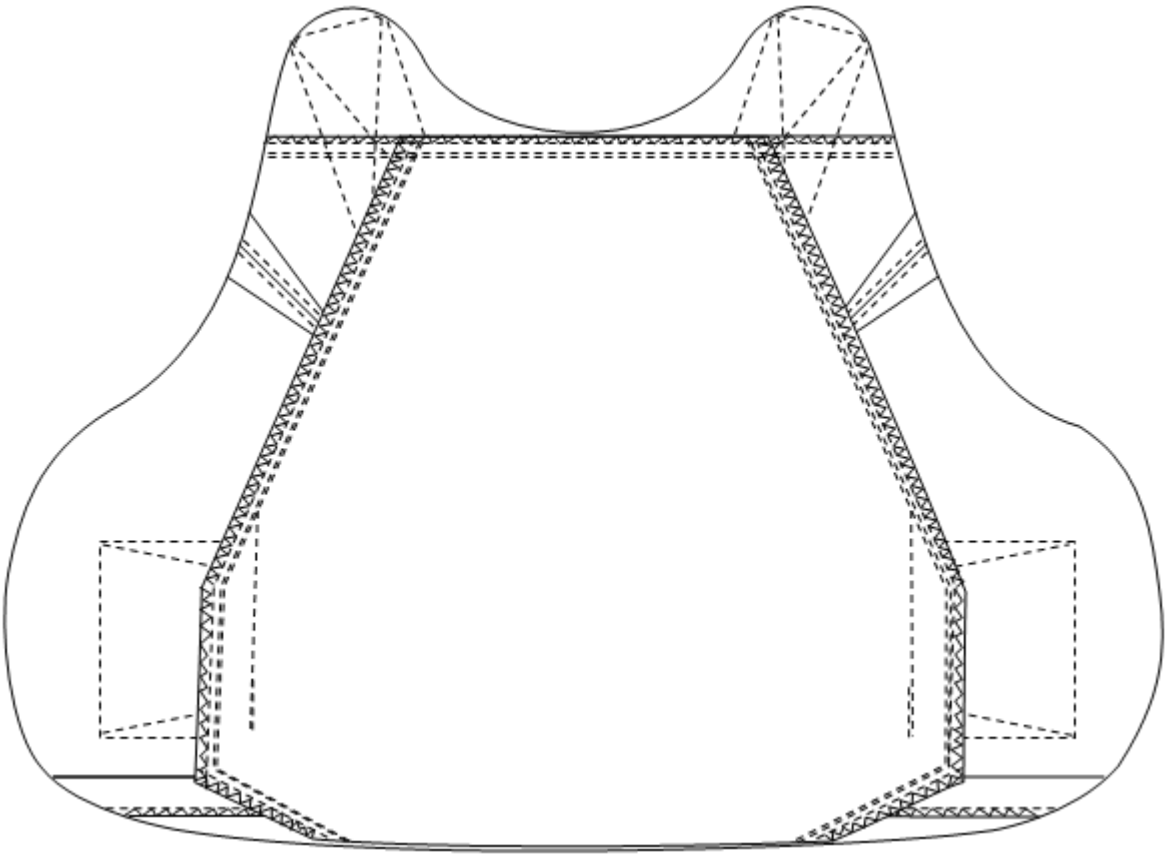


Figure 2 – Inside view of front outer panel

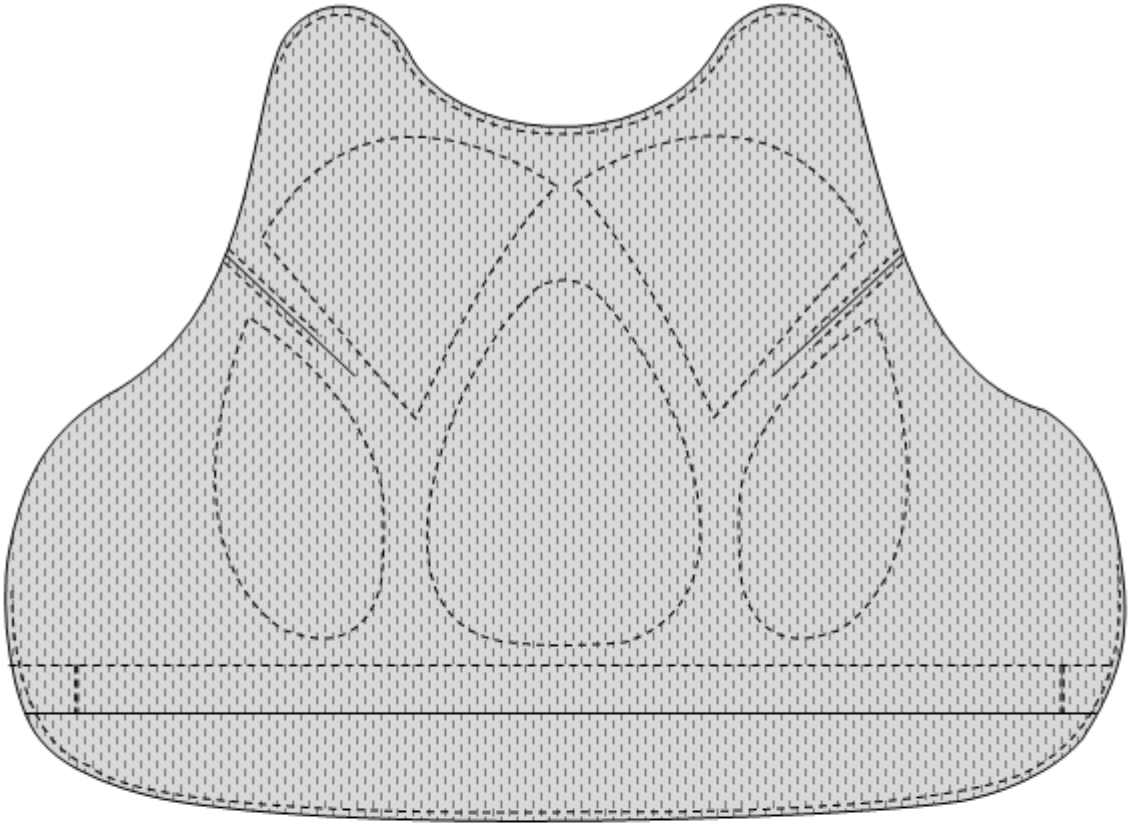


Figure 3 – Lining of front outer panel

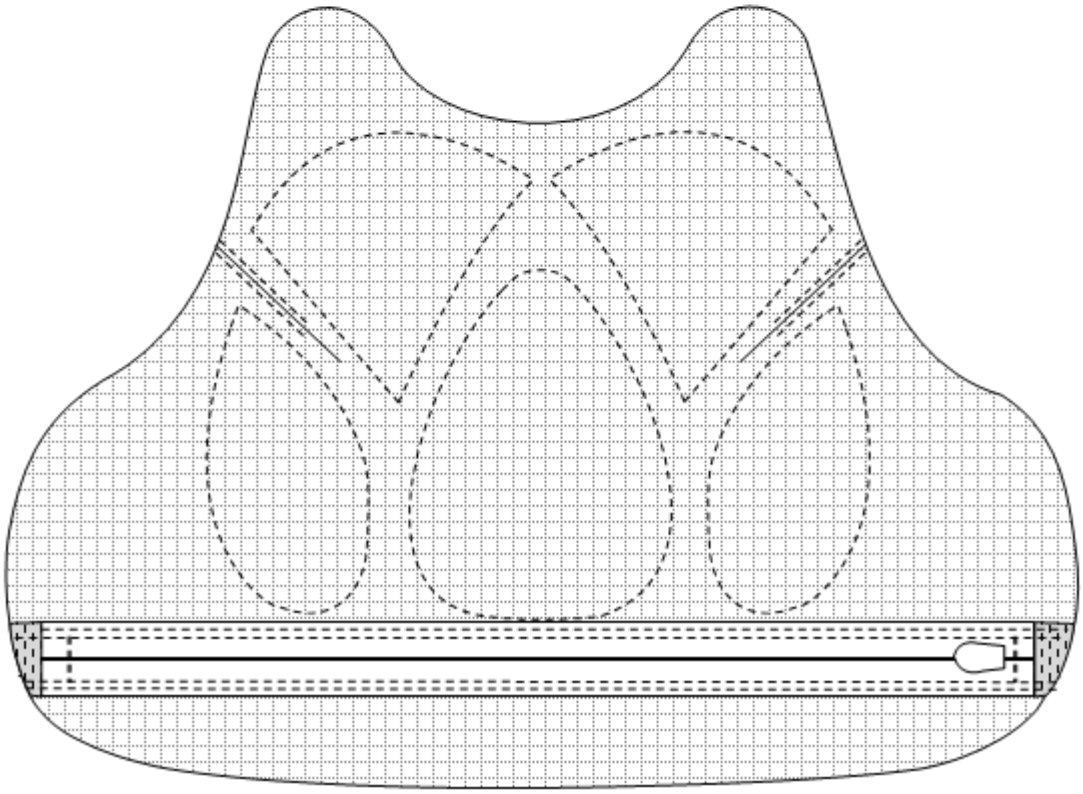


Figure 4 – Inside view of lining of front outer panel

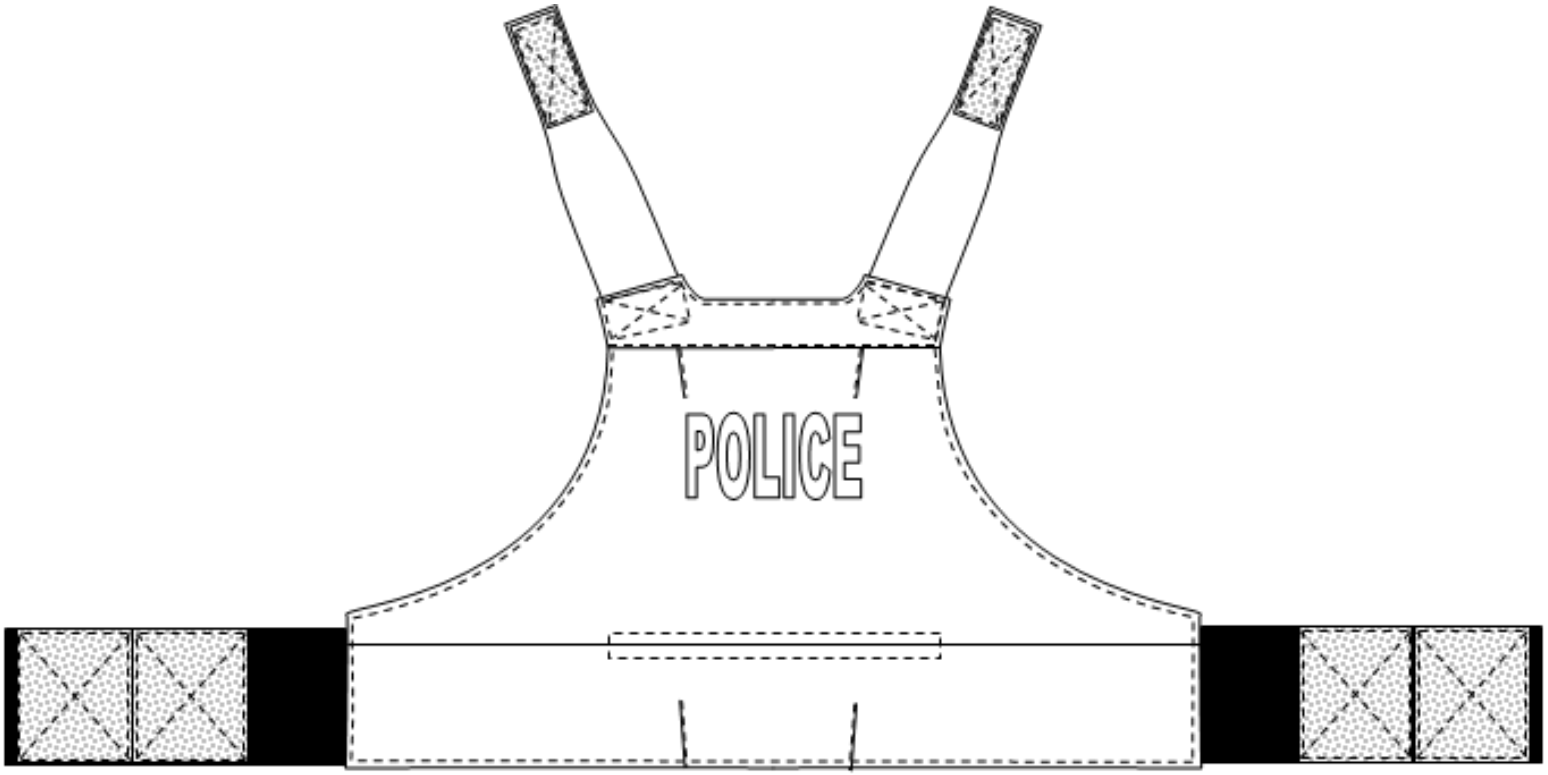


Figure 5(a) – Face side of back outer panel

Figure 5(b) – Face side of back outer panel

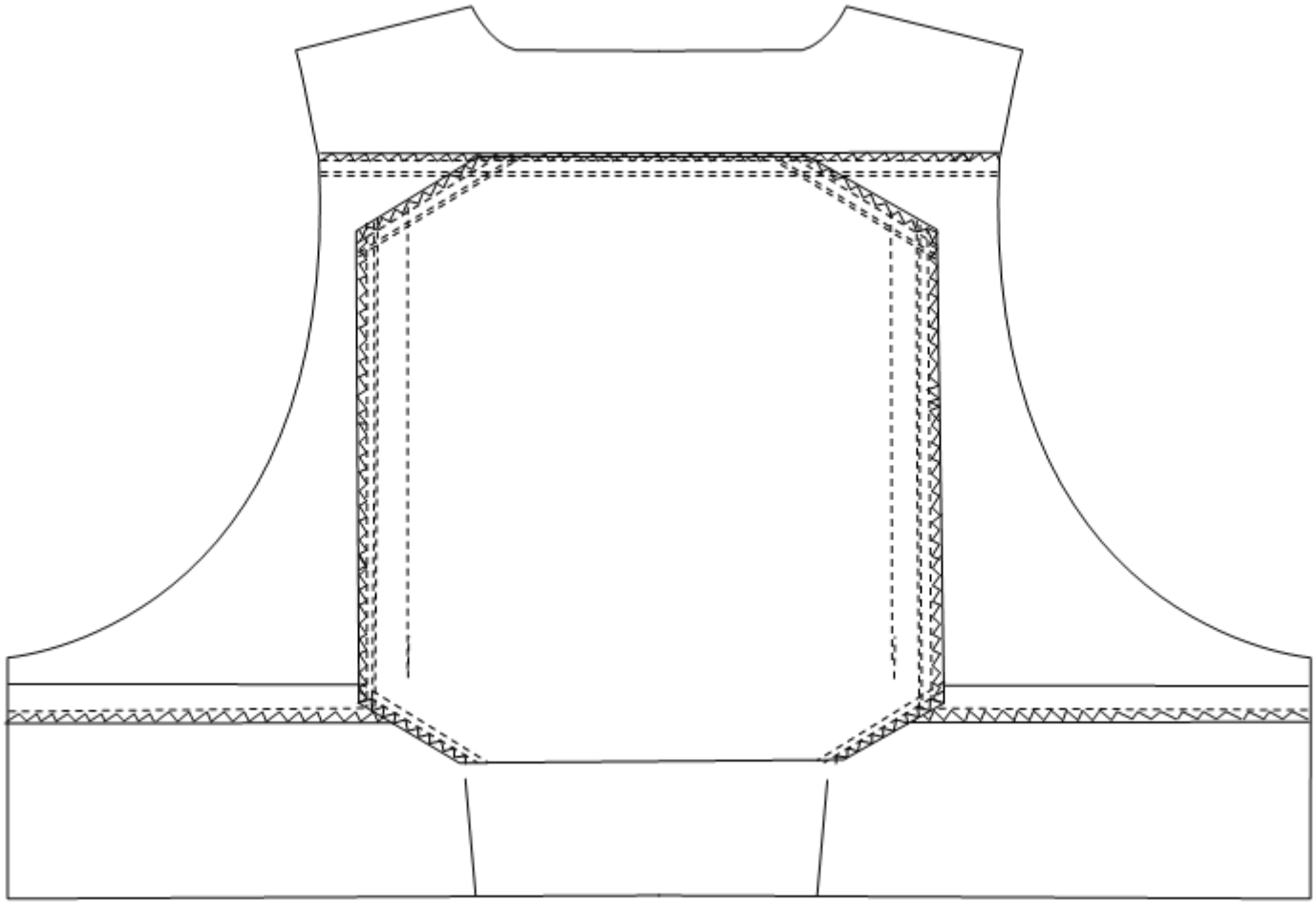


Figure 6 – Inside view of back outer panel

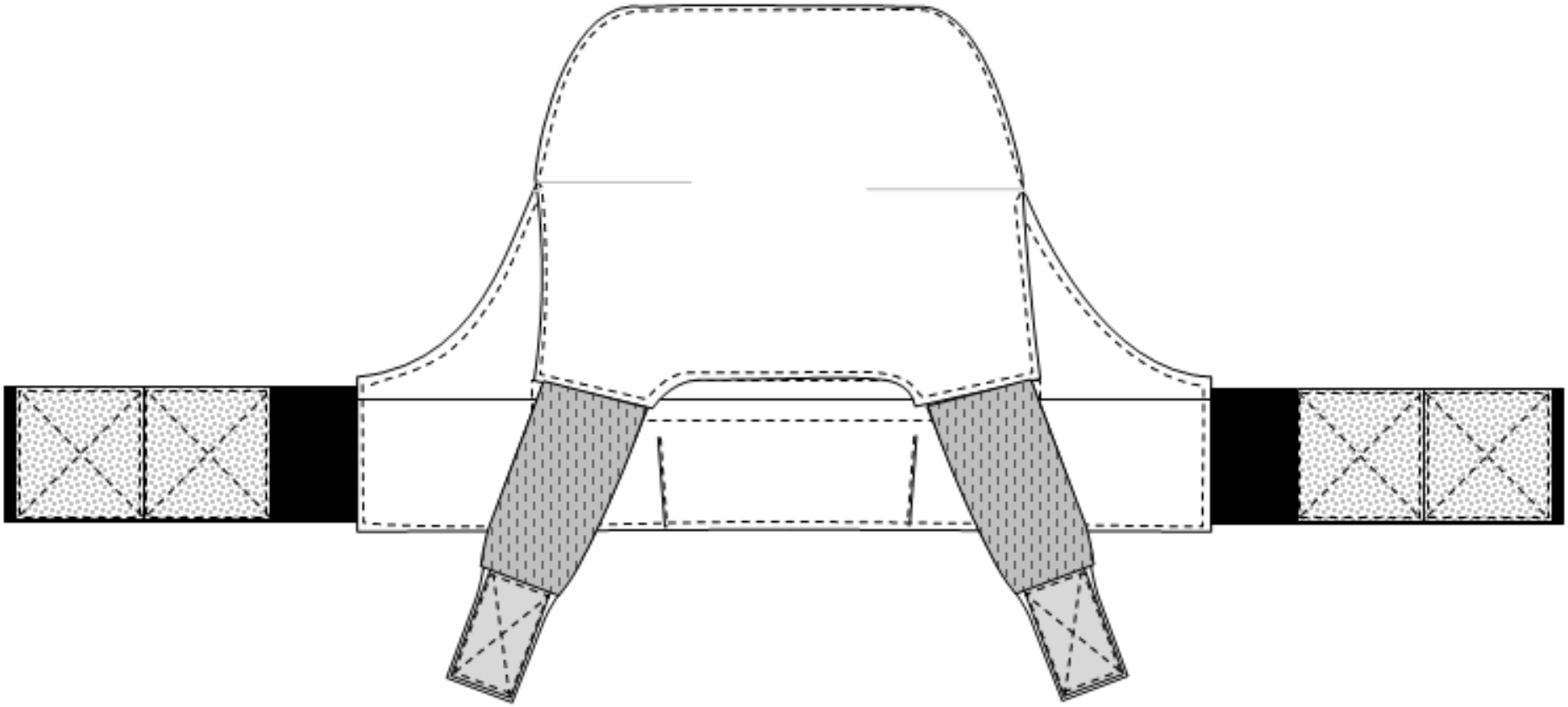


Figure 7 – Facing at top of back outer panel

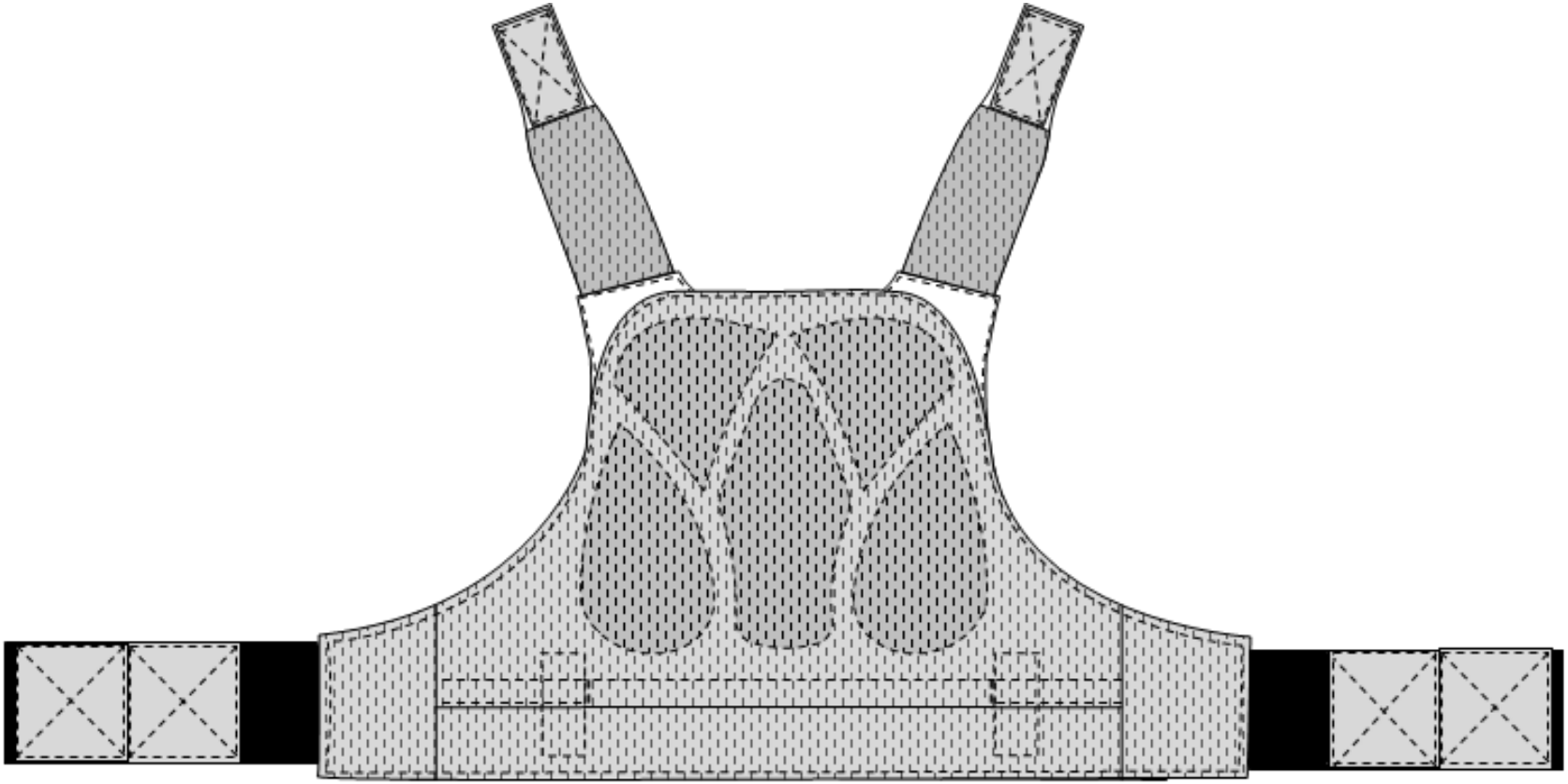


Figure 8(a) – Lining of back outer panel (inner waist support straps omitted in this illustration)

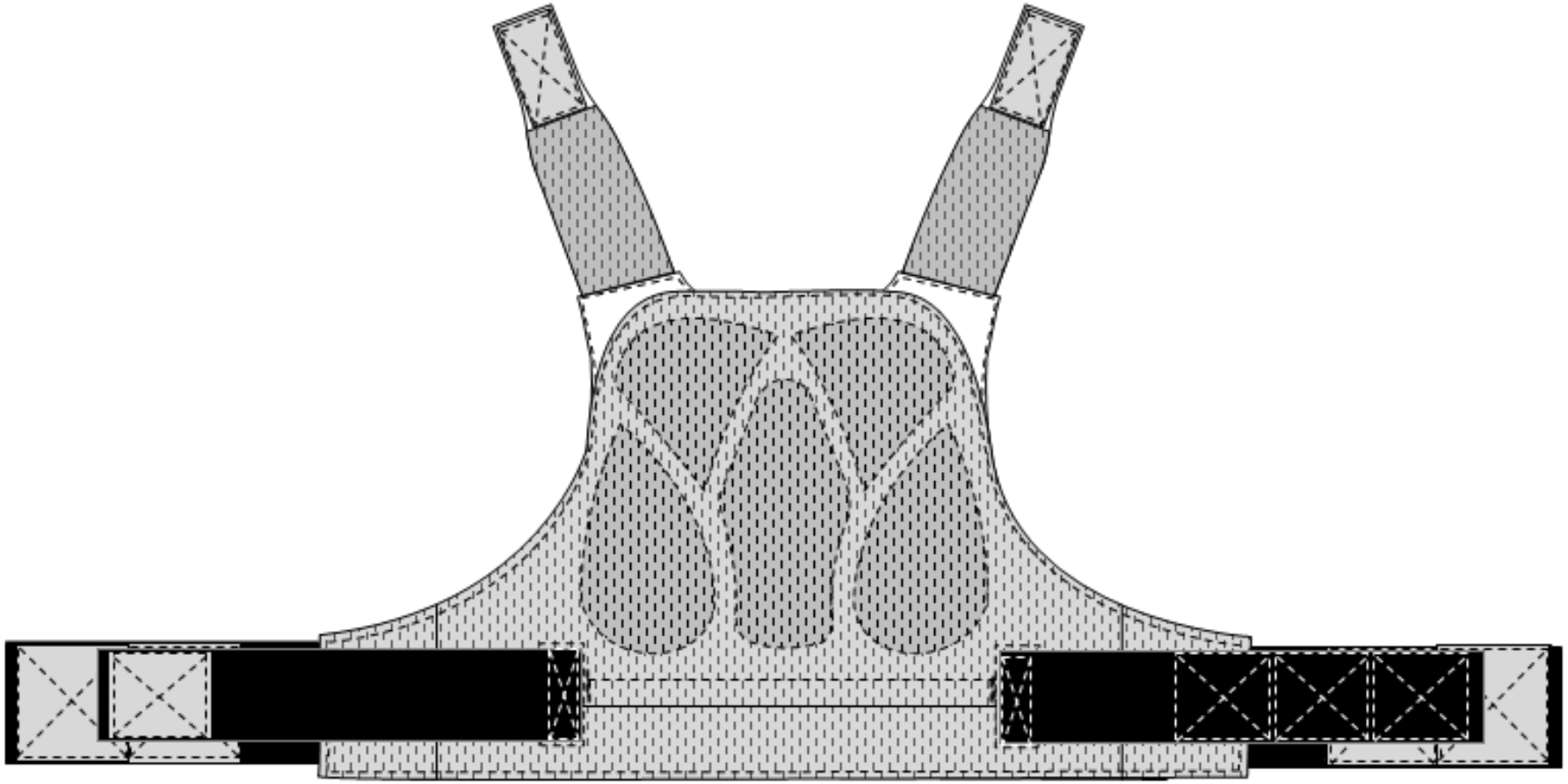


Figure 8(b) – Lining of back outer panel

5. Client Furnished Materials

5.1. General

No materials will be supplied by the South African Police Service.

5.2. Patterns

Pattern Reference No. SAPS 323358/25 Version 001 will be supplied to the appointed bidder by the SAPS.

The patterns will be supplied in electronic format, i.e. DXF format only.

All markers and ratings will have to be determined by the appointed bidder (NOT part of the supplied electronic patterns).

It shall be the appointed bidder's responsibility and for his/her account to source a suitable printer that has the correct software and capability to print the supplied patterns, to supply the pattern board and to have the patterns printed as required.

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 A).

6.1 Components of outer vest

6.1.1 Outer Material

- to comply with the requirements as given in Table 2
- colour to be a match, in terms of SANS 10076-1 "The assessment of defects in textile piece-goods and made-up articles Part 1: Defects in woven piece-goods (cellulosic and cellulosic blends)", to the CKS 129 colours as given in table 3 (as specified in the order and contract):

Table 2 – Outer material requirements

1	2	3
Property	**Requirement**	**SANS number** unless otherwise indicated
Fibre composition, %		1833-1 and1833-11
Cotton	60 ± 5	
Polyester	40 ± 5	
Weave	Plain with rip stops uniformly spaced along both the warp and weft direction	Physical examination
Number of threads per cm		7211-2
Warp	32, min.	
Weft	19 ± 2	
Mass per area, g/m^2, min.	210	79
Tensile strength, N, min.		13934-1
Warp	1050	
Weft	600	
Tearing strength[a], N, min.		13937-3
Warp	30	
Weft	30	
Dimensional changes on laundering, %, max		960
Press dry, (warp & weft)	± 2	
Colourfastness to:		
Washing, rating, min.		105-C10
Change in colour	4	test C(3)
Staining	4	
Rubbing, rating, min.		105-X12
Dry	4	
Wet	4	
Light, rating, min.	4	105-B02
[a] Express the result as the mean of the median peak values.		

Table 3 – CKS 129 Colours

Colour option	Colour Number	Title
1	121c	SAPS Grey field-dress
2	400c	Jet Black

6.1.2 Spacer fabric (body lining)

NOTE: If the 680 g/m^2 quality is not available, the 780 g/m^2 quality may be used.

- an acceptable multi-layer knitted fabric with a 3-D construction that reduces heat build-up, allows consistent air circulation and provides high moisture transfer
- to comply with the requirements as given in Table 4
- colour to be either an acceptable match to the colour of the outer material or black
- a suitable example of this fabric is Spacetec[1]

[1] Spacetec® is a trade name of a product supplied by Heathcoat fabrics. This information is given for the convenience of users of this private specification and does not constitute an endorsement by the South African Police Service of the product or company named. Equivalent products may be used if the performance can be proven to be the same as the product named and if it fits acceptably and can successfully function in the allocated position(s) and design of the vest.

Table 4 – Spacer fabric requirements

1	2	3
Property	**Requirements**	**Test Method**
Composition, %, ...	All polyester	AATCC method 20
Construction [a]	3-D knit see figure 9	Visual examination and physical analysis
Mass per area, g/m^2.....	680 [b]	BS EN 12127
Dimensional changes on laundering, %, max.		BS EN ISO 6330: 4A/50/A
Length	-5	
Width.....	-5	
Compression stress, (at 40% deformation) kPa.....	41.6	
Colourfastness to:		
Washing, rating, min.		SANS 11166: Washing procedure A
Change in colour	4	
Staining	4	
Perspiration, rating, min.		SANS/ISO 105-E04
Change in colour	4	
Staining	4	
Light, rating, min.	4	SANS/ISO 105-B02

[a] Gauge: 5.5 mm ± 0.5 mm when tested in accordance with BS EN ISO 5084.

[b] ± 40 g/m^2

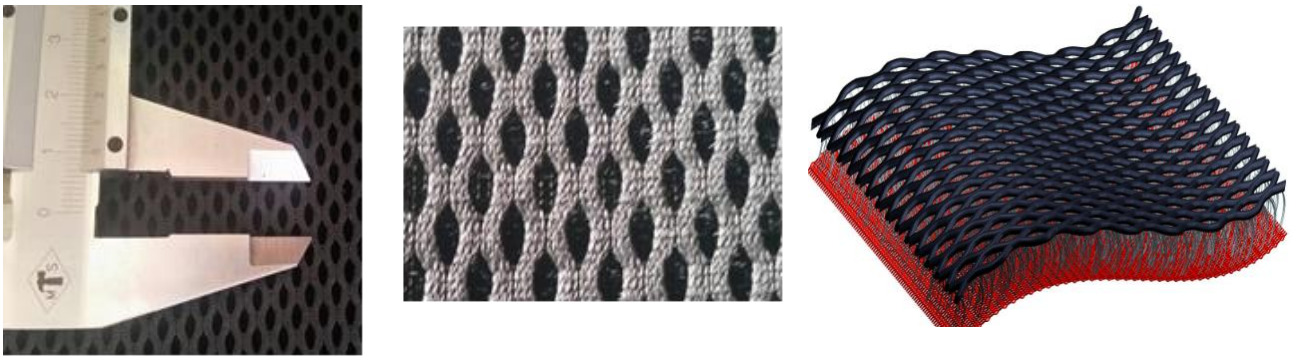


Figure 9 – Construction of spacer fabric

6.1.3 Touch and close fasteners

IF THE CERTIFICATE OF CONFORMANCE DOES NOT SPECIFICALLY STATE THAT THE TOUCH AND CLOSE FASTENER COMPLIES WITH EITHER SANS 1823 OR WITH THE REQUIREMENTS AS SPECIFIED IN ANNEX I, THE APPOINTED BIDDER SHALL SUBMIT A TEST REPORT OBTAINED FROM A SANAS ACCREDITED LABORATORY WHICH CLEARLY STATES THAT THE TOUCH AND CLOSE FASTENER THAT WILL BE USED, HAS PASSED ALL REQUIREMENTS AS SPECIFIED IN SANS 1823 OR THOSE SPECIFIED IN ANNEX I.

- to comply with the requirements of SANS 1823 "Touch and close fasteners" or alternatively comply with the performance requirements as given in Annex I
- of nominal finished widths: 20 mm, 38 mm, 50 mm and 10 cm (80 mm is optional)
- colour to be an acceptable match to the colour of the outer material

6.1.4 Woven elastic webbing

- commercially known as woven gusset/boot elastic
- to comply with the requirements of Table 5 as well as the elastic stretch and recovery requirements as specified for type 1 of SANS 142 "Narrow elastic fabrics and strip"
- finish applied: heat set and starched
- colour to be an acceptable match to the colour of the outer material

Table 5 – Elastic webbing requirements

1	2		3
Property	**Requirement**		**Test Method**
	Type		
	80 mm	**120 mm**	
Composition, %			ISO 1833-1
Polyester	72		
Latex	28		
Construction	woven		Physical analysis
Width, mm	80 ± 2	120 ± 2	SANS 5488
Mass	70 g/m ± 5%	90 g/m ± 5%	
Dimensional stability (shrinkage), %, max.	3		
Abrasion Resistance (Martindale), min.			ISO 20345:2011, § 5.5.2
Dry	Shall not develop any holes before 25 000 cycles		
Wet	Shall not develop no holes before 12 000 cycles		

6.1.5 Closed cell foam

- acceptable closed cell, cross-linked expanded Polyethylene foam (SPX33) of nominal thickness 5 mm and 8 mm
- to comply with the performance requirements as given in table 6

Table 6 – Closed cell foam requirements

1	2		3
Property	**Requirement**		**ISO number** (unless otherwise indicated)
	Range	**Nominal (Average)**	
Density, kg/m^3	26 - 37	31	845
Tensile strength, kPa			
CD	>220	271	1798
MD	>225	275	
Elongation, %			
CD	>137	189	1798
MD	> 136	181	
Shore Hardness, 00	50 - 59	54	International
Water absorption, %	<1		ASTM D 570-98
Compression set			1856
25% 22 h COMP/30 min REC	<17	13	
25% 22 h COMP/24h REC	<6	3	
50% 22 h COMP/30 min REC	<31	26	
50% 22 h COMP/24h REC	<20	15	
Compression deflection			3386/1
10%	26-49	38	
25%	42-67	54	
50%	88-124	106	

6.1.6. Slide fasteners

- one-way closed-end that complies with the requirements for Class C of SANS 1822 “Slide fasteners”
- synthetic spiral (nylon)
- metal sliders and pullers
- colour to be an acceptable match to the colour of the outer material with which it is used

6.1.7 Webbing

- to comply with the requirements as given in table 7
- colour to be black (colour not important for the webbing will be concealed)

Table 7 – Webbing requirements

1	2	3
Property	**Requirement**	**SANS number** (unless otherwise indicated)
Composition, %	All continuous filament polyester	AATCC 20
Selvedge	Lockstitch	Physical analysis
Width, mm.....	47 ± 1	5488
Thickness, mm	1.10 ± 0.10	85
Breaking strength, min. KN	26.0	13934-1

6.1.8 Paint compound for printing

- to be silkscreen printing
- printed with a textile water based ink (no dilution allowed)
- to be an opaque bright white colour
- the cure process shall comply with the following:
  - step 1: printed panels to be air-dried until dry to the touch
  - step 2: Heat treated at 180°C – 250°C for a period of 50 – 105 s (range given to accommodate the different heat-and-time-correlation variations)
- paint compound shall adhere to the base fabric and properly cured to ensure the compound shall not crack, flake or peel for the full service life of the vest
- edges of printing shall be sharp and base colour of fabric shall never show through the printed areas

6.1.9 Sewing threads

6.1.9.1 General

- to comply with relevant requirements of SANS 1362 “Sewing threads”, but with the deviations as given in 6.1.9.2
- colour to be an acceptable match to the colour with which it is used

6.1.9.2 Sewing thread:

- to be an acceptable 3-ply high tenacity continuous filament Polyester thread, ticket No. 36
- Linear density (dtex): 945
- Breaking strength (N), min.: 54
- Elongation at break, %, range 23 - 30

6.1.9.3 Overlocking thread:

- crimp-textured polyester
- ticket No 140

6.2 Soft ballistic armour packs

NOTE: The make of the soft ballistic armour packs and square flat test packs for qualification purposes of the soft ballistic textile material are specified in section in 10.2.

6.2.1 Components of the soft ballistic armour packs

6.2.1.1 Soft ballistic textile material requirements

- an acceptable para-aramid fabric such as either Kevlar® or Twaron®
- the microfiber technology of the yarns used shall have a proven track record of being in the marketplace for at least 7 years (NOTE: this requirement refers specifically to the microfiber technology and not the brand itself)
- comply with the yarn requirements as given in table 8(a)
- comply with the woven ballistic material requirements as given in table 8(b)
- markings on the soft ballistic textile layers shall be as given in 13.3.1

Table 8(a) – Yarn requirements that are to be used for the woven soft ballistic material

1	2	3
Property	**Requirement**	**ISO number** (unless otherwise indicated)
Fibre composition, %, ...	100% High tenacity ballistic para-aramid microfilament yarn	AATCC method 20
Number of filaments of microfiber yarn, min..	1000	Visual examination and physical analysis
Fiber linear density (dtex).....	1100 [a]	2060
Breaking strength, N, min.	244	ASTM D7269
[a] Subject to a tolerance within the following range: 1093 (min.) to 1163 (max.)		

Table 8(b) – Requirements of woven soft ballistic material

1	2	3
Property	**Requirement**	**ISO number** (unless otherwise indicated)
Weave construction	Plain	Visual examination and physical analysis
Mass per area (Conditioned), g/m^2.	280 [a]	3801
Number of threads per cm		7211-2 or 4602
Warp	12 [b]	
Weft	12 [b]	
Water repellency		4920
Spray rating, min	4	
[a] Subject to a tolerance of ± 5%. [b] Subject to a tolerance of ± 3%.		

6.2.1.2 PVC encasing material requirements

- to comply with the requirements as given in table 8(c)
- be an acceptable calendared opaque monomerically plasticized PVC film
- colour to be white
- such that it can be high frequency heat sealed
- to be such that the markings on the soft ballistic panels shall be clearly visible after it has been encased in this material
- to be such that it can be printed (such that markings shall outlast the vest)
- to prevent moisture absorption and shall be water resistant
- markings on the PVC casing shall be as given in 13.3.2

Table 8(c) – Requirements of PVC encasing material

1	2	3
Property	**Requirement**	**Test method**
Thickness, mm, range	0.18 – 0.25	ISO 2286-3
Mass per area, g/m^2. ……..	250 [a]	BS EN 22286:1994
Tensile strength, N/50 mm, min.		ISO 1421
WMD	100	
AMD	100	
Elongation at break, N, min.		ISO 1421
WMD	20	
AMD	10	
Trap Tear Resistance, N, min.		ISO 9073-4
WMD	20	
AMD	25	
Fusion and state of cure, 5 minutes, min.		BS 3424-22
Acetone.	No Flaking	
Ethyl Acetate	No Flaking	
[a] Subject to a tolerance of ± 20 g/m^2		

6.2.1.3 Sewing thread

- to be a 100% Aramid thread
- yarns to have a Linear density of 840 dtex
- yarn to have a nominal breaking strength of 215 N when tested in accordance with ASTM D7269

6.2.2 Performance requirements

- to comply with the relevant performance requirements as specified in section 9

6.3 Hard ballistic armour plates

6.3.1 Physical requirements

- front plate shall comply with the values as given in table 9
- back plate shall comply with the values as given in table 10

- made from prime ballistic material that shall be uniform over the total plate surface, right up to the edges of the plate (note: covering fabric layer shall not have ballistic properties)
- each component material used for the manufacture of the ballistic armour plate shall extend along the full width and length of the plate (no partial application of a specific component/material shall be allowed)
- each plate shall be completely covered with fabric
  - fabric to comply with the performance requirements as specified for type C290 of SANS 1585, with the following deviations
    - single acrylic coat with surface treatment that will enhance adhesion, but excludes waterhead coatings
  - fabric to be laminated to the tile in such a way that the bonding shall be uniform with no untreated areas, ripples or bubbles present
  - finish on fabric to be such that it shall allow printing (such that makings shall outlast vest)
  - fabric to be such that the edges and joins can be heat sealed to such an extent that the sealed areas shall never part
  - colour of fabric to be an acceptable maroon colour
- **to be multi-curved** and shaped to be provide maximum protection and maximum comfort to the wearer
- guidelines on the required shapes and curves are given in Annexes G and H
- markings on hard armour plates shall be as given in 13.2

6.3.2 Performance requirements

- to comply with the relevant performance requirements as specified in section 9

Table 9 – Finished dimensions and weight of front covered hard ballistic armour plate

1	2	3	4	5	6
Weight	**Width**	**Length (measurement to follow the curve at centre front)**	**Top corners**	**Bottom corners**	**Shape**
	A	**B**	**C1 & C2**	**D1 & D2**	
0.9 kg ± 0.05 kg	250 mm ± 3 mm	280 mm ± 3 mm	125 mm x 55 mm	35 mm x 65 mm	Multi-Curve See figure G-6 in Annex G

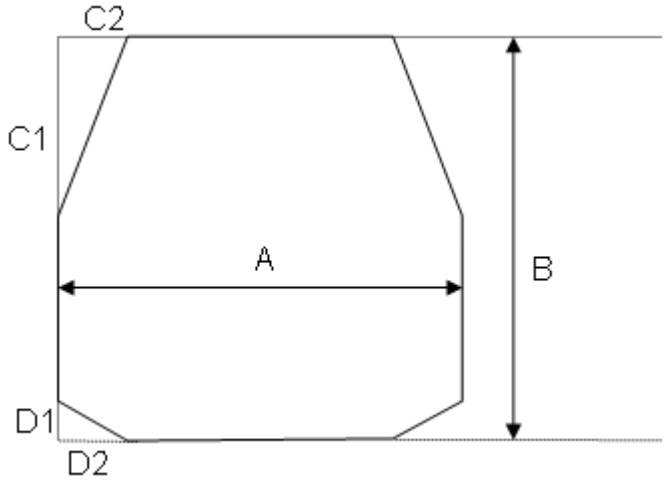
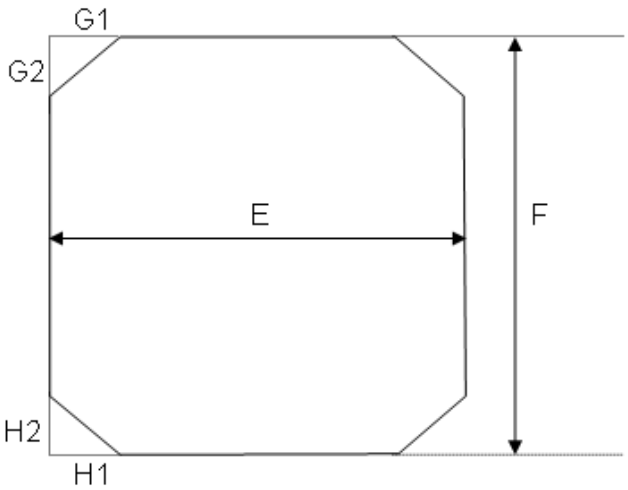


Table 10 – Finished dimensions and weight of back covered hard ballistic armour plate

1	2	3	4	5	6
Weight	**Width**	**Length (measurement to follow the curve at centre back)**	**Top corners**	**Bottom corners**	**Shape**
1.0 kg ± 0.05 kg	**E**	**F**	**G1 & G2**	**H1 & H2**	Multi-Curve
	270 mm ± 3 mm	280 mm ± 3 mm	45 mm x 40 mm	45 mm x 40 mm	



6.4 Carry bag components

6.4.1 Outer material

- to comply with the relevant requirements for Type C140 of SANS 1585 “Coated fabrics for shelters and rainwear” when tested for the following:
  - Mass per unit area
  - Breaking strength (warp and weft)
  - Tearing strength (warp and weft)
  - Spray test
  - Colour fastness to rubbing (wet and dry)
- colour to be black

6.4.2 Edge binding tape

- to be an acceptable polyester herringbone tape of nominal width 25 mm
- cut edges to be heat-sealed to prevent fraying
- colours shall be applied as per size requirement and as given in table 11

Table 11 – Colours identification of the edge binding

1	2	3	4	5	6	7	8
Small	**Medium**	**Large**	**X-Large**	**XX-Large**	**XXX-Large**	**4X-Large**	**5X-Large**
Light Blue	Olive Green	Signal Red	Black	Yellow	Brown	Purple	Royal Blue

6.4.3 Carry bag handle webbing

- shall be an acceptable polyester webbing
- shall be heat sealed at the ends to prevent fraying
- shall comply with the requirements as specified in table 12
- colour to be black

Table 12 – Webbing requirements for carry bag handles

1	2	3
Property	**Requirement**	**SANS number** (unless otherwise indicated)
Composition, %	All continuous filament polyester	AATCC 20
Weave	Pebble	Physical analysis
Selvedge	Lockstitch	Physical analysis
Width, mm.....	25 ± 1	5488
Thickness, mm	0.95 ± 0.10	85
Breaking strength, min. KN	8.0	13934-1
Mass/100 m, g	1900	5330
Number of weft threads per 10 cm.....	160 ± 2	Physical analysis

6.4.4. Carry bag slide fasteners

- one-way closed-end that complies with the requirements for Class C of SANS 1822 “Slide fasteners”
- synthetic spiral/coil (nylon)
- colour to be black

6.4.5 Transparent sheeting for user manual pouch

- an acceptable PVC sheeting of nominal thickness 500 µm (0.5 mm)
- transparent (clear)

6.4.6 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
- staple polyester of ticket No 60 or 80

6.5 Operating manual materials

- 160g – 200 g paperboard
- dimensions to be 12.7 cm x 22 cm (before folding)

7. Workmanship

The body armour 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 and 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

Laminated hard ballistic armour plates shall NOT have:

- any burrs, sharp edges, air holes, bubbles
- poor finishing of lamination and bonding to the base plate

PVC casing shall:

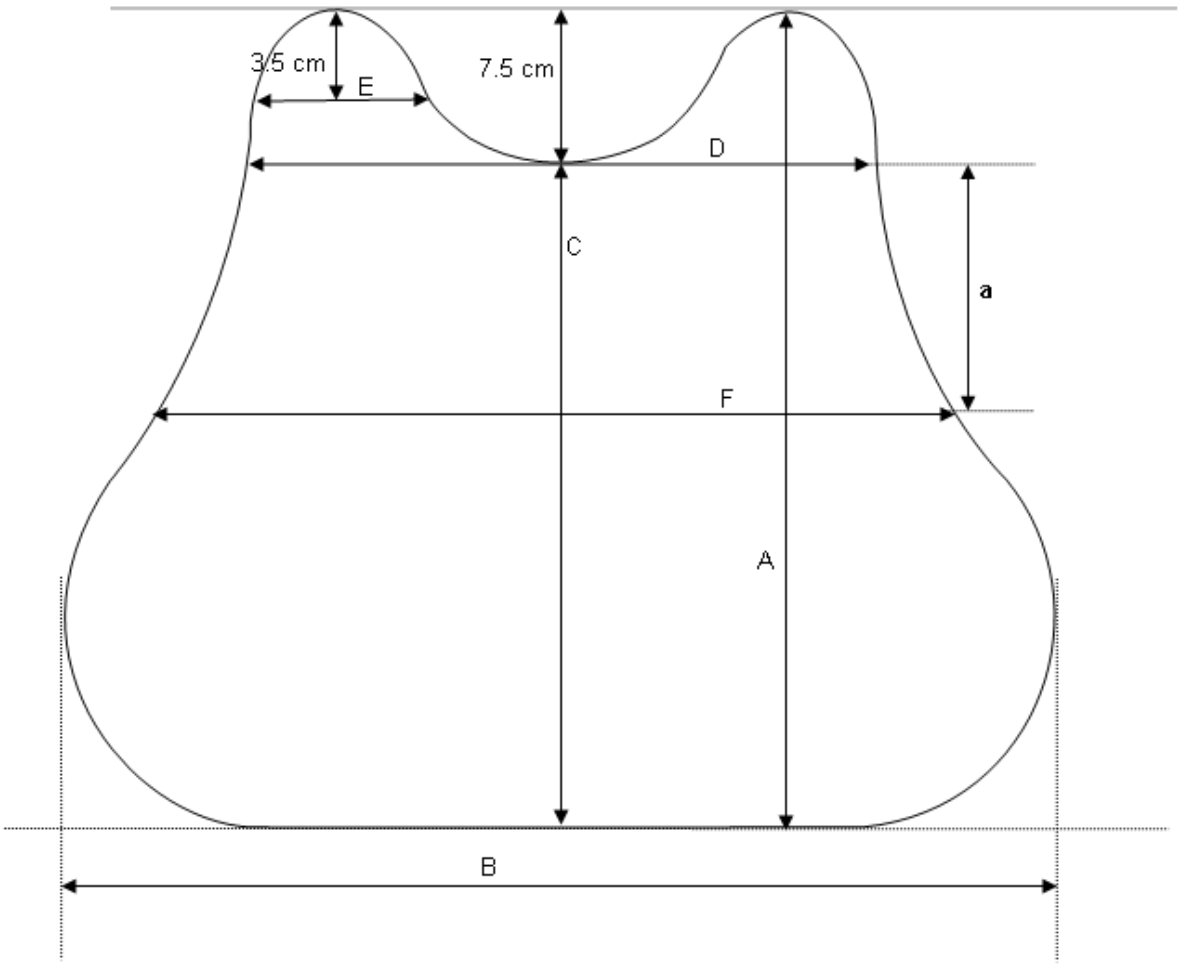
- have no air holes around the sealed edge
- be uniform at the high frequency sealed edge
- be sealed securely to avoid the seam from opening during use

8. Sizes and dimensions

All measurements are nominal.

8.1 PATTERN MEASUREMENTS: SOFT BALLISTIC TEXTILE MATERIAL CUT LAYERS/PLIES

8.1.1 Finished dimensions and measuring points of the front soft ballistic textile material cut layers/plies (NOT the PVC Cover). Additional seam allowances shall be added for the PVC cover.



NOTE – The dart positioning and allowances are given in section 10.2

Table 13(a) – Finished dimensions of each front soft ballistic textile material cut layer/ply

1	2	3	4	5	6	7	8
Size designation	**Nominal finished measurements in cm**						
	A	**B**	**C**	**D**	**E**	**F**	a
Small	37	42	29.5	27.5	7.75	37	11.5
Medium	39	47	31.5	28.5	7.75	39	12
Large	41	52	33.5	29.5	7.75	41	12.5
X-Large	43	57	35.5	30.5	7.95	43	13
2X-Large	45	62	37.5	31.5	7.95	45	13.5
3X-Large	47	67	39.5	32.5	7.95	47	14
4X-Large	49	72	41.5	33.5	8	49	14.5
5X-Large	51	77	43.5	34.5	8	51	15

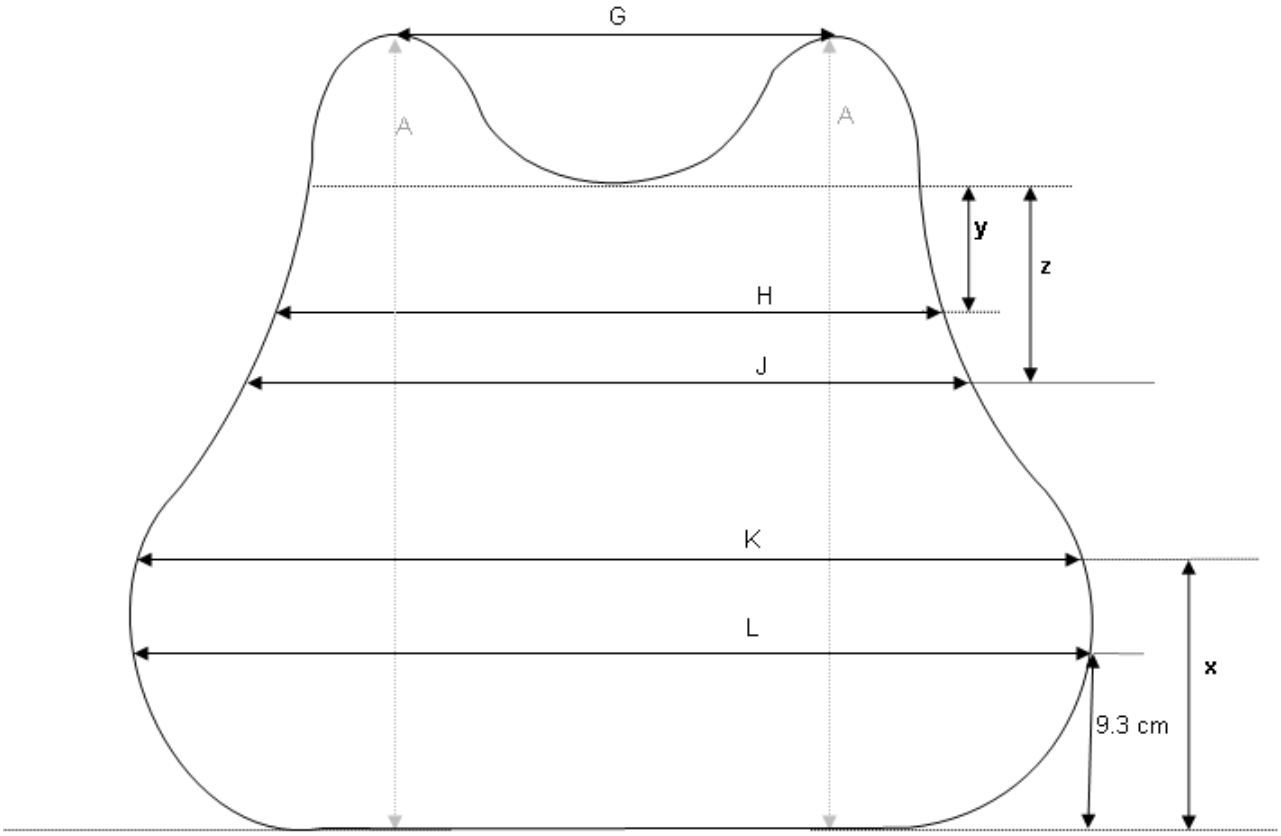


Table 13(b) – Finished dimensions of each front soft ballistic textile material cut layer/ply (continued)

1	2	3	4	5	6	7	8	9
Size designation	**Nominal finished measurements in cm**							
	G	**H**	**J**	**K**	**L**	x	y	z
Small	19.5	28.6	32.6	42	42	15	4.6	8.4
Medium	20	30.6	34.6	47	47	16.5	5.1	9.1
Large	20.5	33	37.2	52	52	18	5.6	9.9
X-Large	21	35	39.2	57	57	19.5	6.1	10.5
2X-Large	21.5	37	41.2	62	62	21	6.6	11.2
3X-Large	22	39	43.2	67	67	22.5	7.1	11.9
4X-Large	22.5	41	45.8	72	72	24	7.6	12.5
5X-Large	23	43	47.8	77	77	25.5	8.1	13.1

8.1.2 Finished dimensions and measuring points of the back soft ballistic textile material cut layers/plies (NOT the PVC Cover). Additional seam allowances shall be added for the PVC cover.

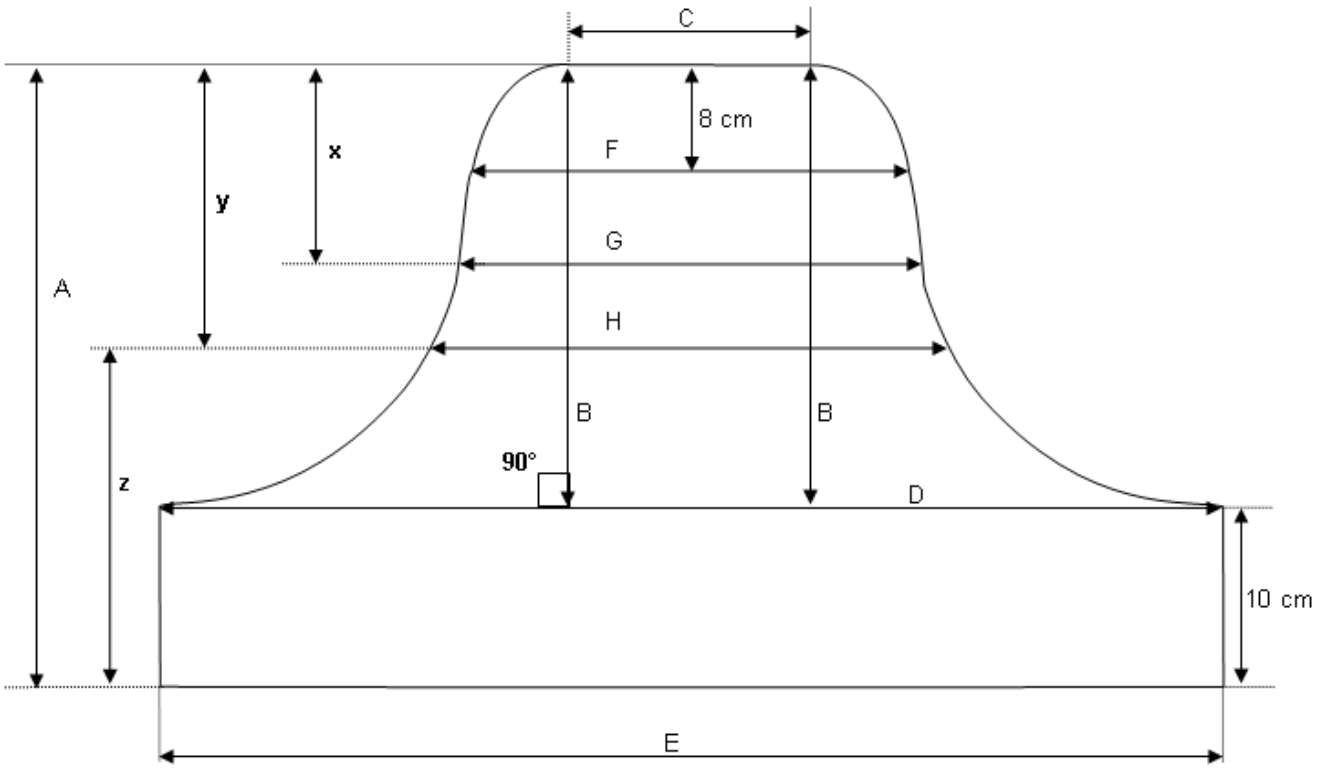


Table 14 –Finished dimensions of each back soft ballistic textile material cut layer/ply

1	2	3	4	5	6	7	8	9	10	11
Size designation	**Nominal finished measurements in cm**									
	A	**B**	**C**	**D & E**	**F**	**G**	**H**	x	y	z
Small	36	26	13.5	70	27.5	27.6	36	11.5	19	17
Medium	38	28	14	75	28.5	29	38	12	20	18
Large	40	30	14.5	80	29.5	30	40	12.5	21	19
X-Large	42	32	15	85	30.5	31.4	42	13	22	20
2X-Large	44	34	15.5	90	31.5	32.6	44	13.5	23	21
3X-Large	46	36	16	95	32.5	34.4	46	14	24	22
4X-Large	48	38	16.5	100	33.5	35.8	48	14.5	25	23
5X-Large	50	40	17	105	34.5	37.4	50	15	26	24

8.2 OUTER PANEL MEASUREMENTS

8.2.1 Finished dimensions and measuring points of the front outer panel

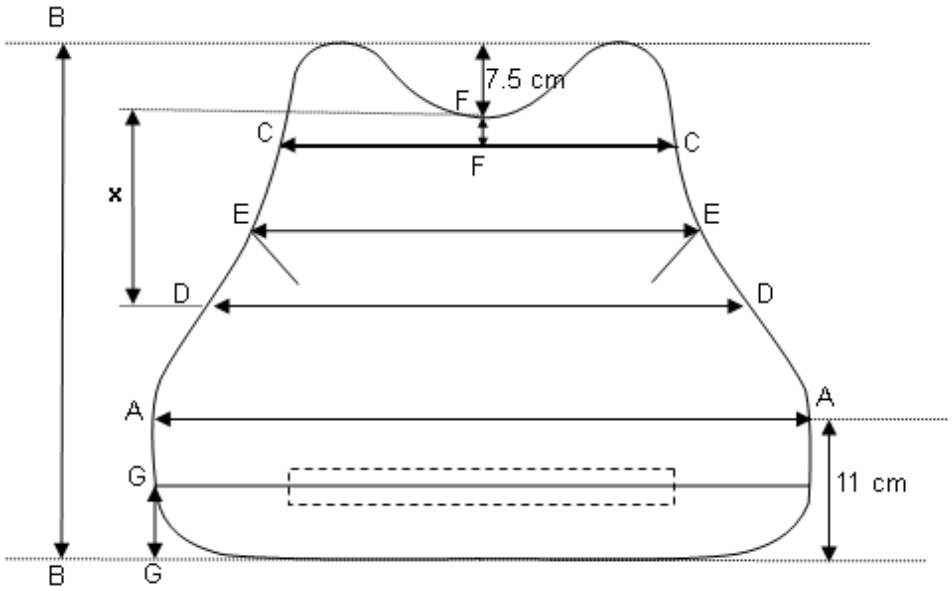


Table 15 – Finished measurements of front outer panel

1	2	3	4	5	6	7	8	9
Size designation[1]	**Nominal finished measurements in cm**							
	A – A	**B – B**	**C – C**	**D – D**	**E – E**	**F – F**	**G – G**	x
	Front bottom width	**Front length**	**Front upper width**	**Front body width**	**Front width at top of dart**	**Depth of upper section**	**Depth of lower section**	**Vertical measurement where D – D is measured**
Small	45	39.5	31	38	31	2	5	12.5
Medium	50	41.5	32	40.5	32.5	2.5	6.5	13
Large	55	43.5	33.4	42.6	34.5	2.5	8.5	13.5
X-Large	60	45.5	34.8	44.7	36.5	3	10	14
2X-Large	65	47.5	36.3	46.6	38.5	3	12	14.5
3X-Large	70	49.5	37.5	49	40.5	3	14	15
4X-Large	75	51.5	39.2	51	42.8	3.5	15.5	15.5
5X-Large	80	53.5	40.5	53.5	45	3.5	17.5	16

MEASURING POINT		DESCRIPTION
A – A	**Front bottom width**	Measure across the front panel from side to side at a point 11 cm above the base of the panel.
B – B	**Front length**	Measure vertically from the centre shoulder point to the bottom edge of the front panel.
C – C	**Front upper width**	Measure along the upper-to-mid-section seam from one armhole to the other.
D – D	**Front width at bottom of dart**	Measure across the width of the body of the front panel from one armhole to the other at a specific point as given in “x”.
E – E	**Front width at top of dart**	Measure across the width of the front panel from one armhole to the other at a point in line with the top of the bust darts.
F – F	**Depth of upper section**	Measure from the top edge at centre front to the upper-to-mid-section seam.
G – G	**Depth of lower section**	Measure from the centre of the mouth opening to the bottom edge of the front panel.

8.2.2 Finished dimensions and measuring points of the back outer panel

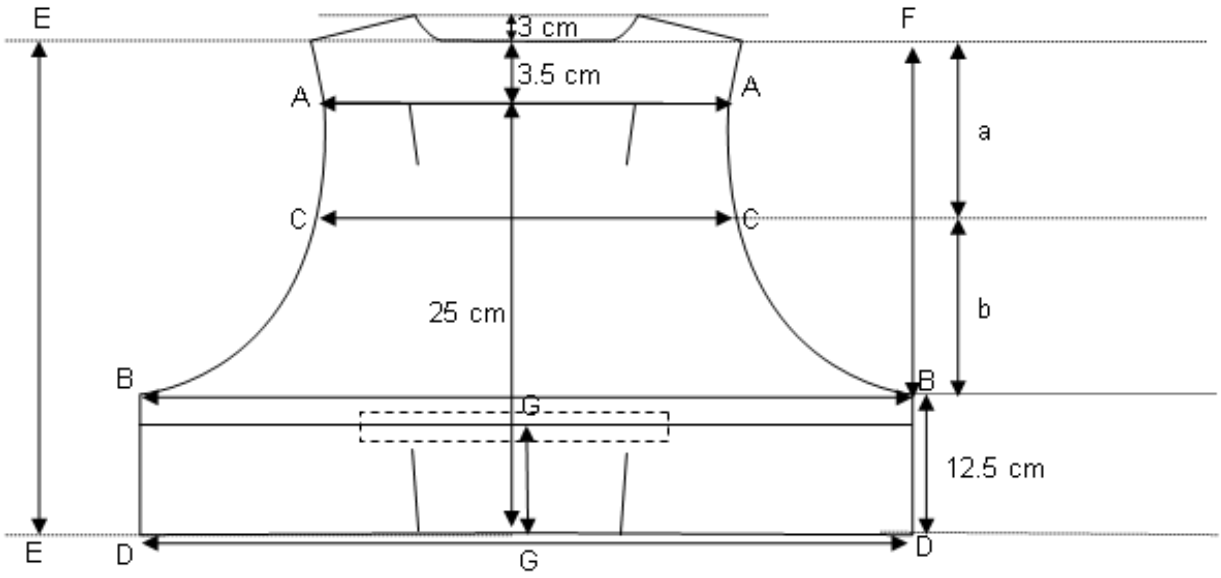


Table 16 – Finished measurements of back outer panel

1	2	3	4	5	6	7	8	9	10
Size designation[1]	**Nominal finished measurements in cm**								
	A – A	**B – B**	**C – C**	**D – D**	**E – E**	**F – B**	**G – G**	**a**	**b**
	Upper back width	**Lower back width**	**Mid back width**	**Bottom edge width**	**Back length**	**Depth of armhole**	**Depth of lower section**	**Vertical measurement where C – C is measured**	**Vertical measurement where B – B is situated**
Small	29.6	74	33.6	74	38.5	26	10	12.5	13.5
Medium	30.6	79	35	79	40.5	28	12	13	15
Large	31.6	84	36	84	42.5	30	14	13.5	16.5
X-Large	32.6	89	37.4	89	44.5	32	16	14	18
2X-Large	33.6	94	38.6	94	46.5	34	18	14.5	19.5
3X-Large	34.6	99	40.4	99	48.5	36	20	15	21
4X-Large	35.5	104	40.8	104	50.5	38	22	15.5	22.5
5X-Large	36.5	109	42.4	109	52.5	40	24	16	24

MEASURING POINT		**DESCRIPTION**
A – A	**Upper back width**	Measure across the back along the upper-to-mid-section seam from one edge to the other.
B – B	**Lower back width**	Measure across the back at the base of the armhole, from one side edge to the other.
C – C	**Mid back width**	Measure across the width of the body of the back panel at a specific point as given in “a”.
D – D	**Bottom edge width**	Measure along the bottom edge of the back panel, from the one edge to the other (excluding the torso straps).
E – E	**Back length**	Measure vertically from centre back to the bottom edge of the back panel.
F – B	**Depth of armhole**	Measure vertically from the centre back neck point to the base of the armhole.
G – G	**Depth of lower section**	Measure from the centre of the mouth opening to the bottom edge of the back panel.

9. Performance Requirements

9.1 General

- if the correct size designation has been selected, the body armour will be of an acceptable fit when worn over applicable uniform
- the vest shall give the necessary protection for the wearer in the upper torso area
- the vest shall give the wearer protection against handguns as per paragraph 9.3.1 without hard ballistic armour plates
- the vest shall also be able to accommodate the necessary hard ballistic armour plates as specified in this specification, providing the wearer with a higher level of protection as per paragraph 9.3.2.
- the vests shall be so constructed that the soft ballistic armour packs and hard ballistic armour plates can be removed from the outer garment (to enable washing of outer garment)
- the PVC casing of the soft ballistic armour packs shall prevent moisture absorption and shall be high frequency sealed that shall not part during the fitment or removal process
- shall display none of the defects as specified in table 31

9.2 Determination of the correct size:

- to comply with the relevant dimensions as given in section 8
- seam allowances shall not exceed 20 mm (unless otherwise specified)
- the soft ballistic armour packs shall be the exact size and shall fit tightly into the outers
- these interfaces shall be managed throughout

9.3 Qualification testing requirements:

- any of the calibres specified in 9.3.1 and 9.3.2 may be used for the qualification testing, but the SAPS reserves the right to choose the calibre
- the appointed bidder shall be responsible for obtaining the weapons and ammunition for the necessary testing as given in 9.3.1 and 9.3.2
- the ballistic testing shall be performed in an indoor test facility which is equipped with all required equipment
- the ballistic testing shall only be conducted at a test facility that has a valid Armscor capability report or alternatively be SANAS accredited
- ballistic test reports will only be accepted from a ballistic test facility with a valid Armscor capability report/SANAS accredited ballistic test facility that conducts ballistic tests while evidence witnessing is done by either a SANAS accredited signatory or Armscor
- should the testing facility be approved by the inspecting authority, it will only be valid for period of one year and will have to be re-assessed every year
- a certified marksman (as defined and specified in the aforementioned capability report) shall conduct all ballistic tests

9.3.1 When the vest is used with only the soft ballistic armour packs inserted

- **it shall give protection against the following**
  - .357 Magnum JSP 158 grains at 436 m/s ± 9 m/s to level II test procedures specified in SANS 1658:2025 / NIJ 0101.04
  - 9 mm Par. FMJRN 124 grains at 367 m/s ± 9 m/s to level II test procedures specified in SANS 1658:2025 / NIJ 0101.04

- and all lesser threats

- the above protection level equals LEVEL II of SANS 1658:2025 / NIJ 0101.04

9.3.2 When the vest is used with the hard ballistic armour plates in conjunction with the soft ballistic armour packs, i.e. referred to as ICW plates

- **it shall give a higher level of protection against the following**
  - 7,62 x 51 NATO Ball lead core (copper jacket) 148 grains at 847 m/s ± 9 m/s to level III ZA test procedures specified in SANS 1658:2025 (R1 and/or .308)
    - *should 148 grains not be available, it may be replaced with 143 grains at 862 m/s ± 9 m/s*
  - 5,56 x 45 Ball M193 lead core 55 grains at 955 ± 9 m/s to level III ZA test procedures specified in SANS 1658:2025 (R4 and/or R5)
  - 7,62 x 39 Ball mild steel core 123 grains at 710 ± 9 m/s to level III ZA test procedures specified in SANS 1658:2025 (AK 47)
  - and all lesser threats
- the above protection level equals LEVEL III ZA of SANS 1658:2025

9.3.3 Multi-shot requirements of the hard ballistic armour plates

- capable of stopping five direct shots in accordance with the specified requirements as given in SANS 1658:2025, provided that shots do not superimpose on previous shots and are fair shots
- the shots will be as follows
  - the first shot shall be 7,62 x 51 mm NATO Ball
  - followed by 2 shots 7,62 x 39 mm (MSC) Ball and 2 shots 5,56 x 45 mm Ball (M193)

9.3.3.1 Back face deformation

- The back face deformation as measured in the plasticine backing material may not exceed the following values:
  - 44 mm on any shot 1 on any soft ballistic armour pack or hard ballistic armour plate
  - 44 mm on shots 2 – 5 on the hard ballistic armour plate

10. Make

Illustrations are not to scale and are for guidance only, and unless inconsistent with the text, all measurements are nominal. The finished front and back panel dimensions shall be as given in tables 15 and 16. A tolerance of ± 10 mm will be allowed, except on measurements where deviating to the smaller side will prevent proper fitment of components.

10.1 Outer vest

10.1.1 General

- each outer vest shall consist of
  - a front panel (see 10.1.2)
  - a back panel (see 10.1.3)
- the front and back panel shall be detachable
- the front and back panels shall attach at the shoulder and sides
- front and back panels shall be partially edge-stitched 2 mm as given in figure 11
- front and back panels shall be fully lined

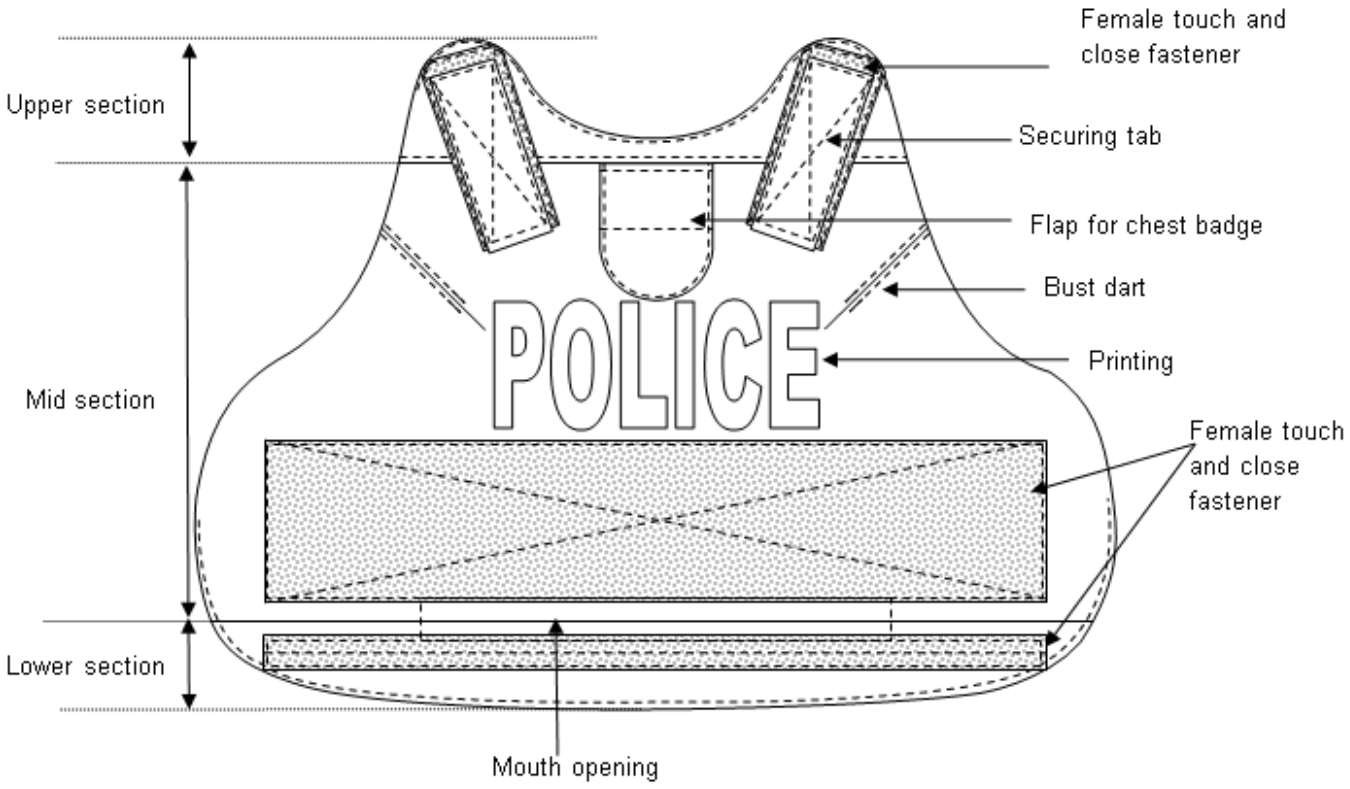


Figure 10 – Section identification and design features on face side of front outer panel

10.1.2 Front outer panels

10.1.2.1 General

Each front outer panel shall:

- be of finished dimensions as given in section 8.2.1

10.1.2.2 Face side of front outer panels

10.1.2.2.1 General

- front panels shall be cut in three sections (see figure 10):
  - upper section (see 10.1.2.2.2)
  - mid section (see 10.1.2.2.3)
  - lower section (see 10.1.2.2.4)

10.1.2.2.2 Upper section

- made from a single layer of outer material
- to extend from the top edge of the shaped shoulders to the upper-to-mid-section seam (see figure 10)
- upper-section-to-mid-section seam shall be edge-stitched 2 mm (edge-stitching positioned on the upper section)
- fitted with two slanted patches of female touch and close fastener at the shoulder positions
  - each of finished dimensions 11.5 cm x 50 mm (see figure 13)
  - to be box and cross stitched
  - bottom edges to extend onto the mid section (see figure 10)
  - to be in corresponding positions to the female sections on the shoulder straps of the back panel
  - to be centred in the rouding of each shaped shoulder
  - positioned with the top edge approximately 7 mm below the centre point of each shaped shoulder
  - slanted in such a way that the distance between the bottom inner points of the touch and close fastener shall measure approximately 11.5 cm on size MEDIUM and graded on the other sizes (see figure 12(a))
  - securing straps shall be sewn behind the female touch and close fastener, but shall be positioned in the mid section (see 10.1.2.2.3)
- the 2 mm edge-stitching around the upper edges shall be as given in figure 11

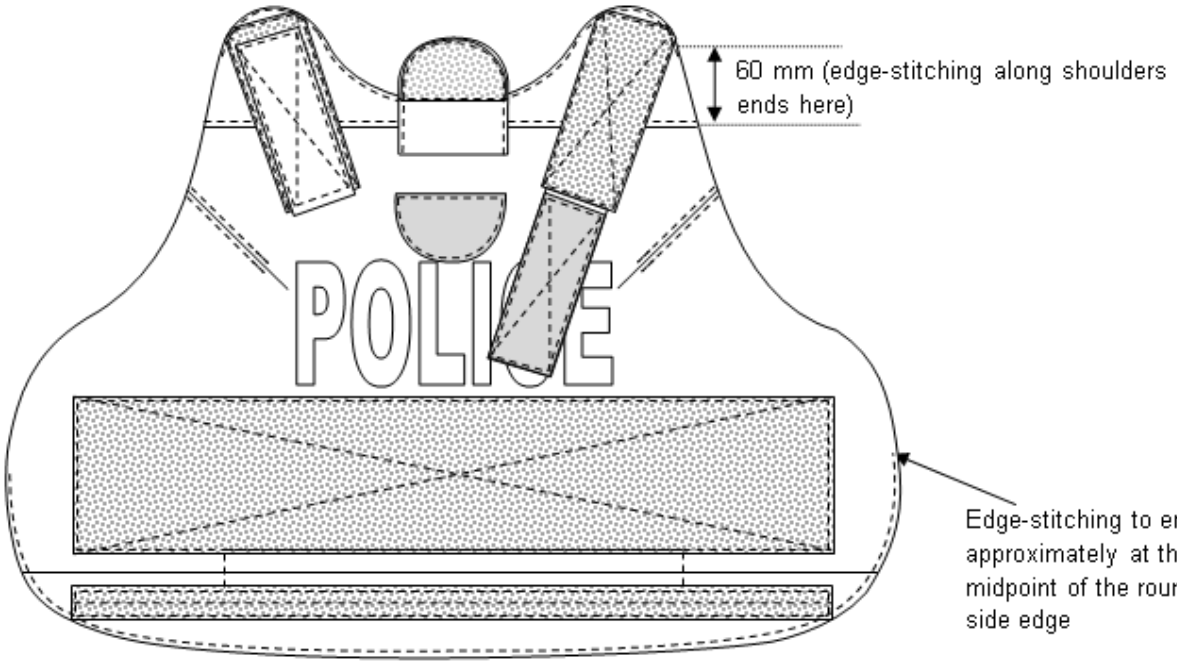
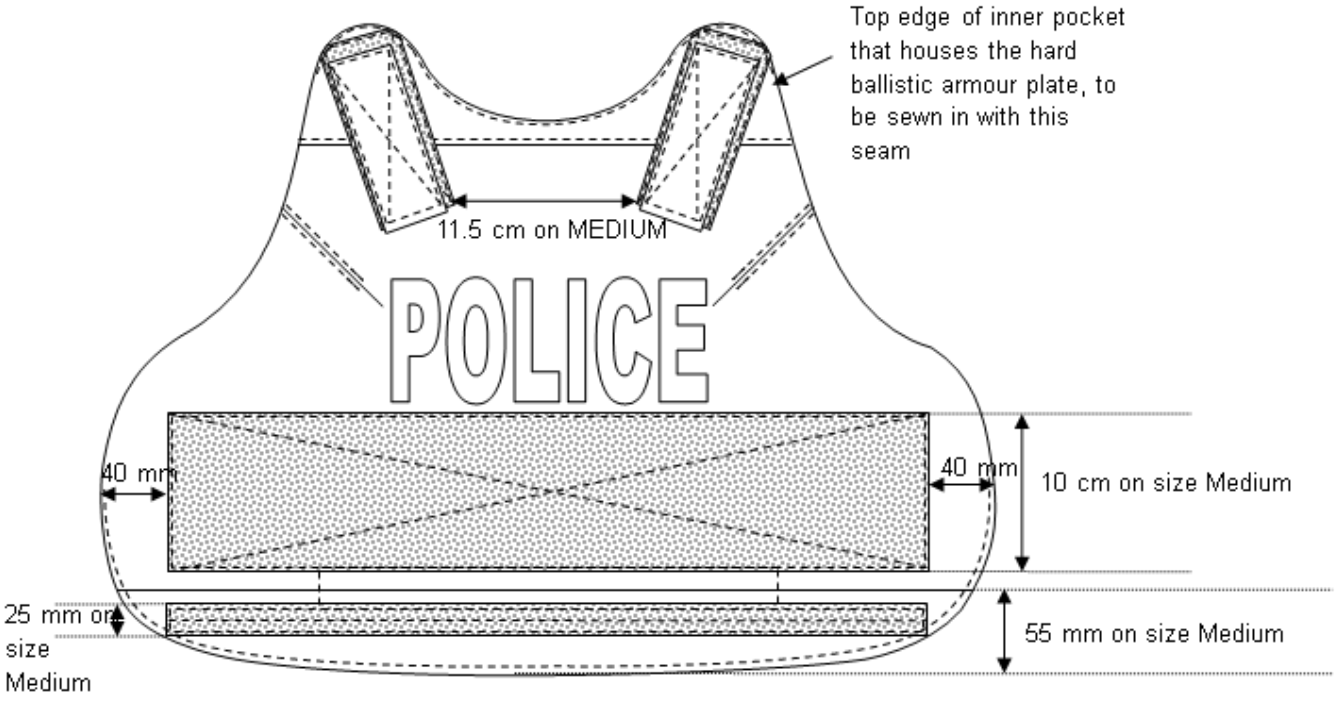


Figure 11 – Positioning of edge-stitchings around the outer edges of the front outer panel



NOTE: The chest badge flap is omitted in this illustration.

Figure 12(a) – Positioning of touch and close fastener

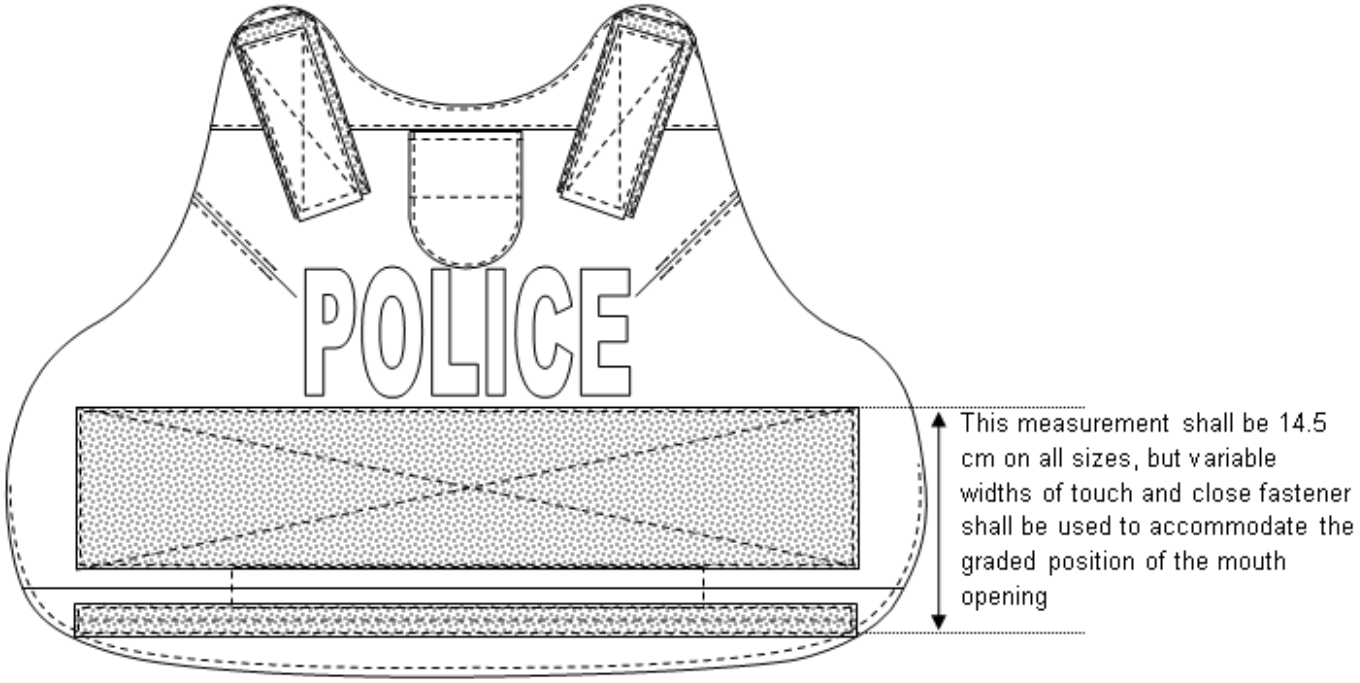


Figure 12(b) – Total width of touch and close fastener on front (attachment point for torso straps)

10.1.2.2.3 Mid section (see figure 10)

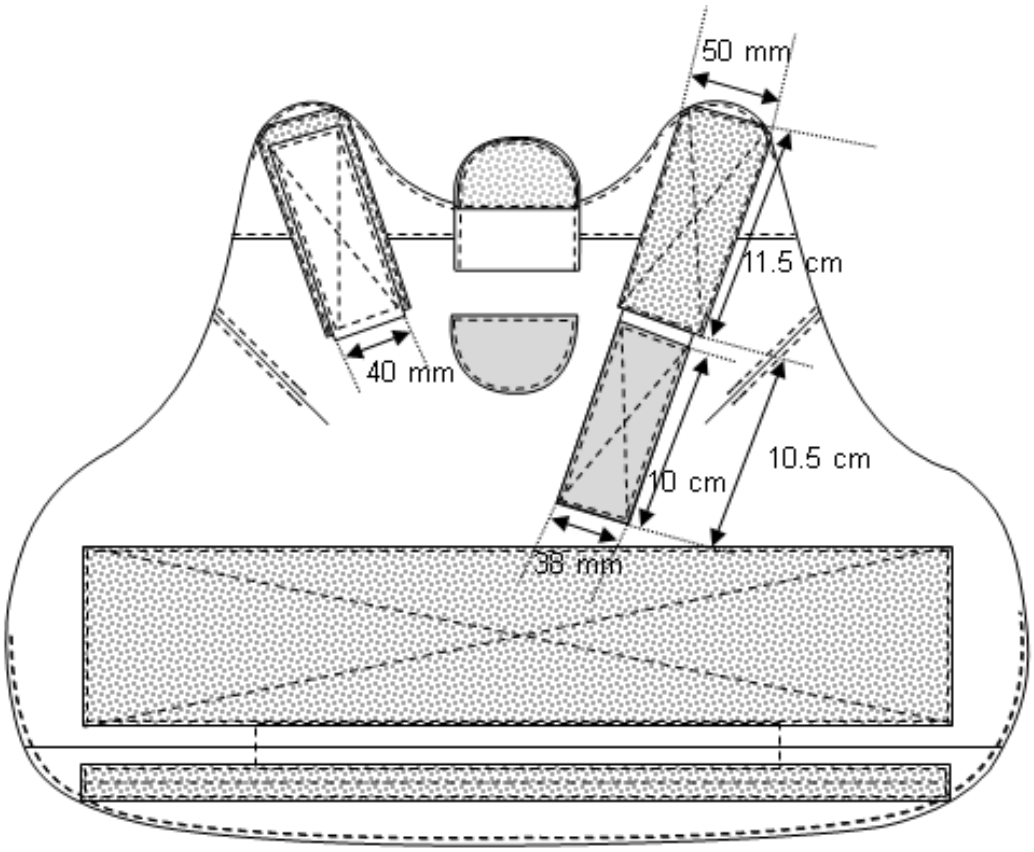
- made from a single layer of outer material
- to be positioned between the upper section and lower section
- have two bust darts, each of finished length 85 mm on size MEDIUM
  - each to be stitched down 3 mm on both sides of each dart
  - to extend from the armhole towards the bust prominence
- the seam allowance of the mid-section-to-lower-section seam shall be at least 20 mm
- fitted with one horizontal length of female touch and close fastener
  - to extend from approximately 40 mm from the side seams respectively (resulting in a finished length of 40 cm on size MEDIUM which shall be graded on the other sizes) (see figure 12(a)))
  - of finished width 10 cm on size Medium (NOT FIXED WIDTH USED ON ALL SIZES)
    - variable widths shall be used to accommodate the fact that the position of the mouth opening grades, but the attachment point of the torso straps is required to stay at a fixed position and be of a fixed width
    - the total width of the following shall measure 14.5 cm on all sizes: the touch and close fastener length sewn above the mouth opening, the touch and close fastener length sewn below the mouth opening on the lower section and the distance between the two lengths (see figure 12(b))
  - to be box and cross stitched
  - to be centred in the width of the mid section
  - bottom edge to be positioned approximately 10 mm above the mid-section-to-lower-section seam
- the 2 mm edge-stitching around the side edges shall be as given in figure 11
- fitted with two securing straps, positioned at the bottom behind the touch and close fastener

patches at the shoulders (see figure 13) and sewn down together with it

- securing straps to be of outer material, lined with outer material
- straps to be of nominal finished length 10.5 cm and width 40 mm (see figure 13)
- to be centred behind the shoulder touch and close fastener patches
- to be fitted with laid-on male touch and close fastener on the underside (see figure 13)
  - of finished dimensions 10 cm x 38 mm
  - to be box and cross stitched

- to form part of the front pocket mouth opening that shall grant access to the fitting of the front hard ballistic armour plate (see 10.1.2.3)
- to be printed
  - the word “POLICE” in capital letters
  - font type: ARIAL
  - to comply with the requirements as specified in 6.1.8
  - nominal finished dimensions to be as given in figure 14
  - centrally positioned in the width of the mid panel and 90 mm below the centre front neck point (see figure 15)
- fitted with flap for attachment of embossed chest badge (see figure 10)
  - to be of outer material and lined with outer material
  - to conform to the shape of the embossed badge, having a square top edge and rounded bottom edge
  - flap to be of nominal finished dimensions as given in figure 16
  - fitted with a patch of female touch and close fastener at the rounded end on the underside (lining) of the flap
    - 50 mm wide touch and close fastener shall be used and cut to conform to the rounded bottom shape of the flap (see figure 16)
    - touch and close fastener shall be attached by means of the 2 mm edge-stitching that are positioned along the outer edges of the flap
  - top raw edges of flap shall be overlocked, sewn to the mid section of the front face side, folded over and stitched down onto the mid section of the front face side with 5 mm edge-stitching
  - outer edges of flap attachment shall be properly secured
  - flap to be centrally positioned at centre front just below the upper-to-mid sections seam

- to be fitted with a patch of male touch and close fastener
  - to conform to the shape of the bottom rounded section of the chest badge flap
  - of finished dimensions as given in figure 16
  - to be attached to the mid section by means of a 2 mm edge-stitching along all edges
  - to be in a corresponding position to the female section on the underside of the chest badge flap
  - to align with the bottom and side edges of the chest badge flap when the flap is closed



NOTE: The printing is omitted in this illustration.

Figure 13 – Securing straps and touch and close fastener patches at shoulders with chest badge flap open

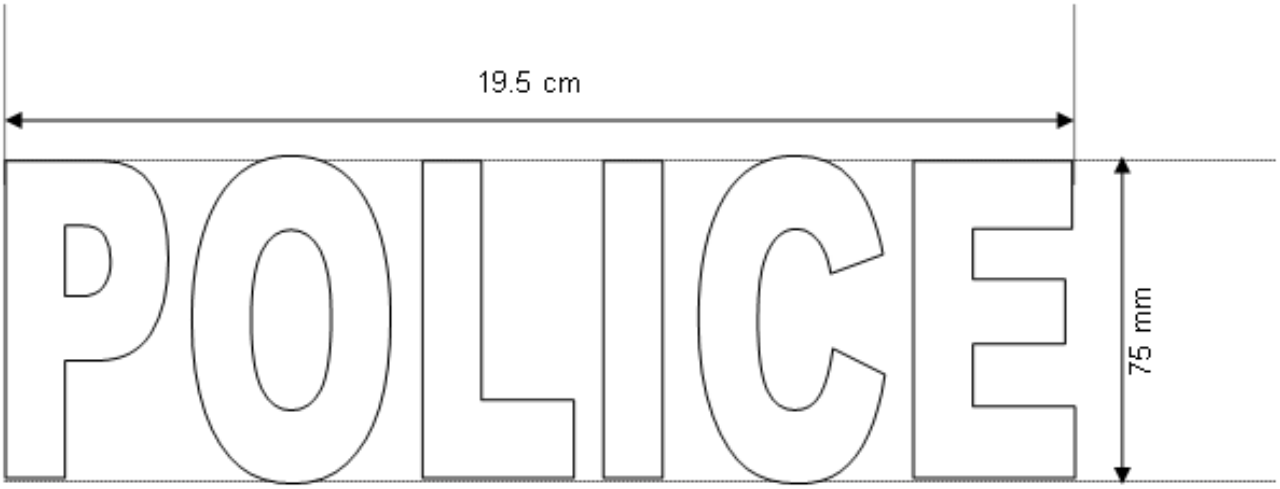


Figure 14 – Dimensions of printing on front and back outer panels

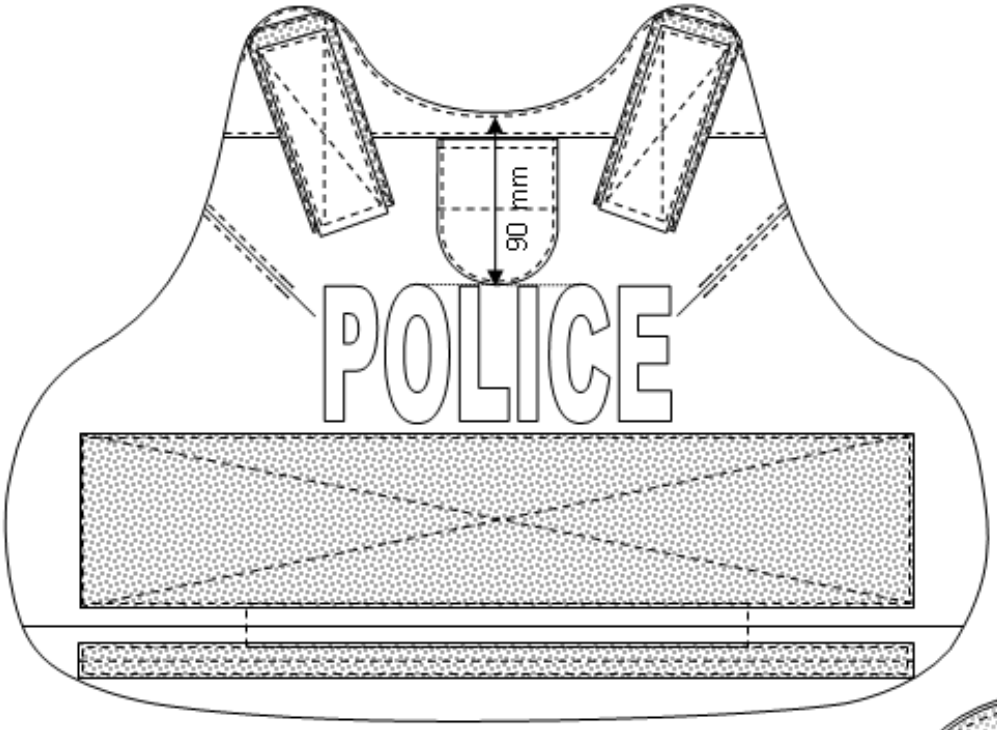


Figure 15 – Positioning of printing on front outer panel

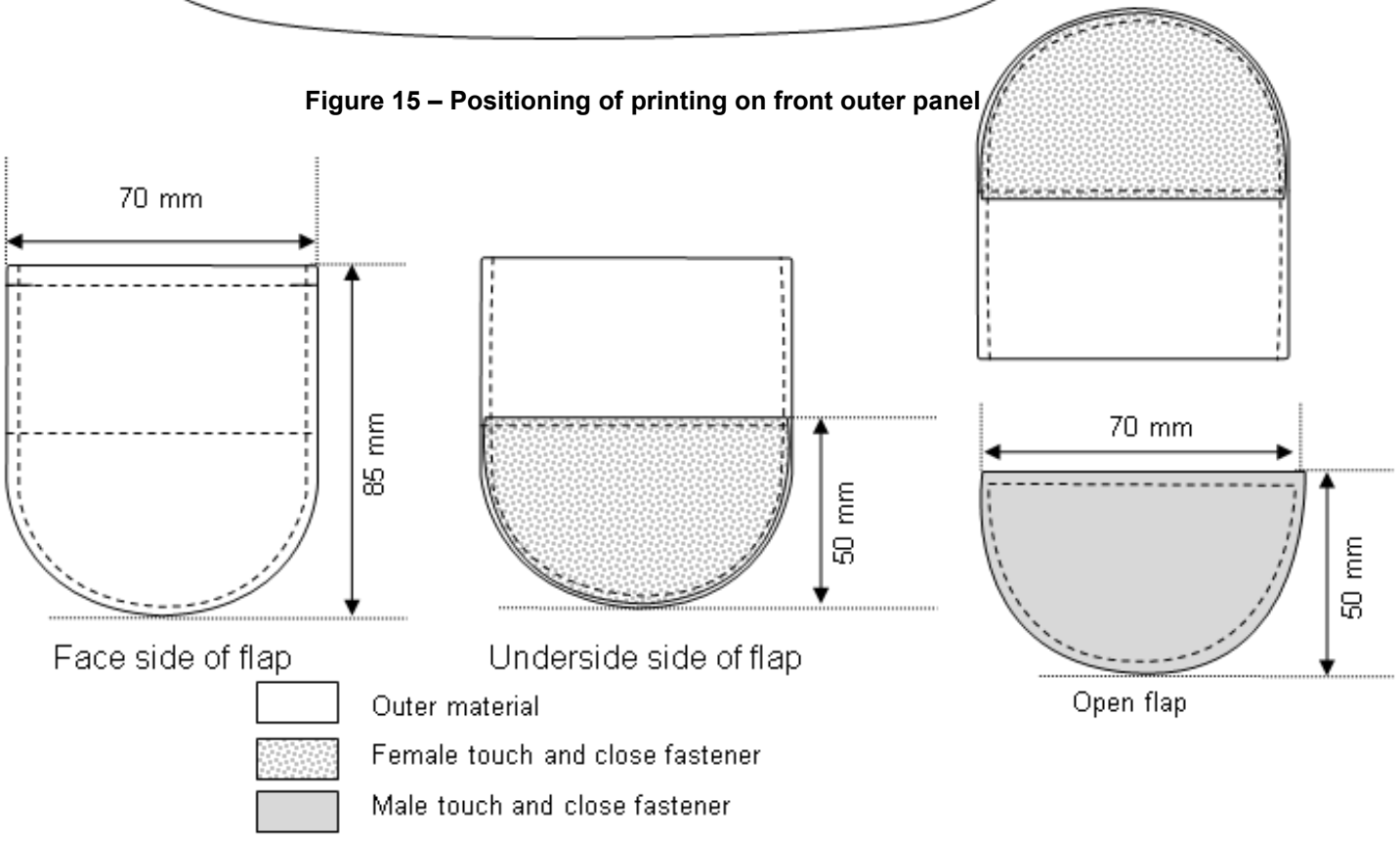


Figure 16 – Flap for attachment of embossed chest badge

10.1.2.2.4 Lower section (see figure 10)

- made from a single layer of outer material
- to extend from the mid-section-to-lower-section seam to the bottom edge of the vest
- the seam allowance of the mid-section-to-lower-section seam shall be at least 20 mm
- fitted with one horizontal length female touch and close fastener

- to be the same length as the female touch and close fastener sewn to the mid section
- of finished width 25 mm on size Medium (NOT FIXED WIDTH USED ON ALL SIZES)
  - ➢ variable widths shall be used to accommodate the fact that the position of the mouth opening grades, but the attachment point of the torso straps is required to stay at a fixed position and be of a fixed width
  - ➢ the total width of the following shall measure 14.5 cm on all sizes: the touch and close fastener length sewn above the mouth opening, the touch and close fastener length sewn below the mouth opening on the lower section and the distance between the two lengths (see figure 12(b))
- edge-stitched 2 mm along the outer edges and in addition have either a horizontal stitching sewn along the centre of the touch and close fastener on narrow widths or cross and box stitched on touch and close fastener of wider widths
- to be centred in the width of the lower section
- top edge to be positioned approximately 10 mm below the mid-section-to-lower-section seam
- to be in corresponding positions to the torso straps of the back panel

♦ the 2 mm edge-stitching around the side edge and bottom edges shall be as given in figure 11

♦ to form part of the front pocket mouth opening that shall grant access to the fitting of the front hard ballistic armour plate (see 10.1.2.3)

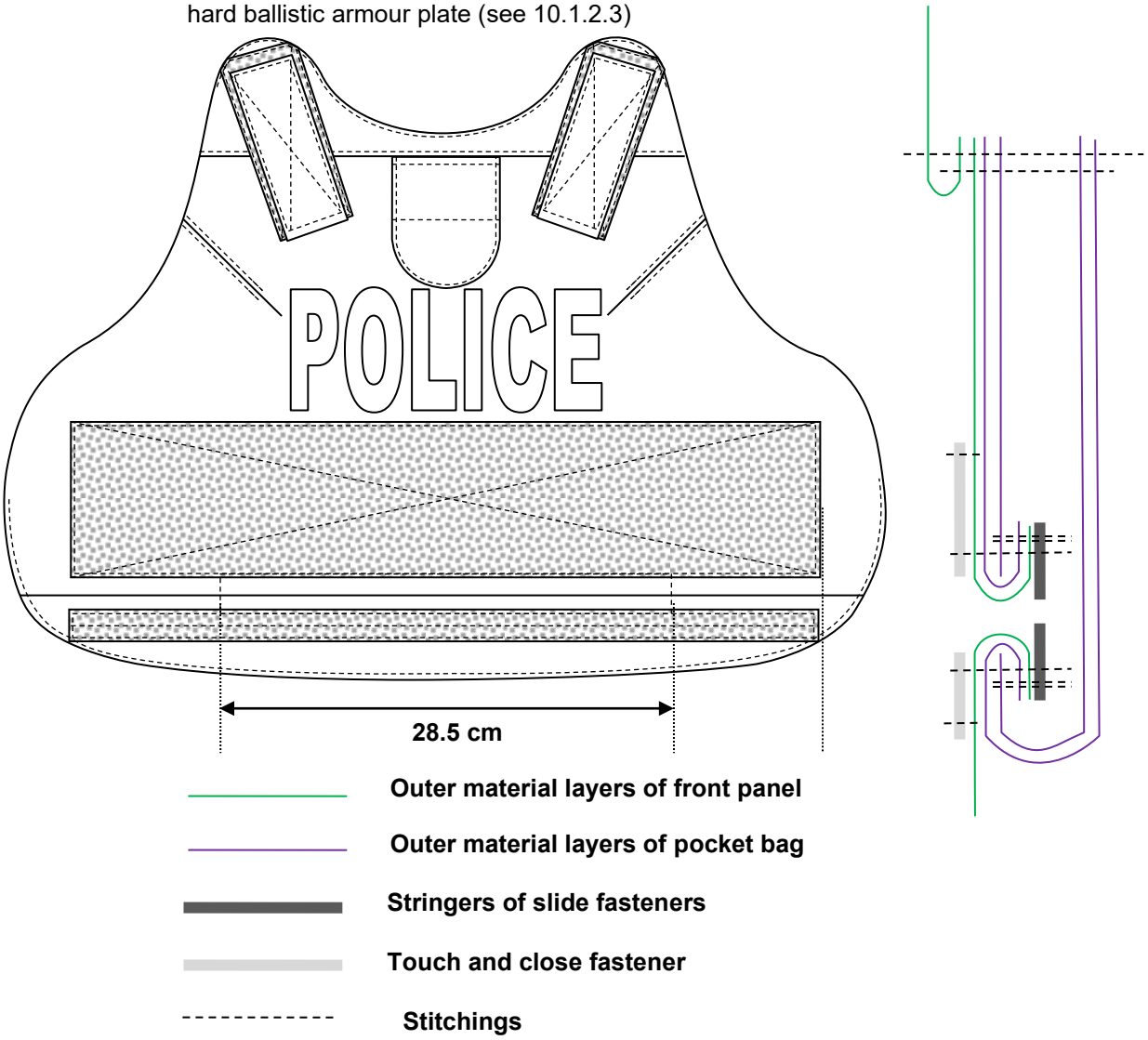


Figure 17 – Lower section dimensions and cross section of construction of front pocket

10.1.2.3 Front pocket

10.1.2.3.1 General

- inset pocket
- centrally positioned in the mid-section-to-lower-section seam
- pocket mouth opening to be of finished length 28.5 cm and properly secured at the side edges (see figure 17)
- fitted with a slide fastener, one stringer sewn to the bottom edge of the mid section and the other stringer sewn to the top edge of the lower section
  - slider to be positioned on the right (refers to as when vest is worn) when the slide fastener is closed
  - stringers to be positioned behind all the pocket bag layers on the inside (see 10.1.2.3.2)
  - stringers shall be sewn down 12 mm from the centre of the mouth opening respectively

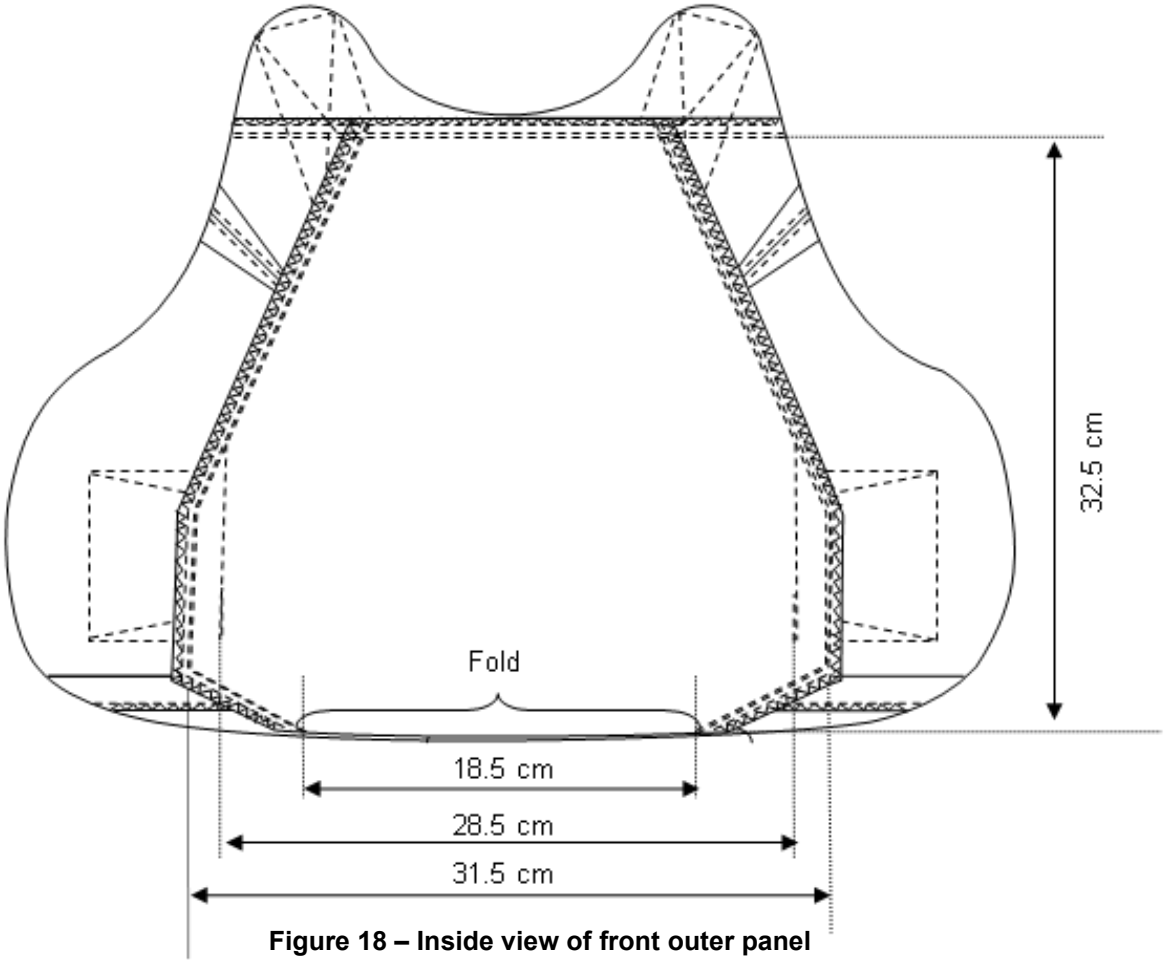


Figure 18 – Inside view of front outer panel

10.1.2.3.2 Pocket bag

- upper pocket bag (pocket bag layer(s) further away from the body of the wearer) and the lower pocket bag (pocket bag layer(s) closer to the body of the wearer) shall each be of doubled outer material (see figure 17)
- outer edges of all four layers of fabric shall be overlocked and stitched together
- width of pocket bag to be centrally positioned behind the pocket mouth opening
- shape of the pocket bag shall conform to the shape of the front hard ballistic armour plate and of such dimensions that the plate shall fit snugly, but shall still enable the wearer to remove the plate without force
  - dimensions to be such that the plate shall never shift out of position
  - finished dimensions as given in figure 18

- top edges of pocket bag units (all four layers) shall be sewn in with the upper-section-to-mid-section seam
- the bottom edges of the upper pocket bag unit (pocket bag layers further away from the body of the wearer) shall be sewn in with the mouth opening situated at the base of the mid section
  - cross section of layering at mouth end shall be as given in figure 17
- the bottom edges of the lower pocket bag unit (pocket bag layers closer to the body of the wearer) shall be folded upwards, forming a fold (see figure 17) and the cut edges shall be sewn in with the mouth opening situated at the top edge of the lower section
  - cross section of layering at mouth end shall be as given in figure 17

10.1.2.4 Front lining

10.1.2.4.1 General

- to consist of two main sections, i.e. a top section and a lower section (see figure 19)
- to conform to the shape of the face side of the front
- to make provision for the fitment of the soft ballistic armour packs by means of a pocket mouth opening

10.1.2.4.2 Top section

- consist of a layer of outer material with a laid-on layer of spacer fabric (see 6.1.2) that shall be stitched and overlocked together
- fitted with 5 separately cut foam inserts, 8 mm thickness (see 6.1.5)
  - sandwiched between the outer material and spacer fabric layers
  - foam inserts to be kept in position by rows of stichings that follow the outlines of the inserts
    - stitching shall be made through the outer material and the spacer fabric layers
    - the spaces between the inserts shall form channels which shall enable air to flow freely
    - the dimensions of the foam inserts shall grade, but such that it shall always be fixed distances from the sides, top and bottom and as given in figure 21
    - positioning to be as given in figure 21
- to incorporate the bust darts which shall be edge-stitched 3 mm along both sides of each dart
  - the darts shall be positioned in the channels formed between the foam inserts (see figure 20)
- bottom edge of top section shall be folded in (outer material layer and spacer fabric layer folded in together) and stitched down 30 mm from the folded edge (see figure 19)
- bottom edge to incorporate a mouth opening that provides access to the front soft ballistic armour pack
  - mouth opening to extend from approximately 25 mm from the left edge to 25 mm from the right edge (see figure 19)
  - mouth opening to be fitted with a stringer of a slide fastener (other stringer sewn to the top edge of the lower section)
    - the stringer sewn to the top section shall be sewn to the overlocked edge of the outer material layer and spacer fabric before the fabric layers are folded inwards

- the stringer shall be sewn down for a second time when the mouth opening is folded in and stitched down 30 mm from folded edge (as mentioned above)
- stringers to be positioned behind all the fabric layers on the inside (see figure 20)

10.1.2.4.3 Lower section

- consist of a layer of outer material with a laid-on layer of spacer fabric (see 6.1.2) that shall be stitched and overlocked together
- to extend along the full width of the front panel
- to be of finished depth 70 mm (measurement excludes the stringer of the slide fastener)
- top edge of lower section shall be folded in 10 mm (outer material layer and spacer fabric layer folded in together) and stitched down 2 mm from the folded edge
- top edge to incorporate a mouth opening that provides access to the front soft ballistic armour pack
  - mouth opening to extend from approximately 25 mm from the left edge to 25 mm from the right edge (see figure 19)
  - mouth opening to be fitted with a stringer of a slide fastener
    - the stringer sewn to the lower section shall be sewn to the overlocked edge of the outer material layer and spacer fabric before the fabric layers are folded inwards
    - the stringer shall be sewn down for a second time when the mouth opening is folded in and stitched down 2 mm from folded edge (as mentioned above)
    - stringers to be positioned behind all the fabric layers on the inside (see figure 20)

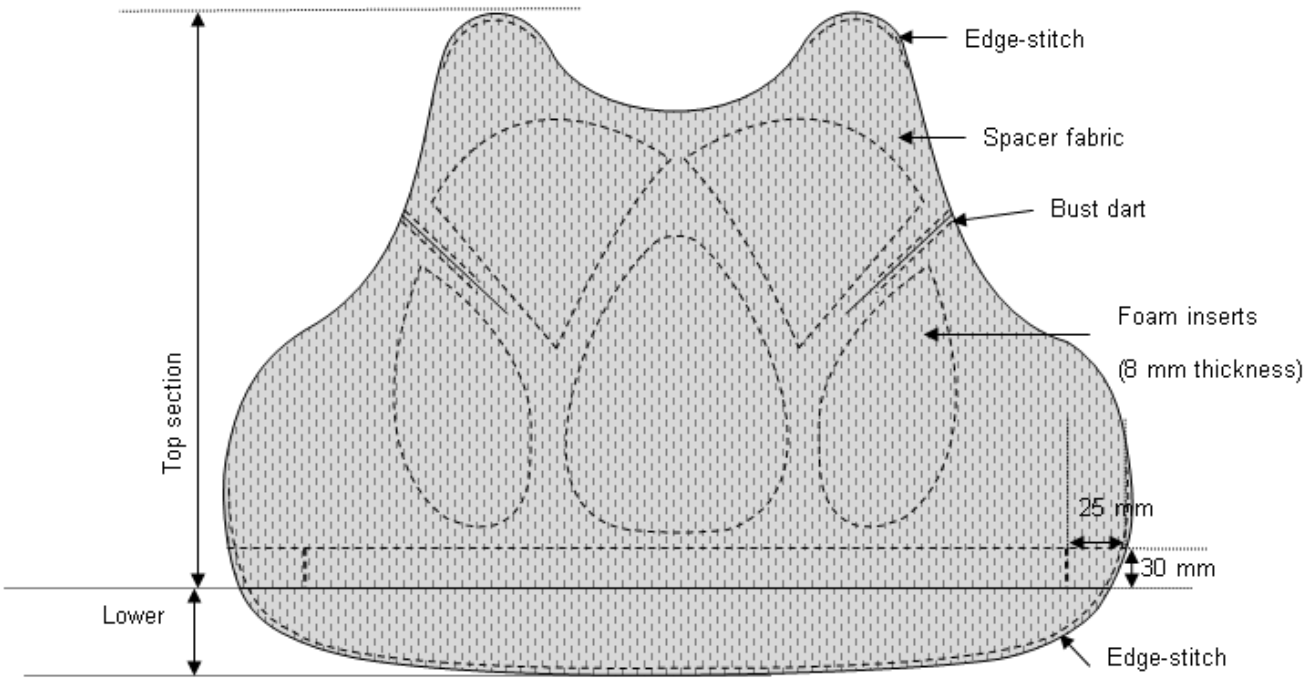


Figure 19 – Lining of front outer panel

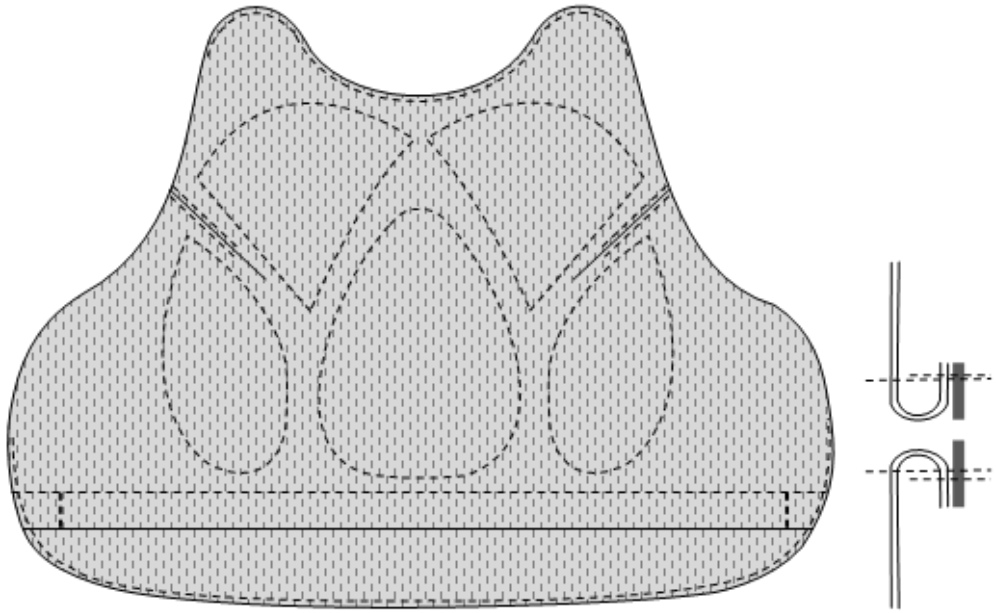


Figure 20 – Cross section of mouth opening in lining of front outer panel

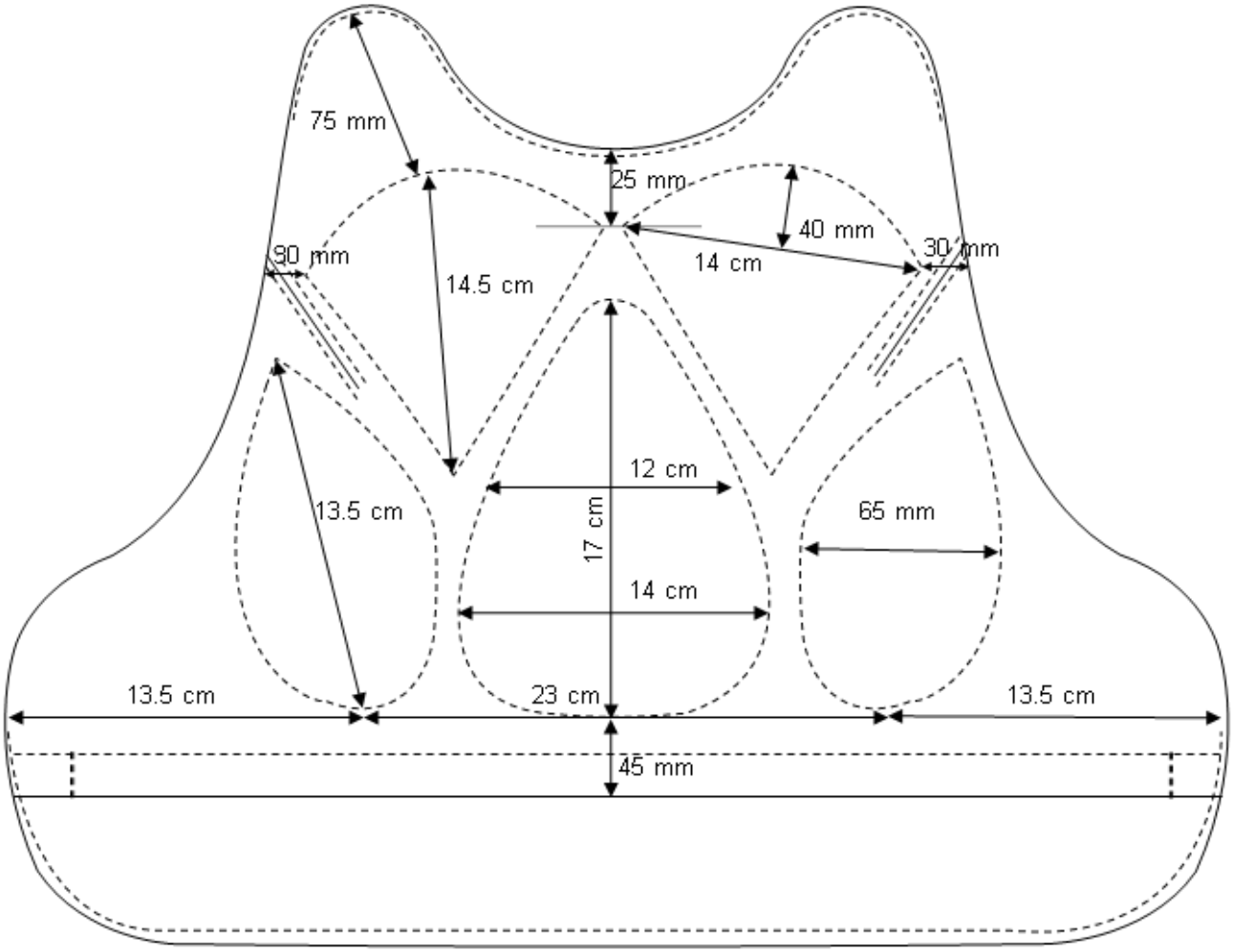
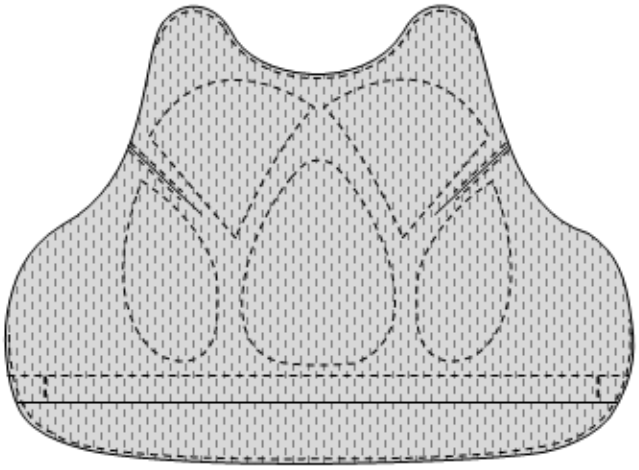
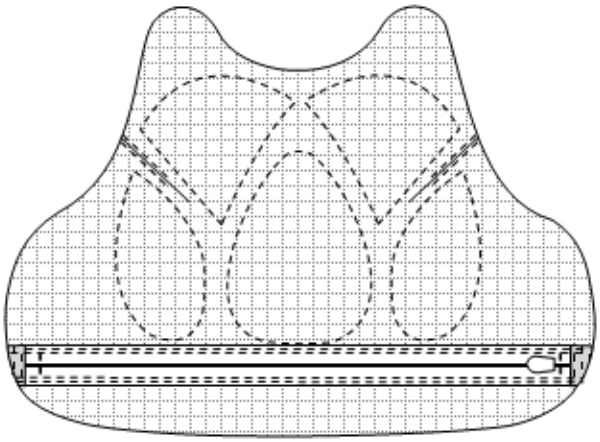


Figure 21 – Positioning and dimensions of the PATTERNS of the foam inserts in the lining of the front outer panel on a size MEDIUM which shall be graded on the other sizes



Spacer fabric

Figure 22 (a) – Face side of front outer panel lining



Outer material

Figure 22 (b) – Inside view of front outer panel lining

10.1.3 Back outer panel

10.1.3.1 General

Each back outer panel shall:

- be of finished dimensions as given in section 8.2.2
- to be edge-stitched 2 mm along all edges of the back body panel

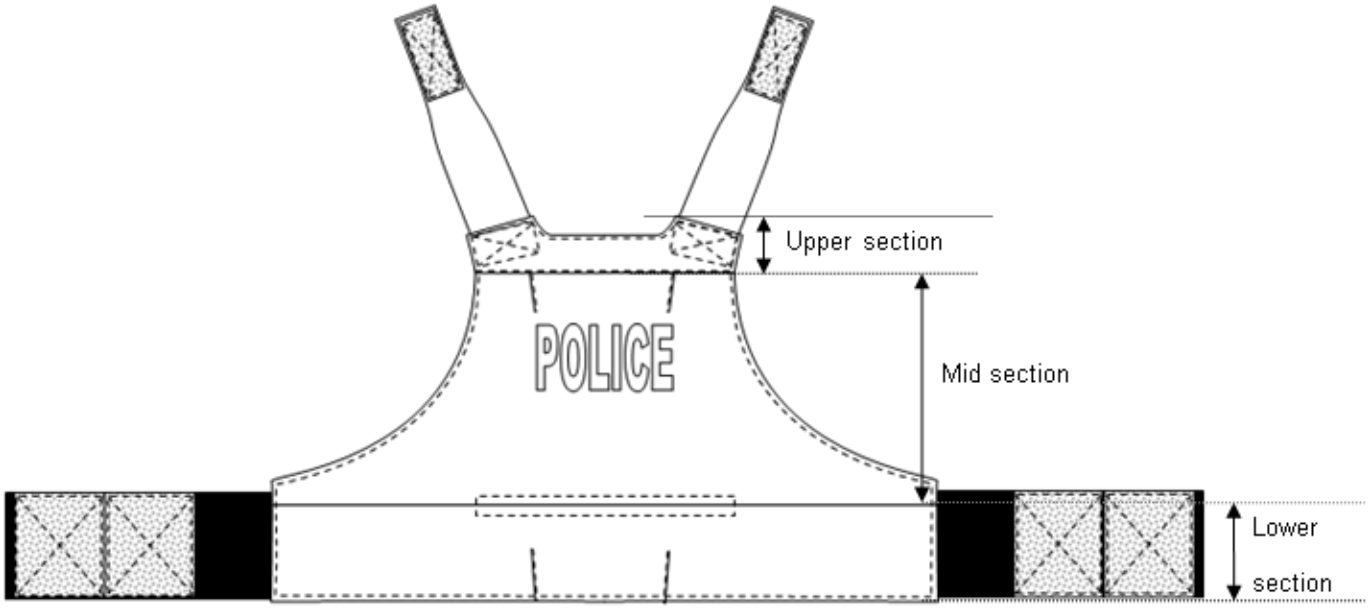


Figure 23 – Back outer panel section identification

10.1.3.2 Face side of back outer panels

10.1.3.2.1 General

- each back outer panel shall be cut in three sections (see figure 23):
  - upper section (see 10.1.3.2.2)
  - mid section (see 10.1.3.2.3)
  - lower section (see 10.1.3.2.4)

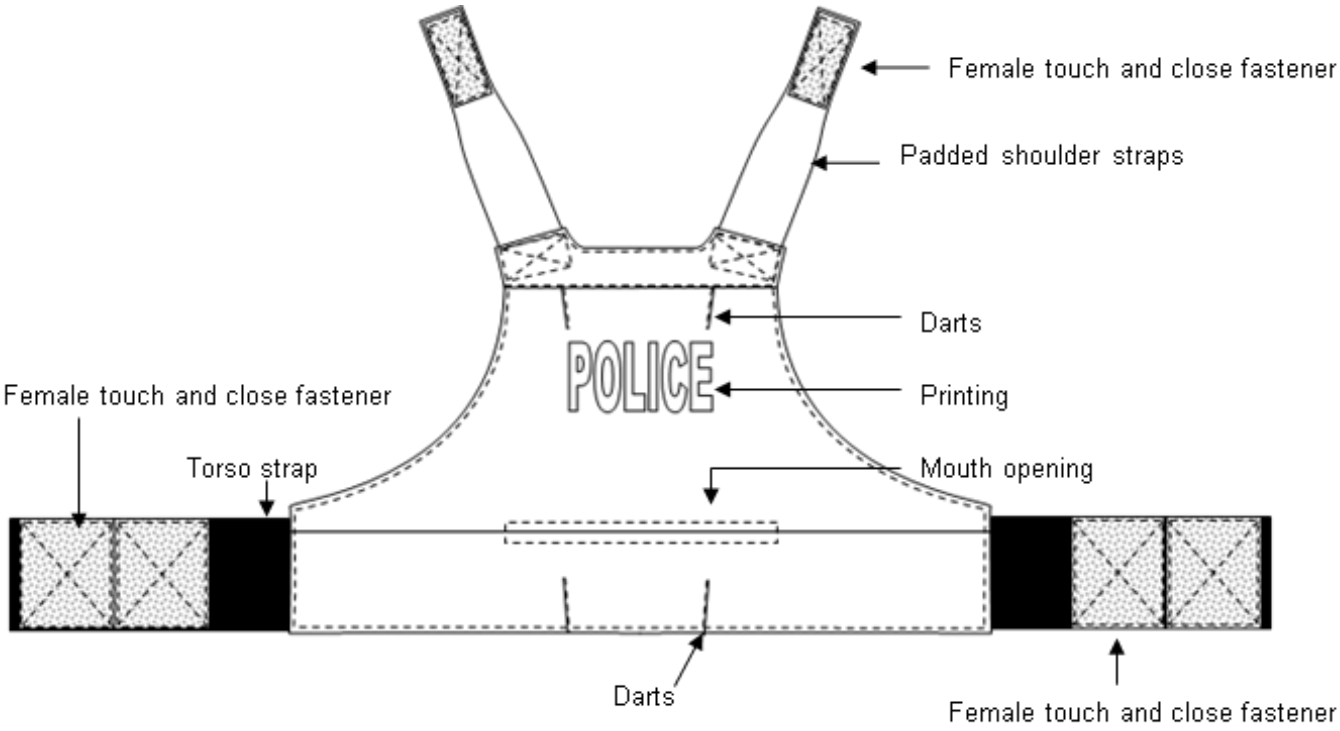


Figure 24 – Back outer panel design features

10.1.3.2.2 Upper section

- made from two layers of outer material (see figure 27)
- to extend from the top edge of the shaped shoulders to the upper-to-mid-section seam (see figure 23)
- upper-section-to-mid-section seam shall be edge-stitched 2 mm (edge-stitching positioned on the upper section)
- the separately cut shoulder straps shall be sandwiched between the upper section and back lining and boxed and cross stitched through all layers (see 10.1.3.4)

10.1.3.2.3 Mid section

- made from two layers of outer material (see figure 27)
- to be positioned between the upper section and lower section (see figure 23)
- fitted with two darts at the mid-section-to-upper-section seam
  - each of finished length 40 mm and top-stitched along the full length of the dart (dart of inner layer shall not be top-stitched)
  - darts to be positioned 18.5 cm apart on ALL SIZES (measured along the mid-section-to-

upper-section seam) (see figure 25)

- the two darts shall be equidistantly spaced from the centre back position
- the shaping of the darts shall enhance the fit of the vest when the hard ballistic armour plates are inserted

♦ the seam allowance of the mid-section-to-lower-section seam shall be at least 20 mm

♦ to form part of the back pocket mouth opening that shall grant access to the fitting of the back hard ballistic armour plate (see 10.1.3.3)

♦ to be printed

- the word “POLICE” in capital letters
- font type: ARIAL
- to comply with the requirements as specified in 6.1.8
- nominal finished dimensions to be as given in figure 14
- centrally positioned in the width of the mid panel and 95 mm below the centre back neck point (see figure 26)

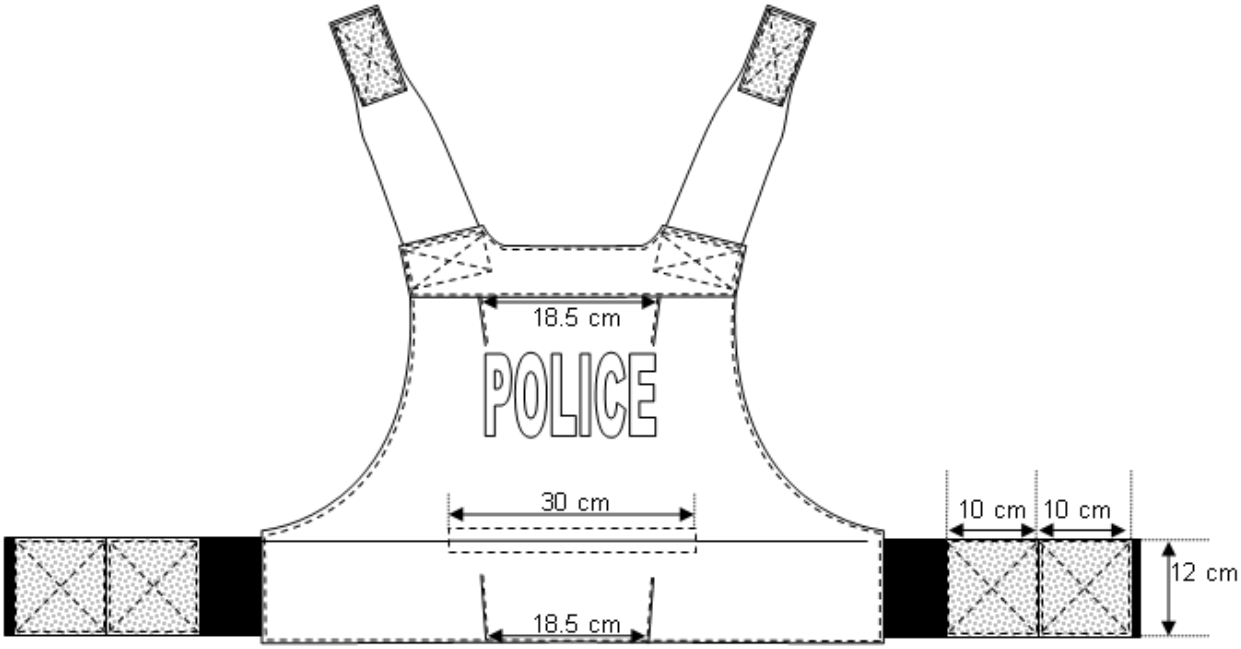


Figure 25 – Finished dimensions of design features on back outer panel

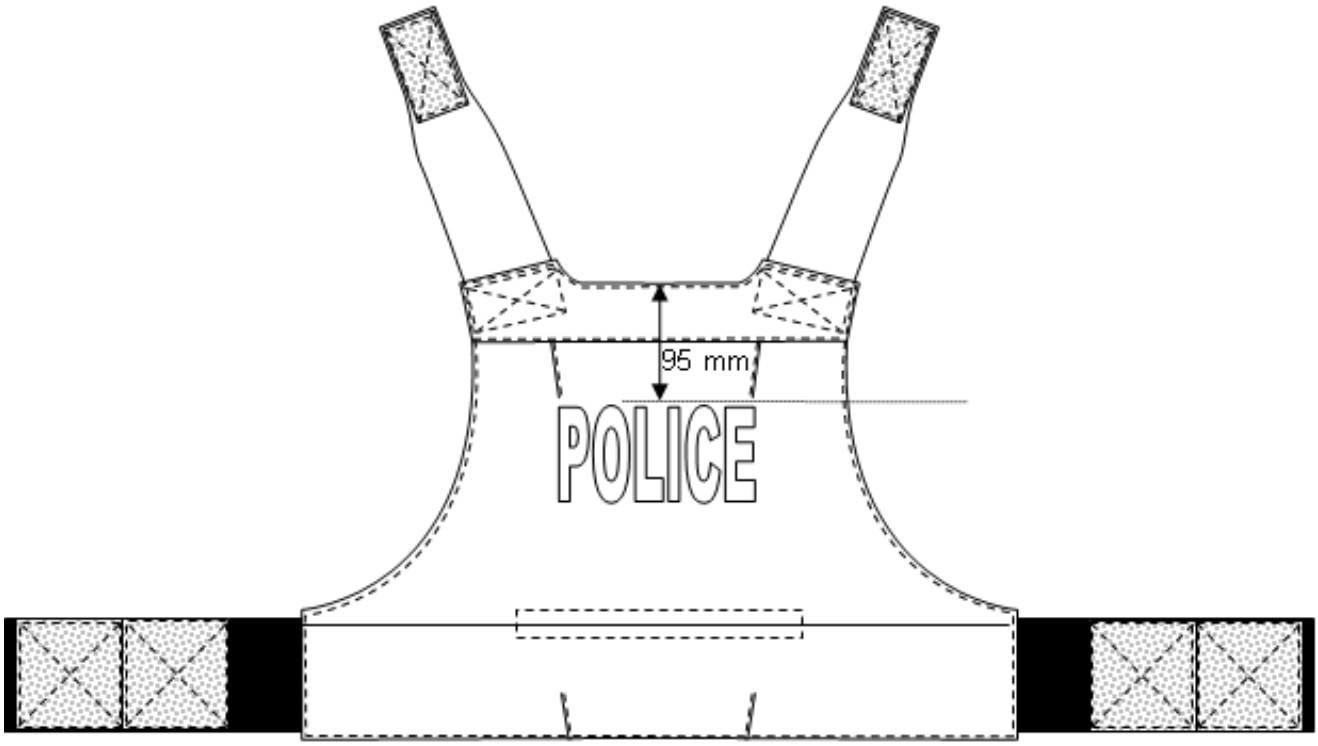


Figure 26 – Positioning of printing on the back outer panel

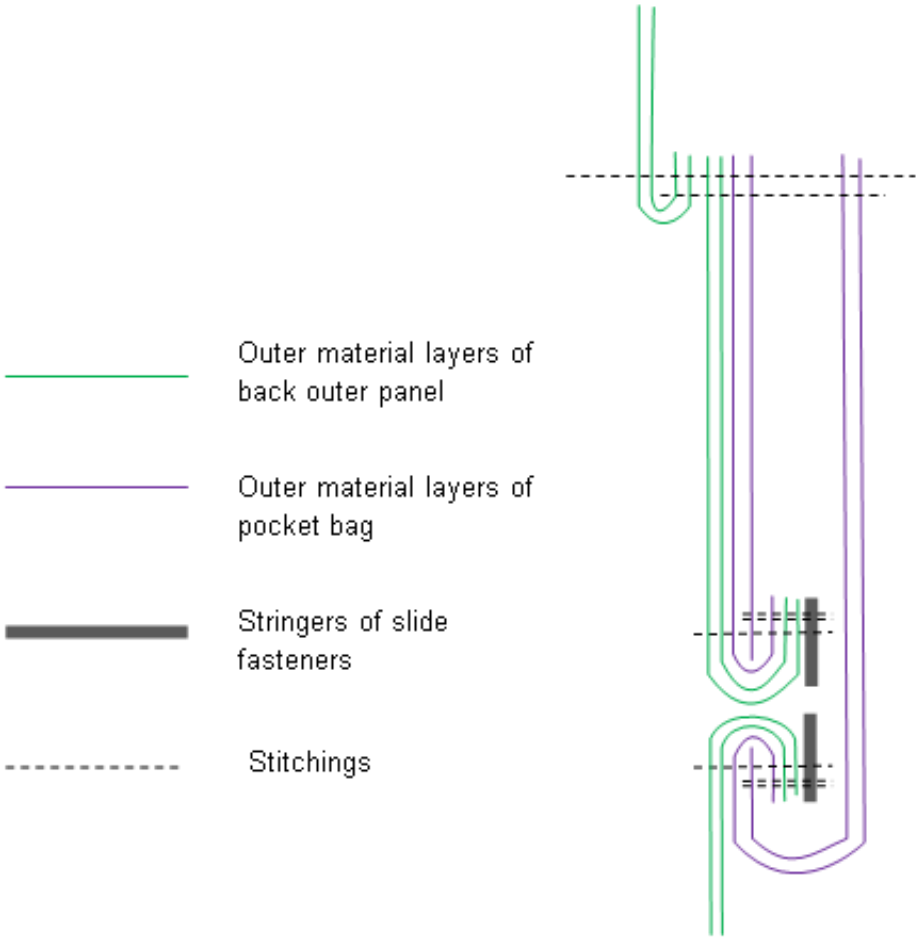


Figure 27 – Cross section of mouth opening on face side of back outer panel

10.1.3.2.4 Lower section

- made from two layers of outer material (see figure 27)
- to extend from the mid-section-to-lower-section seam to the bottom edge of the vest (see figure 23)
- the seam allowance of the mid-section-to-lower-section seam shall be at least 20 mm
- fitted with two darts at the bottom edge of the lower section (see figure 25)
  - each of finished length 40 mm and top-stitched along the full length of the dart (dart of inner layer shall not be top-stitched)
  - darts to be positioned 18.5 cm apart on ALL SIZES (measured along the bottom edge)
  - the two darts shall be equidistantly spaced from the centre back position
  - the shaping of the darts shall enhance the fit of the vest when the ballistic components are inserted
- to form part of the back pocket mouth opening that shall grant access to the fitting of the back hard ballistic armour plate (see 10.1.3.3)
- fitted with torso straps
  - consist of a length of double folded elastic webbing (see 6.1.4) of width 12 cm
  - of finished length as given in table 17 (relaxed measurement)
  - both cut ends to be sandwiched between the back outer material layers and the back lining layers of the back outer panel and properly secured
    - proper length shall be allowed inside the seam allowance to secure it and prevent it from pulling out for the service life of the jacket
- the face side of the torso straps shall be fitted with 10 cm wide female touch and close fastener
  - two lengths positioned adjacent to each other, each of cut length 12 cm
  - attached in such a way that the selvedges of the touch and close fastener run vertically
  - each to be box and cross stitched
  - front edge of front touch and close fastener patch to be positioned 10 mm from the front folded edge of the torso strap (see figure 25)
- the underside of the torso straps shall be fitted with 10 cm wide male touch and close fastener
  - two lengths positioned adjacent to each other, each of cut length 12 cm
  - attached in such a way that the selvedges of the touch and close fastener run vertically
  - each to be box and cross stitched (see figure 30)
  - front edge of front touch and close fastener patch to be positioned 10 mm from the front folded edge of the torso strap

Table 17 – Finished length of the torso straps (relaxed measurement)

1	2	3	4	5	6	7	8
Small	**Medium**	**Large**	**X-Large**	**XX-Large**	**XXX-Large**	**4X-Large**	**5X-Large**
26.5	29 cm	31.5	34	36.5	39	41.5	44

10.1.3.3 Back pocket

10.1.3.3.1 General

- inset pocket
- centrally positioned in the mid-section-to-lower-section seam
- pocket mouth opening to be of finished length 30 cm and properly secured at the side edges (see figure 25)
- fitted with a slide fastener, one stringer sewn to the bottom edge of the mid section and the other stringer sewn to the top edge of the lower section
  - slider to be positioned on the right (refers to as when vest is worn) when the slide fastener is closed
  - stringers to be positioned behind all the pocket bag layers on the inside (see 10.1.3.3.2)
  - stringers shall be sewn down 12 mm from the centre of the mouth opening respectively

10.1.3.3.2 Pocket bag

- upper pocket bag (pocket bag layer(s) further away from the body of the wearer) and the lower pocket bag (pocket bag layer(s) closer to the body of the wearer) shall each be of doubled outer material (see figure 27)
- outer edges of all four layers of fabric shall be overlocked and stitched together
- width of pocket bag to be centrally positioned behind the pocket mouth opening
- shape of the pocket bag shall conform to the shape of the back hard ballistic armour plate and of such dimensions that the plate shall fit snugly, but shall still enable the wearer to remove the plate without force
  - dimensions to be such that the plate shall never shift out of position
  - finished dimensions to be as given in figure 28
- top edges of pocket bag units (all four layers) shall be sewn in with the upper-section-to-mid-section seam
- the bottom edges of the upper pocket bag unit (pocket bag layers further away from the body of the wearer) shall be sewn in with the mouth opening situated at the base of the mid section
- the bottom edges of the lower pocket bag unit (pocket bag layers closer to the body of the wearer) shall be folded upwards, forming a fold (see figure 27 and 28) and the cut edges shall be sewn in with the mouth opening situated at the top edge of the lower section

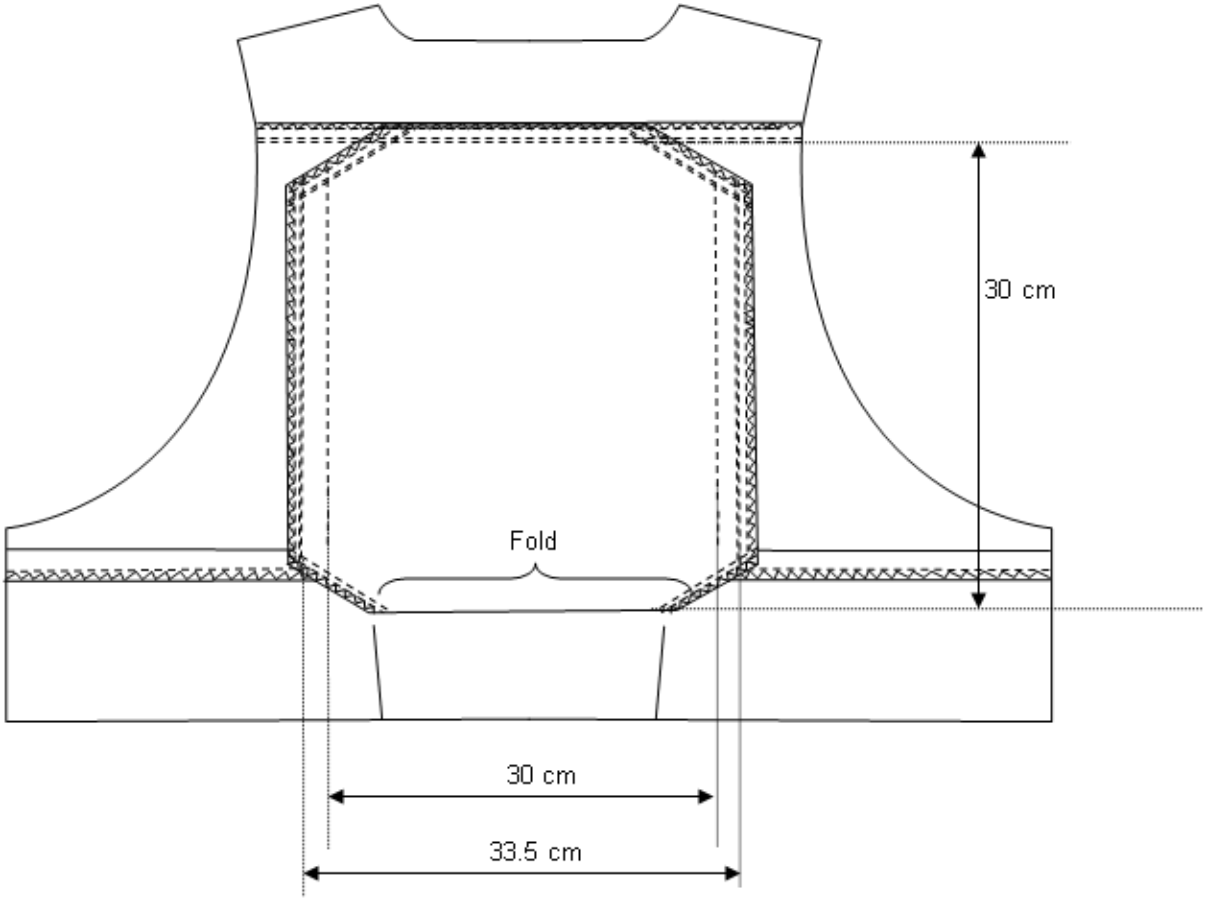


Figure 28 – Inside view of back outer panel

10.1.3.4 Shoulder straps

- to be shaped, tapering to the free end
- the finished dimensions that apply to all sizes are given in figure 29
- the finished length of the shoulder straps shall grade on the different sizes and shall be as given in table 18
- the face side of the strap shall consist of a single continuous layer of outer material
  - free end to be fitted with a laid-on patch of female 50 mm wide touch and close fastener
    - of finished length 10 cm (see figure 29)
    - box and cross stitched through all layers
    - top edge of touch and close fastener to align with the free edge of the shoulder strap
- the strap lining shall consist of two panels, one panel (panel closer to the free edge of strap) shall be made of outer material and the second panel shall be made of spacer fabric
  - the outer material panel of the lining shall be fitted with a patch of male 50 mm wide touch and close fastener
    - of finished length 10 cm
    - box and cross stitched through all layers
    - top edge of touch and close fastener to align with the free edge of the shoulder strap
- shoulder strap to be interlined with foam, 5 mm thickness (see 6.1.5)
  - the size of the foam shall be carefully cut and be of such dimensions that when inserted, it shall not cause the strap to bulge or distort the shape of the strap by pushing out the seam allowances
  - the foam shall extend from the bottom edge of the touch and close fastener position to the

shoulder seam

- shoulder strap to be innerlined with webbing (see 6.1.7) for reinforcement
  - webbing to extend from the free edge of the shoulder strap to approximately 50 mm beyond the shoulder seam (and sewn to the body of the back panel at the shoulder)
- the shoulder straps shall be sandwiched between the back body and back body lining
  - the shoulder strap inner raw edges, together with the webbing reinforcement shall extend 50 mm beyond the shoulder seam and be box and cross stitch to the back panel (NOT made through the back facing)
  - the box and cross stitch shall be of dimensions 70 mm x 35 mm

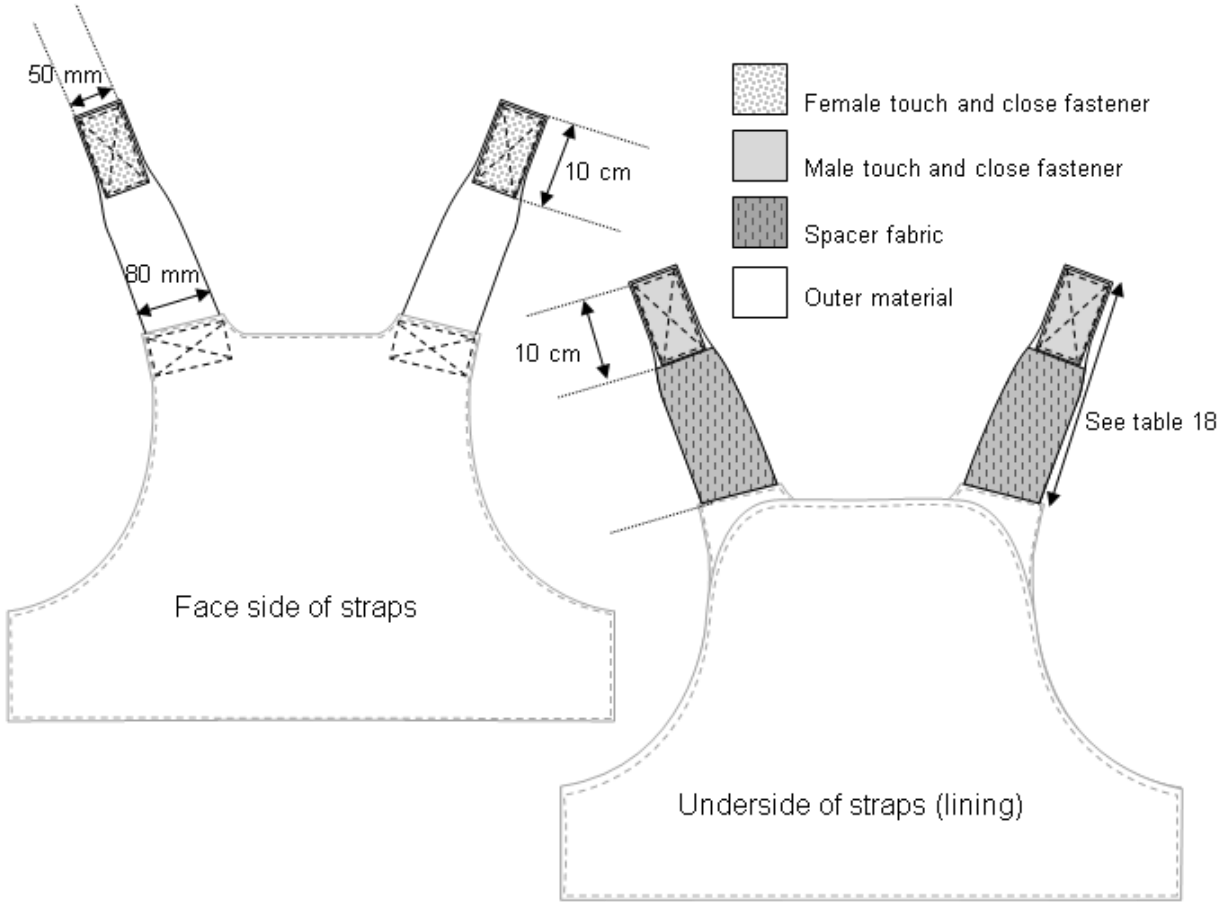


Figure 29 – Finished dimensions of shoulder straps of back outer panel (measurements given in this illustration are applicable to all sizes)

Table 18 – Finished length of the shoulder straps

1	2	3	4	5	6	7	8
Small	**Medium**	**Large**	**X-Large**	**XX-Large**	**XXX-Large**	**4X-Large**	**5X-Large**
26.5	27 cm	27.5 cm	28	28.5	29	29.5	30

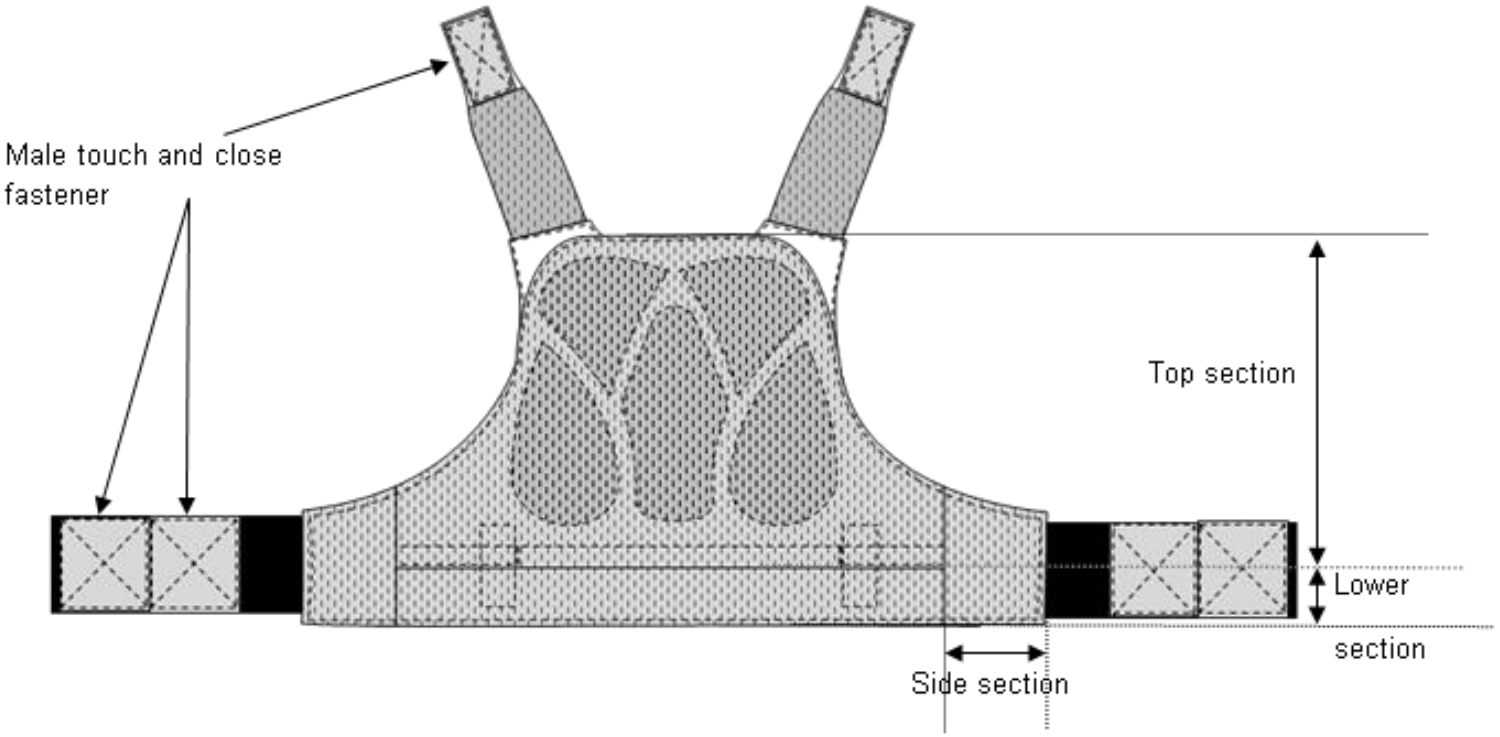
10.1.3.5 Back outer panel lining

10.1.3.5.1 General

- to consist of four main sections, i.e. a top section, a lower section and two side sections (see figure 30
- to make provision for the fitment of the soft ballistic textile units by means of a pocket mouth

opening

- fitted with inner waist support straps (see 10.1.3.6)



NOTE: Inner waist support straps omitted in this illustration.

Figure 30 – Identification of sections of lining of the back outer panel

10.1.3.5.2 Top section

- to be rounded along the top outer edges
- consist of a layer of outer material with a laid-on layer of spacer fabric (see 6.1.2) that shall be stitched and overlocked together
- in addition, the upper back lining section shall be faced with a layer of outer material, forming a facing at the shoulder area (see figure 32)
  - properly finished
  - securely tacked at armhole point
  - sewn to the back panel and back lining panel and edge-stitched together
  - to extend along the width of the top section and of finished dimension as given in figure 32
- fitted with 5 separately cut foam inserts, of thickness 8 mm (see 6.1.5)
  - sandwiched between the outer material and spacer fabric layer
  - foam inserts to be kept in position by rows of stitchings that follow the outlines of the inserts
    - stitching shall be made through the outer material and the spacer fabric layers
    - the spaces between the inserts shall form channels which shall enable air to flow freely
    - the dimensions of the foam inserts shall grade, but such that it shall always be fixed distances from the sides, top and bottom and as given in figure 33
    - positioning to be as given in figure 33
- bottom edge of top section shall be folded in (outer material layer and spacer fabric layer folded

in together) and stitched down 30 mm from the folded edge

- bottom hem to incorporate a mouth opening that provides access to the back soft ballistic armour pack
  - mouth opening to extend from 11 cm from the left side panel seam to 11 cm from the right side panel seam on size MEDIUM and graded on the other sizes (resulting in a mouth opening of 34 cm on size MEDIUM)
  - mouth opening to be fitted with a stringer of a slide fastener (other her stringer sewn to the top edge of the lower section)
    - the stringer sewn to the top section shall be sewn to the overlocked edge of the outer material layer and spacer fabric before the fabric layers are folded inwards
    - the stringer shall be sewn down for a second time when the mouth opening is folded in and stitched down 30 mm from folded edge (as mentioned above)
    - stringers to be positioned behind all the fabric layers on the inside and shall extend 20 mm beyond each mouth end

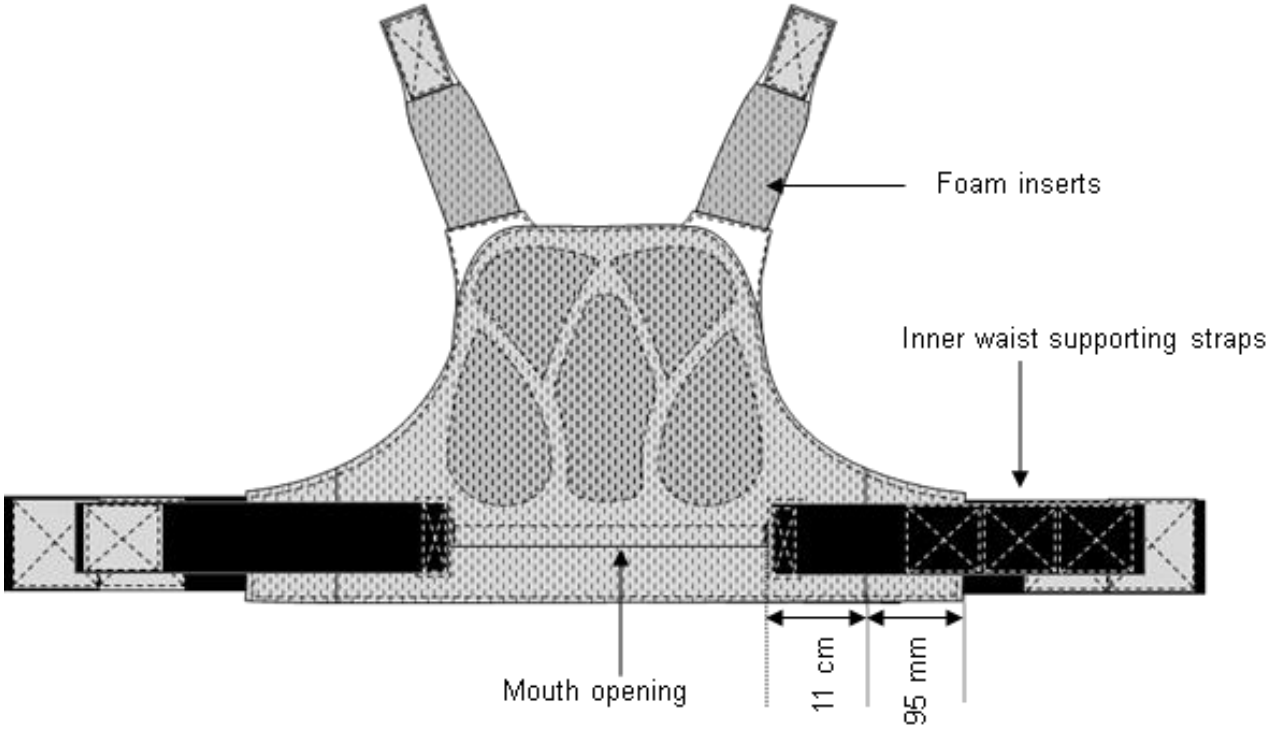


Figure 31 – Design features on lining of back outer panel

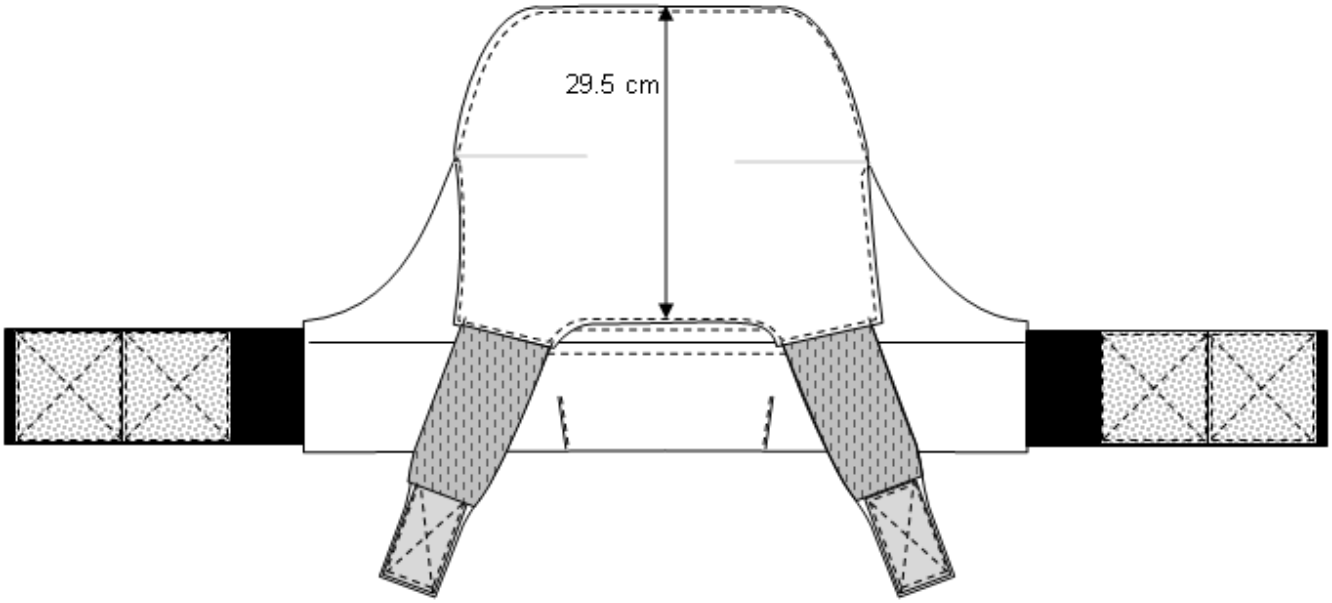


Figure 32 – Facing at top edge

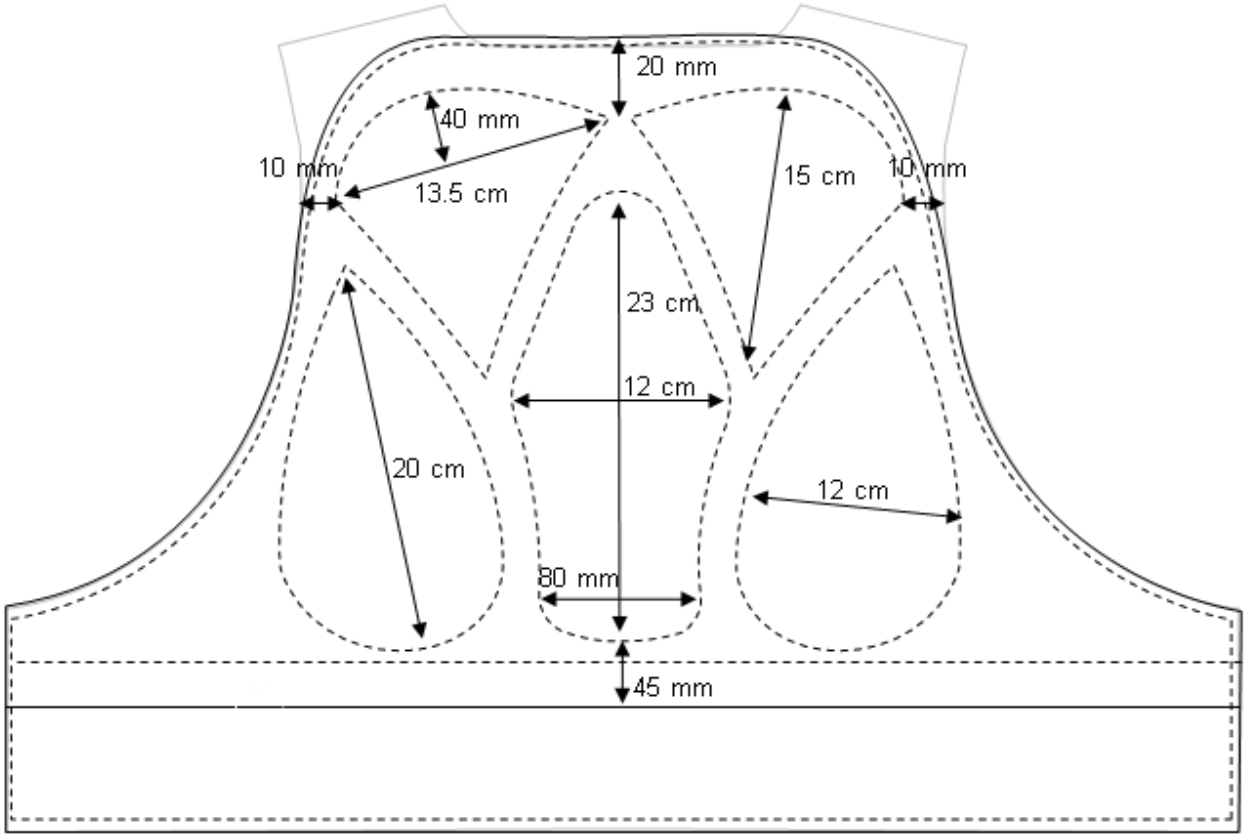


Figure 33 – Positioning and dimensions of the PATTERNS of the foam inserts in the lining of the back outer panel on a size MEDIUM which shall be graded on the other sizes

10.1.3.5.3 Lower section

- consist of a layer of outer material with a laid-on layer of spacer fabric (see 6.1.2) that shall be stitched and overlocked together
- to extend along the bottom edge of the back, from 95 mm from the right outer edge to 95 mm from the left outer edge (see figure 34)
- to be of finished depth 75 mm (measurement excludes the stringer of the slide fastener)
- top edge of lower section shall be folded in 12 mm (outer material layer and spacer fabric layer folded in together) and stitched down 2 mm from the folded edge
- top hem to incorporate a mouth opening that provides access to the back soft ballistic armour pack
  - mouth opening to extend from 11 cm from the left side panel seam to the right side panel seam on size MEDIUM and graded on the other sizes (resulting in a mouth opening of 34 cm on size MEDIUM) (see figure 35)
  - mouth opening to be fitted with a stringer of a slide fastener
    - the stringer sewn to the lower section shall be sewn to the overlocked edge of the outer material layer and spacer fabric before the fabric layers are folded inwards
    - the stringer shall be sewn down for a second time when the mouth opening is folded in and stitched down 2 mm from folded edge (as mentioned above)
    - stringers to be positioned behind all the fabric layers on the inside
- fitted with inner waist support straps (see 10.1.3.6)

10.1.3.5.4 Side sections

- one sewn to each side edges of the top and lower sections
- consist of a layer of outer material with a laid-on layer of spacer fabric that shall be stitched and overlocked together
- to be of finished width 95 mm on all sizes (see figure 34)

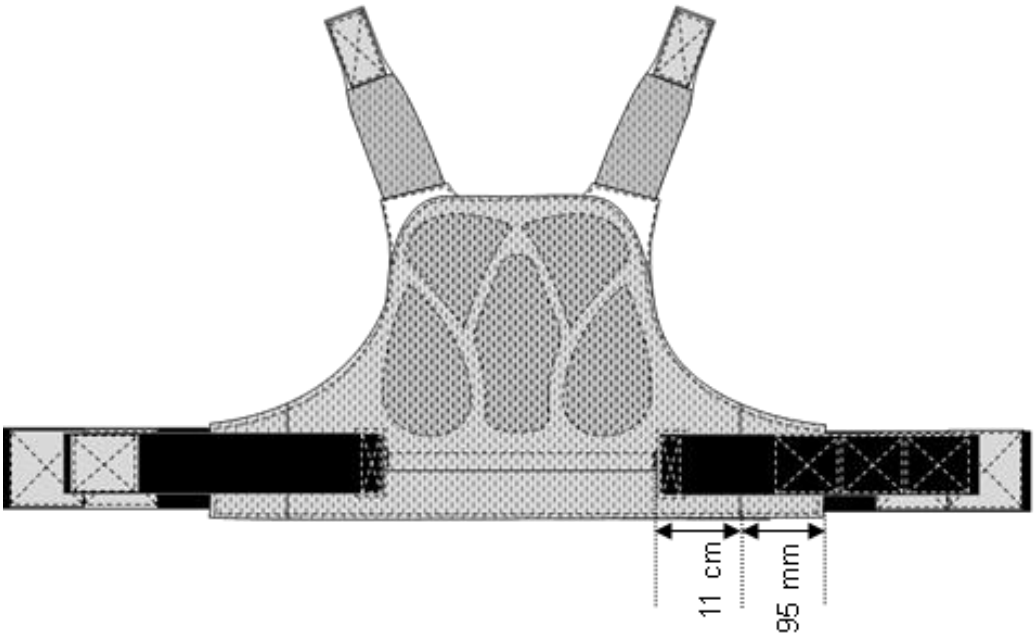


Figure 34 – Finished width of side section

10.1.3.6 Inner waist support straps

- each to consist of a length of double folded elastic webbing (see 6.1.4) of width 80 mm
- of finished length as given in table 19 (relaxed measurement)
- constructed as given in figures 35(a) to 35(c)
- centred over the back mouth opening
- cut ends shall be folded inwards 30 mm, fitted with the folded edges adjacent to the outer edges of the mouth openings respectively and box and cross stitched 78 mm x 30 mm
- to be reinforced on the inside behind the cross and box stitchings with an acceptable material that is fit for purpose, e.g. 47 mm wide webbing (see 6.1.7)
- the face side of the left inner waist strap (refers to as when worn) shall be fitted with 80 mm wide female touch and close fastener
  - of finished length 30 cm (or alternatively 3 patches of 10 cm wide touch and close fastener of cut length 80 mm, with selvedges running vertically may be used) (see figures 35(a) and 35(b)
  - each to be box and cross stitched
  - front edge of touch and close fastener patch to be positioned 10 mm from the front folded edge of the left waist strap
- the underside of the right inner waist strap (refers to a when worn) shall be fitted with 10 cm wide male touch and close fastener
  - attached in such a way that the selvedge of the touch and close fastener runs vertically
  - of finished cut length 80 mm and each to be box and cross stitched
  - front edge of touch and close fastener patch to be positioned 10 mm from the front folded edge of the right waist strap

Table 19 – Nominal finished length of each inner waist support strap (relaxed measurement)

1	2	3	4	5	6	7	8
Small	**Medium**	**Large**	**X-Large**	**XX-Large**	**XXX-Large**	**4X-Large**	**5X-Large**
38.5 cm	41 cm	43.5 cm	46 cm	48.5 cm	51 cm	53.5 cm	56 cm

Figure 35(a) – Cross section of construction of left inner waist support strap when 80 mm wide touch and close fastener is used (refers to as when worn)

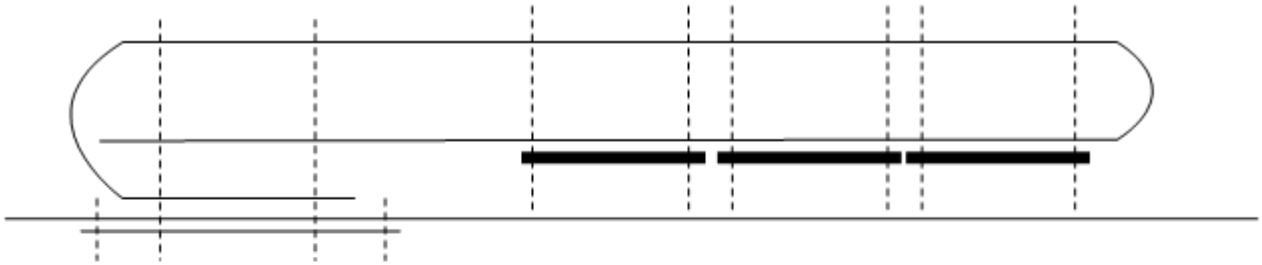


Figure 35(b) – Cross section of construction of left inner waist support strap when 10 cm wide touch and close fastener is used (refers to as when worn)

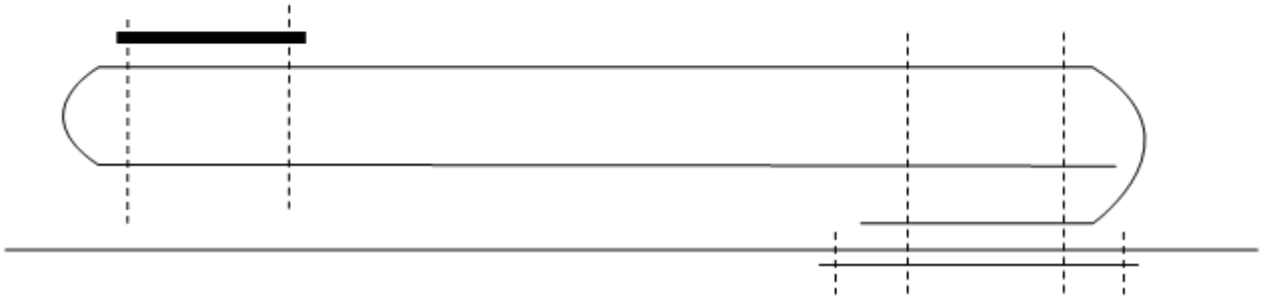


Figure 35(c) – Cross section of construction of right inner waist support strap (refers to as when worn)

10.2 Soft ballistic armour pack and square flat test pack for soft ballistic textile material qualification

10.2.1 General

- the layers/plies of soft ballistic textile material (see 6.2.1.1) used in a soft ballistic armour pack and/or qualification flat test pack shall comply with the following
  - the layers/plies shall all consist of the same brand (i.e. all Kevlar® or all Twaron®)
  - layers/plies of different brands shall never be mixed or used together in a single soft ballistic armour pack
  - each lot and/or batch shall also contain the same single origin brand
- all stitching must be done with Aramid yarn (see 6.2.1.3) and stitch length shall be as given in 11.4
- it is recommended to use a heavy-duty walking foot sewing machine for the sewing of all soft ballistic textile material items

10.2.2 Front soft ballistic armour pack

- each front soft ballistic armour pack shall consist of a minimum of 21 layers/plies of the soft ballistic textile material (see 6.2.1.1)
- each layer/ply of the soft ballistic textile material shall conform to the shape and dimensions as given in paragraph 8.1.1
- the 21 layers/plies (minimum) of soft ballistic textile material shall be divided into three separate stacks, with each stack consisting of 7 layers/plies
  - each stack shall be treated as a unit, each of the three stacks having its own uniquely positioned darts in order to create the appropriate shape to fit comfortably on the female physique

- the above mentioned three stacks shall be divided as follows:
  - innermost stack (i.e. the stack closest to the body):
    - to incorporate two darts
      - → all 7 layers/plies of the stack shall be sewn together (NOT individually stitched)
      - → the two darts shall be in POSITION No.1 as identified in 1(i) and 1(ii) in figure 37(a) and 37(b)
      - → the allowances of the darts 1(i) and 1(ii) shall comply with the dimensions given in figure 37(b)
      - → when complete, the darts shall be inverted so that the excess fabric of the darts is not visible (darts to face downwards)
      - → the excess of the dart shall be stitched down to keep it in position (top-stitched adjacent to the dart stitch line)
  - middle stack
    - to incorporate two darts
      - → all 7 layers/plies of the stack shall be sewn together (NOT individually stitched)
      - → the darts identified in 1(i) and 1(ii) shall be closed and pivoted to POSITION no. 2 as identified in 2(i) and 2(ii) of figure 37(a) and 37(b)
      - → when complete, the darts shall be inverted so that the excess fabric of the darts is not visible (faces downwards)
      - → the excess of the dart shall be stitched down to keep it in position (top-stitched adjacent to the dart stitch line)
  - the outermost stack
    - to incorporate two darts
      - → all 7 layers/plies of the stack shall be sewn together (NOT individually stitched)
      - → the darts identified in 2(i) and 2(ii) shall be closed and pivoted to POSITION no. 3 as identified in 3(i) and 3(ii) of figure 37(a) and 37(b)
      - → when complete, the darts shall be inverted so that the excess fabric of the darts is not visible (faces downwards)
      - → the excess of the dart shall be stitched down to keep it in position (stitched adjacent to the dart stitch line)

- all layers/plies shall be properly aligned on top of each other when stitched together
  - zero tolerance will be allowed for alignment
- all the layers/plies shall be cross stitched together on the centre fold line
  - each cross must fit into a 15 cm x 15 cm box, with the centre 30 mm x 30 mm not stitched (left blank) as given in figure 36
- in addition to the cross stitching, all 21 layers/plies shall be edge-stitched together along the neckline (see figure 36)
  - positioned 15 mm from the neckline edge
  - approximate length of stitching to be 14 cm (centred over centre front)
- the 21 layers/plies of each soft ballistic armour pack shall be completely encased in plastic encasing material (see 6.2.1.2)
  - outer casing to be marked with the information as given in 13.3.2
  - outer edges of encasing material to be high frequency heat sealed in such a way that:

- the sealed edges shall not part during fitment and removal of the soft ballistic armour packs
- it shall prevent moisture absorption and shall be water resistant at all times

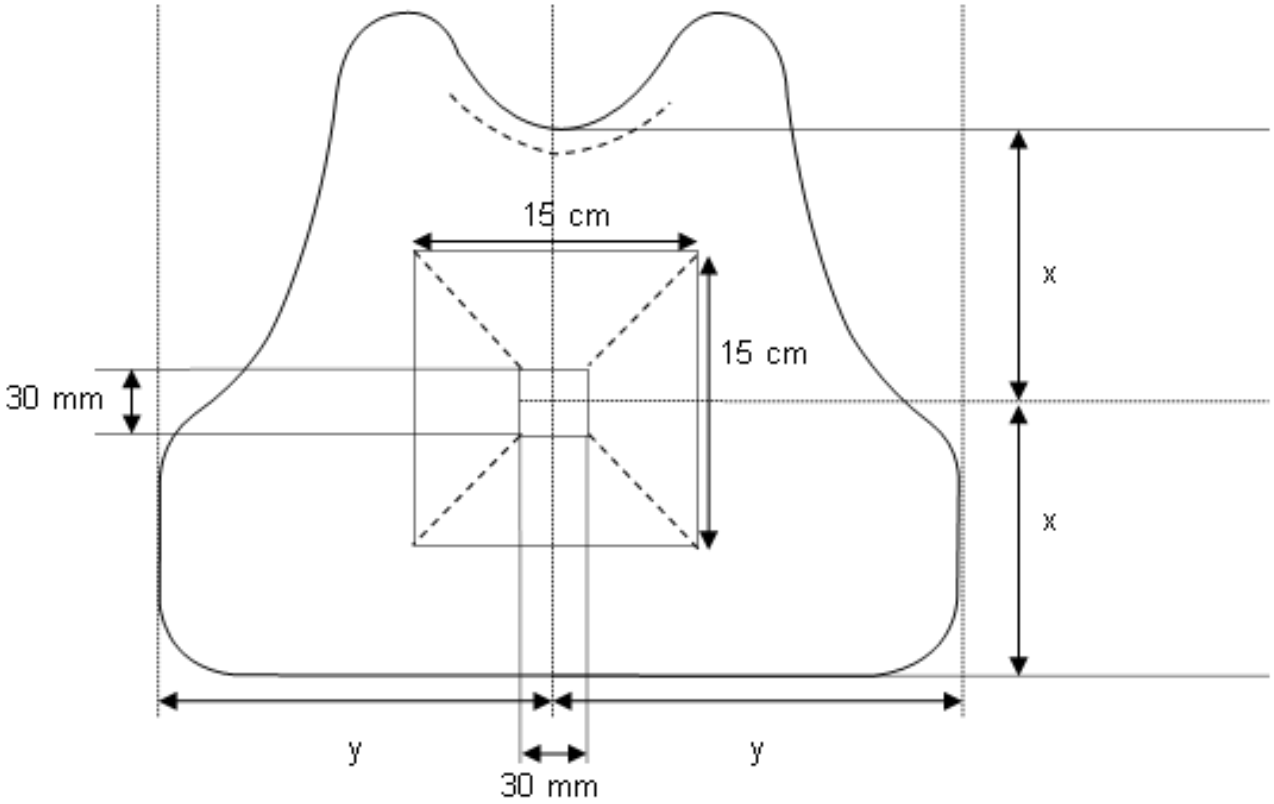


Figure 36 – Cross stitch and neck edge-stitching on front soft ballistic armour pack

10.2.3 Back soft ballistic armour pack:

- each back soft ballistic armour pack shall consist of a minimum of 21 layers/plies of the soft ballistic textile material (see 6.2.1.1)
- each back layer/ply of the soft ballistic textile material shall conform to the shape and dimensions as given in paragraph 8.1.2
- all layers/plies shall be properly aligned on top of each other when stitched together
  - zero tolerance will be allowed for alignment
- all the layers/plies shall be cross stitched together on the centre fold line
  - each cross must fit into a 15 cm x 15 cm box, with the centre 30 mm x 30 mm not stitched (left blank)
- the 21 layers/plies of each soft ballistic armour pack shall be completely encased in plastic encasing material (see 6.2.1.2)
  - outer casing to be marked with the information as given in 13.3.2
  - outer edges of encasing material to be high frequency heat sealed in such a way that:
    - the sealed edges shall not part during fitment and removal of the soft ballistic armour packs
    - it shall prevent moisture absorption and shall be water resistant at all times

10.2.4 Square flat test pack for qualification of the soft ballistic textile material

- each square flat test pack for qualification purposes shall consist of 21 cut layers/plies of soft ballistic textile material
- each layer/ply shall be of nominal finished dimensions 40 cm x 40 cm

- all layers/plies shall be properly aligned on top of each other and stitched together with aramid thread (see 6.2.1.3)
- all layers/plies shall be cross stitched together on the centre fold line
  - each cross must fit into a 25 cm x 25 cm box with centre 30 mm x 30 mm not stitched (left blank)

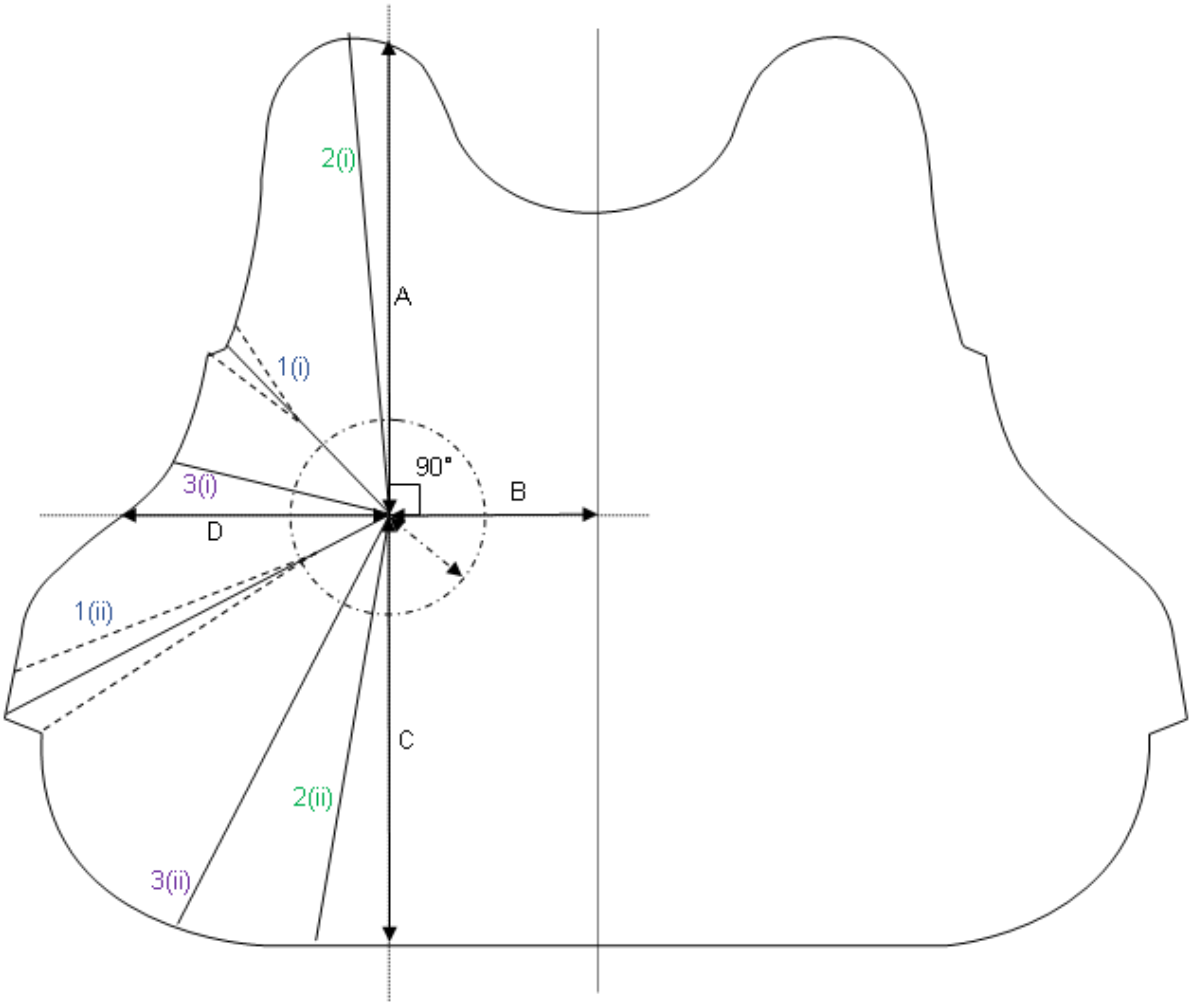


Figure 37(a) – Determination of positioning of darts on the soft ballistic textile material stacks on size MEDIUM and graded on the other sizes (continues)

Table 20 – Measurement from apex of bust to outer edge of soft ballistic textile material stacks on size MEDIUM (graded on the other sizes)

1	2	3	4
Nominal finished measurements			
A	**B**	**C**	**D**
20 cm	8.5 cm	18.5 cm	11.5 cm

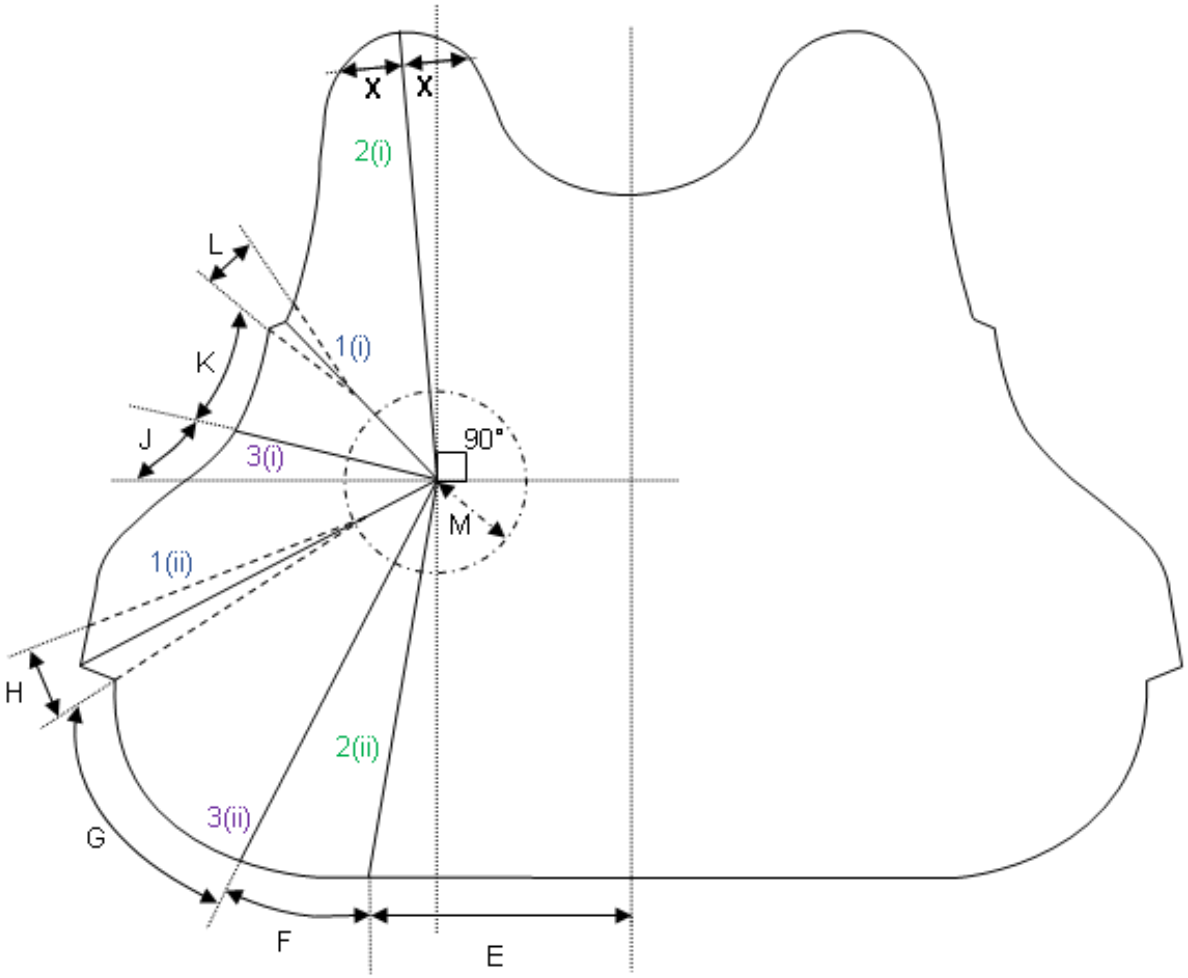


Figure 37(b) – Determination of positioning of darts on the soft ballistic textile material stacks on size MEDIUM and graded on the other sizes (continues)

Table 21 – Dart positioning on soft ballistic textile material stacks on size MEDIUM and graded on the other sizes

1	2	3	4	5	6	7	8
Nominal finished measurements							
E	**F**	**G**	**H**	**J**	**K**	**L**	**M**
12.1 cm	6 cm	11 cm	2.7 cm	3 cm	4.7 cm	1.5 cm	4 cm

10.3 Carry bag

10.3.1 Carry bag design

- be of carry bag material (see 6.4.1)
- be rectangular
- be a continuous length that shall be double folded
- be fitted with a slide fastener along the top length of the bag

- be of dimensions as given in table 22
- be folded over at the top creating a cut-on flap to conceal the slide fastener
  - vertically bar-tacked at the top and bottom edges of the flap on both sides of the mouth end, on top of the binding tape
  - slide fastener to extend along the full length of the mouth opening
- be bound at the side edges with edge binding tape (6.4.2)
  - ends to be heat sealed
  - shall be of appropriate colour for the specified size as given in table 11
- have a handle of carry bag webbing (see 6.4.3)
  - each strap shall be a continuous length of webbing
  - cut edges to be properly heat-sealed
  - each strap to be of finished length 78 cm
  - each strap shall be attached to the bag attached as follows
    - each leg of each webbing strap shall be vertically stitched for a distance of 18 cm with a 2 mm edge-stitching
    - the webbing legs of each strap shall be positioned 16.5 cm apart
    - boxed and crossed stitched 30 mm at the top and bottom ends
    - top edge of top box-tack to be positioned 60 mm below the top edge of the bag
- fitted with labels that shall comply with the requirements as given in paragraph 13.4
- fitted with a transparent patch pocket on the inside (see 10.3.2)

Table 22 – Dimensions of finished carry bag (see figure 37)

1	2	3
Size designation	**Depth (Y)**	**Width (X)**
Small and Medium	55 cm	60 cm
Large and X-Large	60 cm	70 cm
2X-Large and 3X-Large	65 cm	80 cm
4X-Large and 5X-Large	65 cm	90 cm

10.3.2 Inside transparent PVC pocket:

- pocket to house the operating manual
- be of clear/transparent sheeting (see 6.4.5)
- centrally positioned with the top edge of the pocket mouth approximately 25 mm below the bottom edges of the webbing straps (see figure 38)
- all edges to be bound with black edge binding tape (see 6.4.2)
- attached to the inside of the bag by means of a 2 mm edge-stitching
- properly secured at the pocket mouth edges
- of such dimensions as to neatly accommodate the operating manual

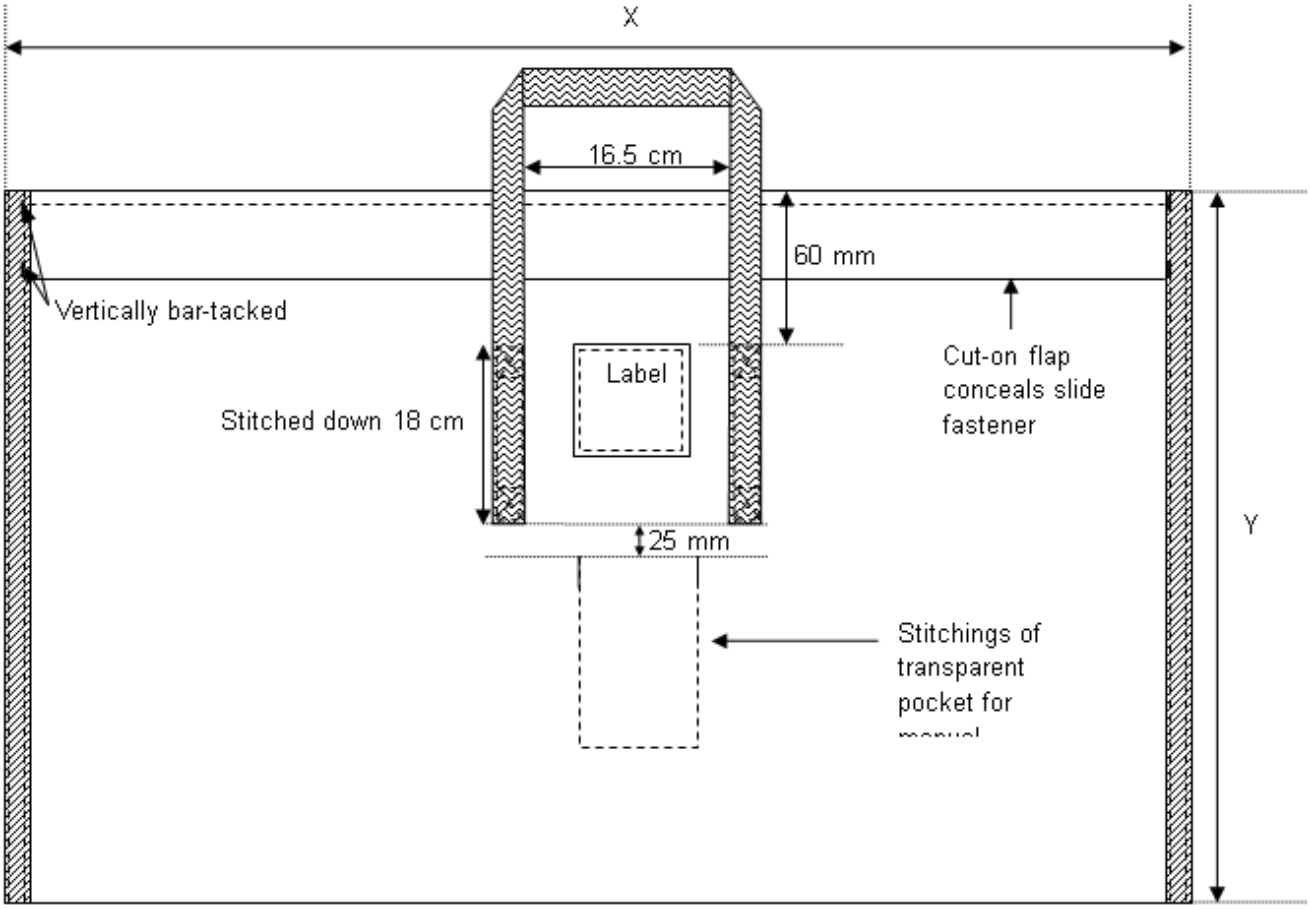


Figure 38 – Carry bag (see table 22)

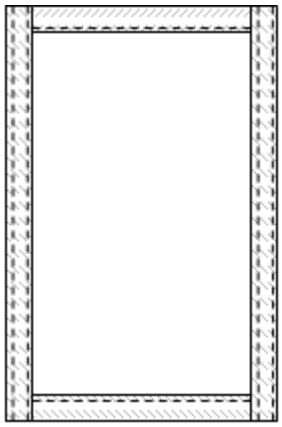


Figure 39 – Design of the inside transparent PVC pocket

10.4 User manual

- be printed on paperboard as given in paragraph 6.5
- be laminated on both sides (waterproof)
- be of length and width 12.7 cm x 75 mm respectively when folded
- be clearly printed with information as specified in **Annex E**
- provided information in legible and indelible block letters

- the letters shall be 1.5 mm for lower case and 2 mm for upper case
- layout to be as specified in **Annex F** (content of Annex F is given as an example, but actual content shall reflect the actual BRV details of this specification)

10.5 Assembly

Each full ensemble shall be as follows:

- a hard ballistic armour plate shall be inserted through the mouth opening of the front and back outer panels of the vest respectively
- a soft ballistic armour pack shall be inserted through the mouth openings positioned in the lining of the front and back outer panels of the vest respectively

11. Stitches, seams and stitching

All panels shall be overlocked prior to assembly, shoulder straps, hard ballistic armour plate pocket on carry bag, etc.

NOTE: It is recommended to use a heavy-duty walking foot sewing machine for the sewing of all soft ballistic textile material items.

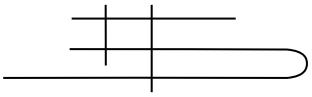
11.1 Stitches

Sewing: single needle lock stitch
Overlocking stitch: three of four thread overlocking stitch

11.2 Seams

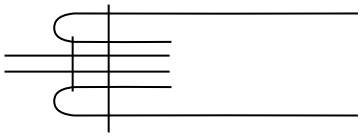
Seams to be least 10 mm wide (unless otherwise stated)

Attaching slide fastener: seam type SSak-2



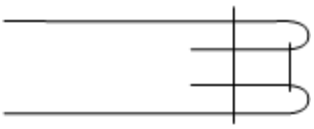
Superimpose a strip on the fold of a ply of material and seam with the appropriate number of rows of stitches.

Joining of shoulder and torso straps: seam type LSbp – 2



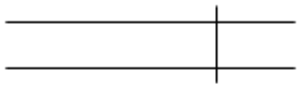
Superimpose two plies of material, insert a folded strip , and seam with one row of stitches. Then turn back each ply at the seam and seam through the folded edges with the appropriate number of rows of stitches.

Body outer edge seams: seam type SSe-2



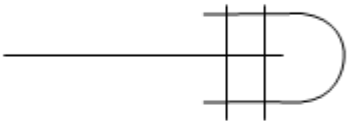
Form seam Type SSa-1, using two plies of material. Then turn back each ply at the seam and seam through the turned edges with the appropriate number of rows of stitches.

Main seams: seam type SSa-1



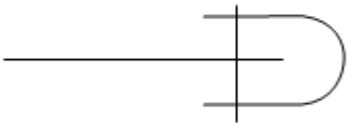
Superimpose two or more plies of material and seam with one row of stitches positioned at the specific distance(s) from the aligned edges.

Attachment of binding around carry bag seams: Seam type BSa-2 AFTER it has been stitched and overlocked



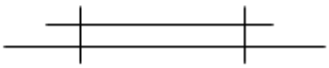
Fold a binding strip round the edge of a ply or plies of material and seam with the appropriate number of rows of stitches.

Attachment of binding around around the transparent pocket bag that houses the manual: 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.

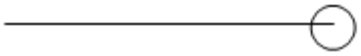
Attachment of touch and close fastener on front and back panels: seam type SSau-2



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

11.3 Stitchings

All raw edges: stitching type EFd



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

11.4 Number of stitches

The determination of sewing stitches per unit length will be done in accordance with SANS 5278 "Sewing stitches per unit length"

seaming and top stitching: 40 ± 4 per 10 cm
overlocking: 32 ± 4 per 10 cm
soft ballistic textile panels (Aramid): 14 ± 2 per 10 cm
bar tracks: 12 ± 1 per 1 cm

12. Qualification process

See Annex A.

13. Label and marking requirements

13.1 Outer vest label properties and markings

Each front and back outer panel shall include the following labels:

- label requirements
  - be white woven fabric labels that are printed in black and permanently secured
  - to comply with SANS 1309 " Printed labels for textiles"
  - label to outlast the vest
- printing requirements
  - information to be in legible and indelible block letters of height at least 3 mm
  - ink to comply with the requirements of SANS 432 "Indelible marking ink for textiles"
  - markings to outlast the vest
- label types
  - each front outer panel and each back outer panel shall display information on two types of labels, i.e. primary label and care-label
  - ***primary label***
    - to be a loop label
    - one side of the label shall be printed with the primary markings that comply with those given in Annex B-1, Figure B-1.1
    - the other side of the label shall be printed with the ballistic information as given in 9.3.1 and 9.3.2 in table format as per example given in Annex B-1, Figure B-1.2
    - with Item Control Numbers as given in table 27
  - ***care-instruction label***
    - to be a separate single label
    - to provide correct and appropriate care instructions in accordance with SANS10011 "Care-labelling of textile piece-goods, textile articles and clothing"
    - each label to include the composition of the main fabrics in accordance with the requirements of SANS 10235 "Fibre-content labelling of textiles and textile products"

- bottom edges of labels to be sewn together with the seam allowances on the INSIDE of the front and back outer panels
- labels to be attached along the bottom edge of the labels only, with the rest of the label loose and inside the vest
- labels shall not be visible when the mouth openings are closed

13.2 Hard ballistic armour plate markings

NOTE: *All records shall be kept for a minimum period of 10 years and copy thereof shall be submitted to the SAPS upon completion of the contract.*

Printing to comply with the following:

- printing shall be done on the body side of the plate
- printed information on the front plate shall be as given in Annex D-1
- printed information on the back plate shall be as given in Annex D-2
- information to be in legible and indelible block letters of height at least 3 mm, unless otherwise specified
- the sentence "THIS SIDE FACES THE BODY" shall be of height at least 10 mm
- printing colour shall be white and such that it shall outlast the plates
- to display the relevant Item Control Number as given in table 28

13.3 Soft ballistic armour pack markings

NOTE: *All records shall be kept for a minimum period of 10 years and copy thereof shall be submitted to the SAPS upon completion of the contract.*

13.3.1 Inner material of soft ballistic armour pack shall be as follows:

- each individual cut layer of the para-aramid fabric that forms part of the soft ballistic armour pack shall incorporate identifiable markings that shall display the following information, spaced and repeated in such a way that irrespective of the size of the cut layer, all information shall be visible:
  - Mass of fabric
  - Manufacturer's name or trade mark or both
  - Year of manufacture
- each individual cut layer of the para-aramid fabric that forms part of the soft ballistic armour pack shall have the lot and batch number screen printed on it
  - shall be boldly printed
  - the information shall be read clearly through the PVC casing after it has been sealed
  - markings to be such that it shall outlast the soft ballistic armour pack
- markings to also include a manufacturer's in-house generated numbering system for identification purposes which shall be traceable back to raw materials

13.3.2 Outer PVC casing of soft ballistic armour pack shall be identified as follows:

- be such that the markings shall outlast the soft ballistic armour packs
- printed information to be as given in Annex C
- information to be in legible and indelible letters of height at least 3 mm (lower case) and 5 mm (upper case), unless otherwise specified
- the sentence "THIS SIDE FACES THE BODY" shall be of height at least 10 mm
- the information shall be positioned approximately 70 mm below the centre back and centre front neck in the colours and correlating size as given in table 23
- to display the Item Control Numbers of the front or back soft ballistic armour pack (as relevant and as given in table 29 or 30)
- printed information to include a manufacturer's in-house generated numbering system for identification purposes which shall be traceable back to raw materials

Table 23 – Printing colours on outer PVC casing of soft ballistic armour packs

1	2	3	4	5	6	7	8
Small	**Medium**	**Large**	**X-Large**	**XX-Large**	**XXX-Large**	**4X-Large**	**5X-Large**
Light Blue	Olive Green	Signal Red	Black	Yellow	Brown	Purple	Royal Blue

13.4 Carry bag markings

Each carry bag shall include the following labels:

- label requirements
  - be white woven fabric labels that are printed in black and permanently secured
  - to comply with SANS 1309 " Printed labels for textiles"
  - label to outlast the bag
- printing requirements
  - information to be in legible and indelible block letters of height at least 3 mm
  - ink to comply with the requirements of SANS 432 "Indelible marking ink for textiles"
  - markings to outlast the bag
- label types
  - each bag shall have two sperate labels, i.e. primary labels and care-labels
  - ***primary label***
    - this label shall be sewn to the outside (face side) of the bag (see figure 38)
    - printed information to comply with those given in Annex B-2, figure B-2.1
    - to display the Item Control Numbers as given in table 26
    - to be of nominal size 90 mm x 14 cm
  - ***care-instruction label***
    - this label shall be sewn in with the edge binding tape along the side seam on the inside of the bag
    - each bag shall have a label that provides correct and appropriate care instructions in accordance with SANS10011 "Care-labelling of textile piece-goods, textile articles and clothing"
    - each label to include the composition of the main fabric in accordance with the requirements of SANS 10235 "Fibre-content labelling of textiles and textile products"

14. Packing, marking of packaging and delivery

14.1 Packing

NOTE: *If bullet resistant vests are ordered, the supplier shall supply the complete assembled body armour ensemble - consisting of an outer vest, removable front and back soft ballistic armour packs, two removable hard ballistic armour plates, an operating manual and a carry bag - unless otherwise specified in the order or contract*

14.1.1 If the complete body armour ensemble is ordered (ICNs as per table 26), the packaging shall comply with the following:

- delivered in a commercially dry condition
- packed per size in a carry bag (with correct colour binding/correct size) in such a way that they will not be damaged in transit or in storage
- then acceptably packed in a clear plastic bag of suitable size and shape

- the acceptably packed for transportation in acceptable bulk containers that comply with the requirements as given below
  - type and dimensions of the bulk containers to comply with those given in table 24
  - the number of complete body armour ensembles in a bulk container shall be the same until the last delivery and the total quantity per container must be verified in writing with SAPS Stores before delivery commences

Table 24 – Bulk container requirements

1	2	3
Contents inside bulk container	**Type of bulk container**	**Size of bulk container**
Bullet resistant vests in bag of the same colour and same size (i.e. all to have the same ICN) packed in a clear plastic bag	Standard commercially available bulk container (box)	Of such dimensions as to accommodate 6 or 7 complete body armour ensembles (given for guidance)

14.1.2 If only Hard Ballistic armour plates are ordered, packaging shall comply with the following:

- delivered in a commercially dry condition
- individually packed in a firm cushioned envelope to suitably protect them from dust and moisture to ensure that they will not be damaged in transit or in storage
- the plates shall then be packed into double walled cardboard boxes of dimensions 32 cm x 29 cm x 16 cm, containing a maximum of 7 plates per box

14.1.3 If soft ballistic armour packs, outer vests or carry bags are ordered individually (referred to as spares), the packaging for each component shall comply with the following:

- each item shall be individually packed in a plastic bag of suitable size and shape which shall be sealed (may be heat-sealed, sealed by means of adhesive tape, or be self-sealing bags etc.)
- the plastic bag shall have a sticker type label that shall be marked with the following information:
  - item description
  - item control number
  - batch or lot number
  - size designation
- then acceptably packed for transportation in acceptable bulk containers that comply with the requirements as given below
  - type and dimensions of the bulk containers to comply with those given in table 25
  - the number of items in a bulk container shall be the same until the last delivery and the total quantity per container must be verified in writing with SAPS Stores before delivery commences

Table 25 – Bulk container requirements

1	2	3
Contents inside bulk container	**Type of bulk container**	**Size of bulk container**
Items of the same type, same size, same colour (i.e. all to have the same ICN)	Standard commercially available coffin type containers (box) with a base and lid	Of such dimensions to accommodate contents with a mass that does not exceed 25 kg

14.2 Bulk container marking

In addition to the address for delivery, each bulk container shall be labelled with additional information on the four sides of the lids (outer component). The information shall be written or printed in legible and indelible block letters and the label shall be of minimum A4-paper size, and shall contain the following:

- order number
- size designation
- item control number (ICN)
- item description
- quantity in the box
- the colour
- number of box, e.g. 1 of 10
- manufacturer's name and/or trademark

14.3 Additional marking

When so required by the South African Police Service, Supply Chain Management, all body armour, carry bags, soft ballistic armour panels and PVC casing, hard ballistic armour plates, plastic bags or bulk containers (or any combination of these) to bear information additional to that specified above.

14.4 Documentation and delivery requirements

14.4.1 Documentation that shall accompany each delivery to SAPS stores:

One container of each consignment shall be marked "DOCUMENTS" and in addition to the physical contents of the bulk containers, shall contain the following:

- the packaging slip or delivery note;
- where applicable the inspection certificate(s);
- 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 Control Number, quantity, etc

14.4.2 Delivery requirements

14.4.2.1 Before the delivery can commence, the supplier needs to get a delivery appointment.

14.4.2.2 When the delivery takes place by the supplier or third-party courier service, the off-loading into the SAPS Store will be done by the supplier/courier by sorting all boxes size by size.

14.4.2.3 The supplier must within 10 working days after placement of order by the SAPS Stores submit a Delivery Schedule with the delivery dates and quantities to be delivered.

15. Item Control Numbers

Table 26 – Item Control Numbers for fully assembled body armour ensemble

NOTE: *The Item Control Numbers below shall be displayed on the outside label of the carry bag as relevant.*

1	2	3	4
SAPS Grey field-dress		**SAPS Black**	
Item Control Number	**Item description**	**Item Control Number**	**Item description**
8470T05093451	Vest, Bullet Resistant, Female, Light Weight, Grey, Complete, Size Small	8470T05093443	Vest, Bullet Resistant, Female, Light Weight, Black, Complete, Size Small
8470T05093452	Vest, Bullet Resistant, Female, Light Weight, Grey, Complete, Size Medium	8470T05093444	Vest, Bullet Resistant, Female, Light Weight, Black, Complete, Size Medium
8470T05093453	Vest, Bullet Resistant, Female, Light Weight, Grey, Complete, Size Large	8470T05093445	Vest, Bullet Resistant, Female, Light Weight, Black, Complete, Size Large
8470T05093454	Vest, Bullet Resistant, Female, Light Weight, Grey, Complete, Size XL	8470T05093446	Vest, Bullet Resistant, Female, Light Weight, Black, Complete, Size XL
8470T05093455	Vest, Bullet Resistant, Female, Light Weight, Grey, Complete, Size 2XL	8470T05093447	Vest, Bullet Resistant, Female, Light Weight, Black, Complete, Size 2XL
8470T05093456	Vest, Bullet Resistant, Female, Light Weight, Grey, Complete, Size 3XL	8470T05093448	Vest, Bullet Resistant, Female, Light Weight, Black, Complete, Size 3XL
8470T05093457	Vest, Bullet Resistant, Female, Light Weight, Grey, Complete, Size 4XL	8470T05093449	Vest, Bullet Resistant, Female, Light Weight, Black, Complete, Size 4XL
8470T05093458	Vest, Bullet Resistant, Female, Light Weight, Grey, Complete, Size 5XL	8470T05093450	Vest, Bullet Resistant, Female, Light Weight, Black, Complete, Size 5XL

Table 27 – Item Control Numbers for outer vest only (applicable to both front and back outer vest panels)

1	2	3	4
SAPS Grey field-dress		**SAPS Black**	
Item Control Number	**Item description**	**Item Control Number**	**Item description**
8470T05093500	Vest, Bullet Resistant, Female, Light Weight, Grey, Outer, Size Small	8470T05093492	Vest, Bullet Resistant, Female, Light Weight, Black, Outer, Size Small
8470T05093501	Vest, Bullet Resistant, Female, Light Weight, Grey, Outer, Size Medium	8470T05093493	Vest, Bullet Resistant, Female, Light Weight, Black, Outer, Size Medium
8470T05093502	Vest, Bullet Resistant, Female, Light Weight, Grey, Outer, Size Large	8470T05093494	Vest, Bullet Resistant, Female, Light Weight, Black, Outer, Size Large
8470T05093503	Vest, Bullet Resistant, Female, Light Weight, Grey, Outer, Size XL	8470T05093495	Vest, Bullet Resistant, Female, Light Weight, Black, Outer, Size XL
8470T05093504	Vest, Bullet Resistant, Female, Light Weight, Grey, Outer, Size 2XL	8470T05093496	Vest, Bullet Resistant, Female, Light Weight, Black, Outer, Size 2XL
8470T05093505	Vest, Bullet Resistant, Female, Light Weight, Grey, Outer, Size 3XL	8470T05093497	Vest, Bullet Resistant, Female, Light Weight, Black, Outer, Size 3XL
8470T05093506	Vest, Bullet Resistant, Female, Light Weight, Grey, Outer, Size 4XL	8470T05093498	Vest, Bullet Resistant, Female, Light Weight, Black, Outer, Size 4XL
8470T05093507	Vest, Bullet Resistant, Female, Light Weight, Grey, Outer, Size 5XL	8470T05093499	Vest, Bullet Resistant, Female, Light Weight, Black, Outer, Size 5XL

Table 28 – Item Control Numbers for hard ballistic armour plate only

1	2
Item Control Number	**Item description**
8470T05093524	Tile, Bullet Resistant Vest, Light Weight, Female, Front
8470T05093525	Tile, Bullet Resistant Vest, Light Weight, Unisex, Rear

Table 29 – Item Control Numbers for FRONT inner soft ballistic armour pack only

1	2
Item Control Number	**Item description**
8470T05093508	Vest, Bullet Resistant, Female, Light Weight, Inner Front, Size Small
8470T05093509	Vest, Bullet Resistant, Female, Light Weight, Inner Front, Size Medium
8470T05093510	Vest, Bullet Resistant, Female, Light Weight, Inner Front, Size Large
8470T05093511	Vest, Bullet Resistant, Female, Light Weight, Inner Front, Size XL
8470T05093512	Vest, Bullet Resistant, Female, Light Weight, Inner Front, Size 2XL
8470T05093513	Vest, Bullet Resistant, Female, Light Weight, Inner Front, Size 3XL
8470T05093514	Vest, Bullet Resistant, Female, Light Weight, Inner Front, Size 4XL
8470T05093515	Vest, Bullet Resistant, Female, Light Weight, Inner Front, Size 5XL

Table 30 – Item Control Numbers for BACK inner soft ballistic armour pack only

1	2
Item Control Number	**Item description**
8470T05093516	Vest, Bullet Resistant, Female, Light Weight, Inner Rear, Size Small
8470T05093517	Vest, Bullet Resistant, Female, Light Weight, Inner Rear, Size Medium
8470T05093518	Vest, Bullet Resistant, Female, Light Weight, Inner Rear, Size Large
8470T05093519	Vest, Bullet Resistant, Female, Light Weight, Inner Rear, Size XL
8470T05093520	Vest, Bullet Resistant, Female, Light Weight, Inner Rear, Size 2XL
8470T05093521	Vest, Bullet Resistant, Female, Light Weight, Inner Rear, Size 3XL
8470T05093522	Vest, Bullet Resistant, Female, Light Weight, Inner Rear, Size 4XL
8470T05093523	Vest, Bullet Resistant, Female, Light Weight, Inner Rear, Size 5XL

16. 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 that 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 the South African Bureau of Standards *.

AATCC method 20, *Fiber analysis: Qualitative*. *(*Available from World Wide Web http://www.aatcc.org/Technical/Test_Methods/scopes/tm20.cfm).

ASTM D570 – 98, *Standard Test Method For Water Absorption Of Plastics.*

ASTM D7269, *Standard Test Methods for Tensile Testing of Aramid Yarns.*

BS 3424-22, *Testing coated fabrics - Method 25. Methods for determination of fusion of PVC coatings and the state of cure of vulcanized rubber coatings.*

BS EN 12127, *Textiles. Fabrics. Determination of mass per unit area using small samples.*

BS EN 22286:1994, *Methods for the determination of length and width of a roll, net mass and mean mass per unit area of a piece, cut, roll or sample and the determination of thickness for coated fabrics.*

BS EN ISO 5084, *Textiles. Determination of thickness of textiles and textile products.*

BS EN ISO 6330, *Textiles. Domestic washing and drying procedures for textile testing.*

CKS 129, *Colours for textiles.*

EN 12242, *Touch and close fasteners. Determination of peel strength.*

EN 13780, *Touch and close fasteners - Determination of longitudinal shear strength.*

EN 16732, *Slide fasteners (zips). Specification.*

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

ISO/SANS 105-C10, *Textiles — Tests for colour fastness — Part C10: Colour fastness to washing with soap or soap and soda.*

ISO/SANS 105-E01, *Textiles - Tests for colour fastness - Part E01: Colour fastness to water.*

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

ISO/SANS 105-X12, *Textiles - Tests for colour fastness - Part X12: Colour fastness to rubbing.*

ISO 845, *Cellular plastics and rubbers — Determination of apparent density.*

ISO 1421, *Rubber- or plastics-coated fabrics — Determination of tensile strength and elongation at break.*

ISO 1856, *Flexible cellular polymeric materials — Determination of compression set.*

ISO 1798, *Flexible cellular polymeric materials — Determination of tensile strength and elongation at break.*

ISO 2060, *Textiles — Yarn from packages — Determination of linear density (mass per unit length) by the skein method.*

ISO 2286-3, *Rubber- or plastics-coated fabrics — Determination of roll characteristics Part 3: Method for determination of thickness.*

*** South African Bureau of Standards: Tel. +27 (0) 12 4287911**

ISO 3801, *Textiles – Woven fabrics – Determination of mass per unit length and mass per unit area.*

ISO 4920, *Textile fabrics – Determination of resistance to surface wetting (spray test).*

ISO 6330, *Textiles — Domestic washing and drying procedures for textile testing.*

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

ISO 9002, *Quality management system.*

ISO 9073-4, *Nonwovens — Test methods Part 4: Determination of tear resistance by the trapezoid procedure.*

NIJ 0101.04, *Ballistic resistance of personal body armour (National Institute of Justice – USA)*

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

SANS 85, *Thickness of wool fabrics.*

SANS 142, *Narrow elastic fabrics and strip.*

SANS 432, *Indelible marking ink for textiles*

SANS 960, *Textiles – Dimensional stability during washing and drying procedures.*

SANS 1309, *Printed labels for textiles*

SANS 1362, *Sewing threads*

SANS 1585:2008, *Coated fabrics for shelters and rainwear.*

SANS 1658:2025, *Ballistic resistance of body armour.*

SANS 1822, *Slide fasteners*

SANS 1823, *Touch and close fasteners*

SANS 1833-1/ISO 1833-1, *Textiles – Quantitative chemical analysis – Part 1: General principles of testing.*

SANS 1833-11/ISO 1833-11, *Textiles – Quantitative chemical analysis – Part 11: Mixtures of cellulose and polyester fibres (method using sulfuric acid).*

SANS 5278, *Sewing stitches per unit length.*

SANS 5330, *Mass per unit length of conditioned textile fabrics.*

SANS 5488, *Width of ribbons and other narrow fabrics.*

SANS 10011, *Care-labelling of textile and clothing*

SANS 10076-1, *The assessment of defects in textile piece-goods and made-up articles – Part 1: Defects in woven piece-goods (cellulosic and cellulosic blends).*

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

SANS 10371, *Terms and definitions for clothing*

SANS 11166, *Textiles - Colour fastness to domestic washing procedures.*

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

SAPS 10/2008, *Bar-coded labelling.*

SANS 13937-3/ISO 13937-3, *Textiles – Tear properties of fabrics – Part 3: Determination of tear force of wing-shaped test specimens (Single tear method).*

17. References

Pattern Reference No. SAPS 323358/25 Version 001

ANNEX A

(Normative)

QUALITY ASSURANCE PROVISION

A-1 GENERAL

The Inspection Authority shall be a SAPS appointed Inspection Authority.

A-2 QUALITY CONFORMANCE INSPECTION

A-2.1 Certificate of Compliance and trim charts

The appointed bidder manufacturing the Body Armour shall provide evidence that the product being supplied complies with the requirements of the specification. A file containing the items as listed below shall be prepared and submitted together with the pre-production samples to the SAPS/appointed Inspection Authority:

a) One trim chart per order, consisting of a swatch/sample of each component as given in section 6.

b) Test report/material certificate for each component listed in section 6.

c) The inhouse Quality Management Report

d) Copy of the CKS 129 Colour used, see Annex J (which can be obtained from SABS).

e) Copy of the calibration certificate of test equipment (see paragraph A-3.4)

A-2.2 Responsibility for Inspection

Unless otherwise specified in the contract or purchase order, the appointed bidder shall be responsible for the ballistic performance of all inspection requirements as specified herein. The appointed bidder shall use his own or any other facilities within the RSA suitable for the performance of the appointed inspection requirements specified herein, unless not approved by the SAPS or otherwise specified in the contract or purchase order.

Before acceptance, the body armour ensembles (or any part thereof, as relevant) shall have been inspected and tested by the inspecting authority and found to comply with the requirements of the specification.

The SAPS/appointed Inspection Authority reserves the right to perform any of the inspections as deemed necessary to assure supplies and services conform to prescribed requirements.

A-2.3 Responsibility for Compliance

The appointed bidder shall have in operation an integrated quality management system which shall assure that all items supplied in accordance with this specification, comply with it in all respects. The inspection and test requirements specified in this document shall also form part of the appointed bidder's quality management system. The successful bidder shall have his own inhouse integrated quality managements system (e.g. ISO 9002 or similar).

The appointed bidder shall inspect the finished body armour ensembles (or any part thereof, as relevant) for compliance with the specification before submitting them to the inspecting authority for final inspection.

The cost incurred for the assessment of pre-production samples will be for the appointed Inspection Authorities' account, with the provision that the submitted samples are approved and sealed by the appointed Inspection Authority. Should the pre-production samples and/or materials fail, all incurred costs will be for the appointed bidder's account.

A-2.4 Classification of Inspection

The inspection requirements specified herein are classified as follows:

a) Pre-production sample inspection
b) In-process quality conformance inspection

A-2.4.1 Pre-production Sample Inspection

In order to ensure that the complete body armour ensembles, or any part thereof, conform to the specified technical, operational and safety requirements prior to full-scale production, the appointed bidder shall submit a minimum of one complete pre-production vest sample, per size and configuration, as specified in the contract to the appointed Quality Inspection Authority. The sample must be representative of the final production, including all materials, stitching, labelling, closures and ballistic inserts, as well as in terms of the proposed bullet-resistant vest design, materials, workmanship, and ballistic performance.

A-2.4.2 In-process Quality Conformance Inspection

The appointed Inspection Authority shall, during normal working hours, be given all reasonable facilities, for carrying out his duties and shall have the right of entry into the appointed bidder's factory and the factory or works of any subcontractor where work on body armour ensembles, or any part thereof, supplied to this specification may be in process.

A-3 QUALIFICATION PROCESS

A-3.1 Ballistic components

A-3.1.1 Hard Ballistic Armour plates

A sample shall be selected from every 100 plates being presented for release and will constitute a test batch. Should this sample be successful, the batch will be accepted. In the event of a failure, an additional two samples shall be selected from the same test batch for re-testing. If one of the additional samples fails, the test batch of hard armour plates will be rejected. Should both samples be successful, the test batch will be accepted.

A-3.1.2 Soft Ballistic Armour Packs

Front soft ballistic armour pack: One soft ballistic armour pack shall be taken for every 50 vests being manufactured.
Back soft ballistic armour pack: One soft ballistic armour pack shall be taken for every 100 vests being manufactured.

The appointed bidder shall be responsible for ensuring that enough soft ballistic armour packs are tested to represent one front soft ballistic armour pack for every 50 vests manufactured and one back soft ballistic armour pack for every 100 vests manufactured. The appointed bidder shall only supply the sealed soft ballistic armour packs and not the outer vests for qualification. Should the test be successful, the lot/batch of material will be accepted. In the event of a failure, an additional two samples will be selected from the same lot/batch. If one of the additional samples fails, the lot/batch of material will be rejected. Should both samples be successful, the lot/batch of material will be accepted.

A-3.2 Lower and Higher Velocities

Lower velocities: Should velocities be under the required minimum velocity, the average will be calculated for this particular test. Should the average fall below the minimum specified requirement, the test must be repeated.

Higher velocities: Should velocities in a particular test be higher than the maximum required velocity and a penetration occur, the test must be repeated (unfair shot).

A-3.3 Sampling process

A sample will be selected from a delivery lot/batch being presented for release. Ballistic test results shall be available for that sample.

Qualification standards

SANS 1658:2025/ NIJ 0101.04 shall be applicable for testing of soft ballistic armour packs.

SANS 1658: 2025 shall be applicable for testing method of hard ballistic armour plates.

A-3.4 Calibration of Test Equipment

The appointed bidder shall have in his possession all the applicable test equipment to conduct the necessary test. The appointed bidder shall be responsible to prove to the SAPS/ appointed Inspecting Authority - before any testing may commence - that the test equipment has been calibrated **within the past twelve months**. An updated calibration certificate must be available. The calibration certificate must be issued by an accredited institution. None of the defects listed in Table 31 shall be allowed/accepted.

Table 31 – Listed defects (None of the following defects shall be accepted)

EXAMINE	DEFECTS	CLASSIFICATION	
		MAJOR	MINOR
All Fabric, material and trimmings	Any hole, cut, tear, smash or broken or missing yarn		X
	Any abrasion marks		X
	Deviation from specification	X	
Touch and close fastener	Any cut, hole or tear	X	
	Missing hooks	X	
	Hooks flattened	X	
	Not positioned according to specification (Straps, front of garment), but functional		X
	Not positioned according to specification (Straps, front of garment), but NON functional	X	
Webbing and herringbone tape	Any hole, cut or tear	X	
	Frayed scalloped edges, not firmly of tightly woven		X
	Ends not fused	X	
	Cut, chafed, abraded, or otherwise damaged affecting serviceability	X	
	Incorrect colours on carry bags	X	
Open seams	A seam shall be classified as an open seam when one or more stitches joining a seam are broken, or when two or more consecutive skipped or runoff stitches occur. (An open seam shall be back tacked at least 15 mm in each direction beyond defective stitching area.)	X	
Run-offs	More than 1 mm	X	
	Less than 1 mm		X
Raw edges (except where required)	Raw edges not securely caught in stitching shall be classified as open seams	X	
Seam and stitch type	Wrong seam or stitch type – not affecting serviceability		X
	Wrong seam or stitch type – affecting serviceability	X	
Stitching	Loose, resulting in loose bobbin or top thread;	X	
	Tight, resulting in not unacceptable tightness or puckering of fabric on seams		X
Stitch count per mm	One stitch less than minimum specified	X	
	One stitch in excess of maximum specified		X
	Two or more stitches in excess of maximum specified	X	
Stitching ends	Not backstitched as specified except where ends are turned under in a hem or held down by other stitching	X	
Thread breaks	Less than 25 mm backstitching in each direction beyond defective stitching area	X	
Cleanness	Noticeable grease or oil stains	X	
	Thread ends not trimmed throughout		X

EXAMINE	DEFECTS	CLASSIFICATION	
		MAJOR	MINOR
Components and assembly	Any component or required operation omitted (unless otherwise classified herein)	X	
Hems	Needle chews	X	
	Seams pleated or badly puckered	X	
Pockets	Hard ballistic plate pocket set off position by more than 5 mm.	X	
	Pocket not formed as specified – not affecting serviceability – includes Pocket Mouth Hem, double folding		X
	When the hard ballistic plate is fitted into the pocket bag, the bag is too small, too deep or if the ballistic plate shifts more than 15 mm from side to side after insertion.	X	
Reinforcement	Omitted or misallocated	X	
Ends of shoulder and torso straps	Not turned under and sewn as specified	X	
	Not square		X
Marking (Applies to all marking, including serial numbers and Aramid Lot Batch numbers)	Omitted, incorrect, illegible misplaced or size of characters too small	X	
	Label positioning deviating from specification. (not correctly positioned as per specification)		X
User Manual	Omitted, illegible, or type and class not specified or incorrect	X	
Ballistic panels Protective PVC	PVC heat seal not correct	X	
	PVC not to specification or cut/shaped incorrectly to pattern	X	
	PVC material not waterproof	X	
	Any hole, cut or tear in PVC	X	
	Aramid Lot and Batch number omitted or not written or printed legibly on either aramid material or PVC	X	
Seams	Not to specification	X	
	Edge stitching missing or incorrectly applied		X
	Any open seam	X	
Hard armour plates	Plates not to specified size and weight.	X	
	The plates shall have none of the following: - Burrs - Sharp edges - Air holes - Poor finish lamination - No bonding to base plate	X	

EXAMINE	DEFECTS	CLASSIFICATION	
		MAJOR	MINOR
Sizing – garment and Carry bag	Deviating more than 10 mm allowed tolerance (unless where otherwise indicated in specification)	X	
Carry bag	Width between handle straps not to specification		X
Complete vest and carry bag	Raw material not overlocked	X	

Examination for major and minor defects shall be performed on a class basis in accordance with above mentioned table.

Acceptance:

The acceptance quality level (AQL) for the Major class shall be 0.65% and for the Minor class 15%.

- All deviations from specification shall be recorded on a concession/deviation form.
- defects classified as major shall be approved by the client. Defects classified as minor may be approved by the Quality Assurance Representative of the client and shall be forwarded to the client for notification.
- If no corrective action is taken by the Appointed bidder on defects classified as minor and they persistently reoccur, the Quality Assurance Representative has the right to reject the vests and refer the issue to the Client.

ANNEX B-1

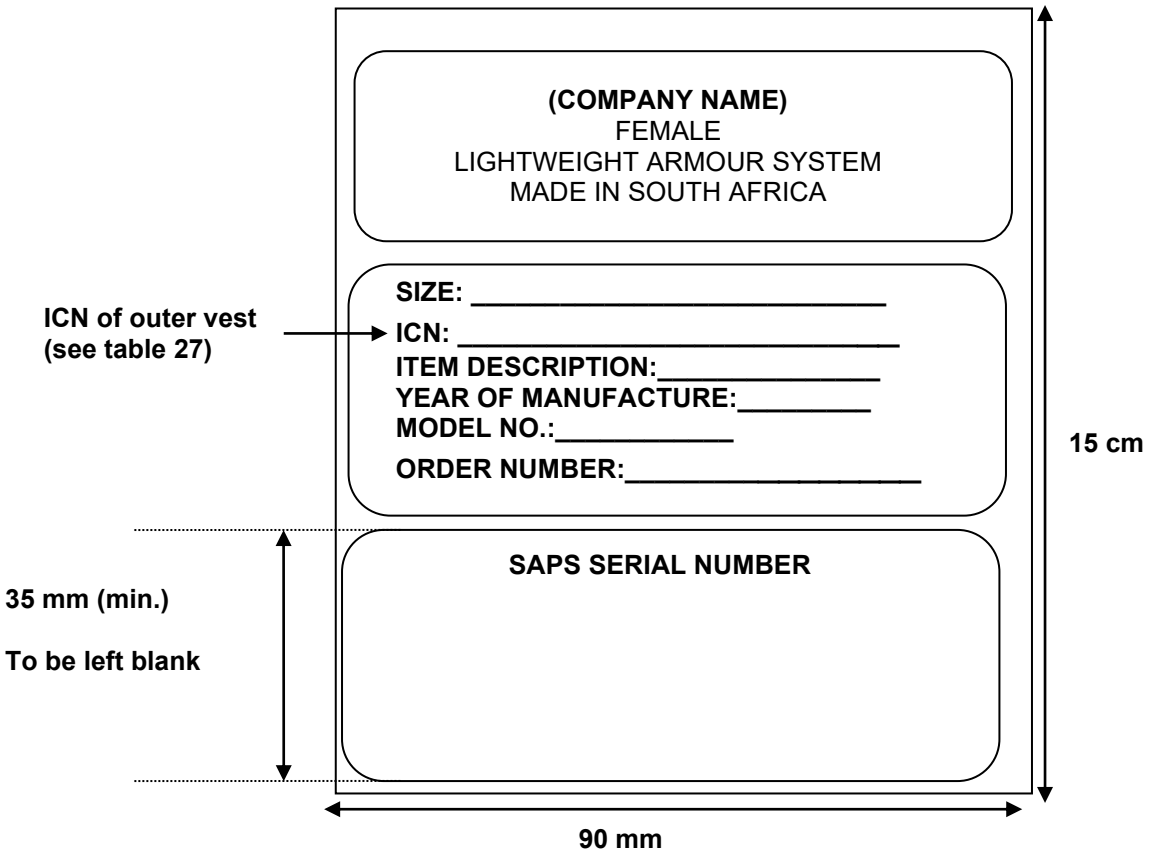
(Normative)

LABELS ON FRONT AND BACK OUTER PANELS

FIGURE B-1.1: LOOP LABEL

PRIMARY MARKINGS ON FACE SIDE OF LABEL

NOTE: This loop label shall be sewn to the inside of both outer vest panels.



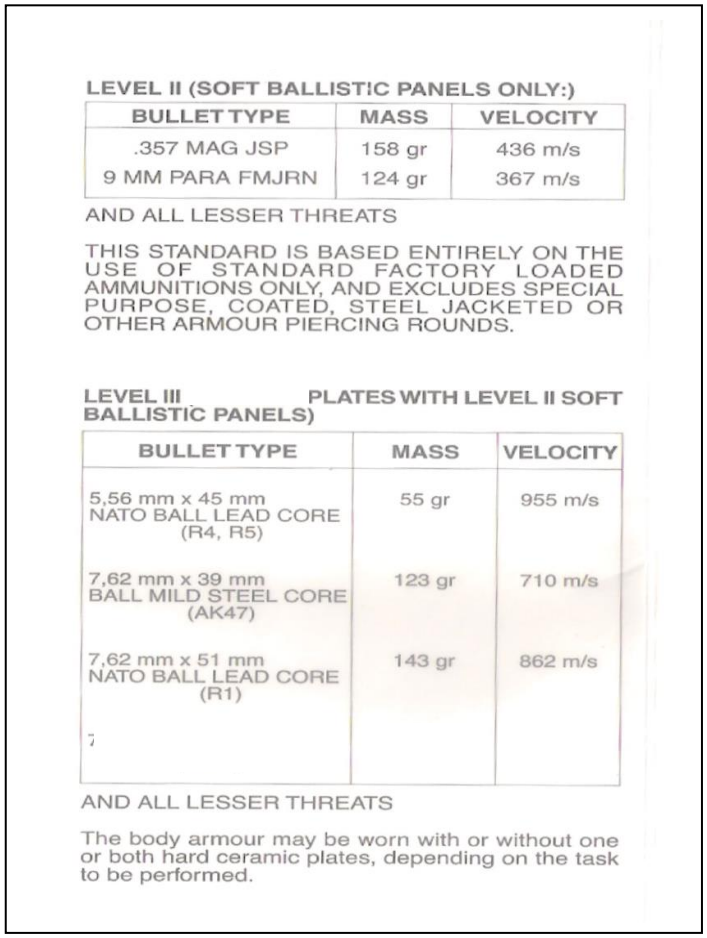
NOTE: The folded length given above includes the seam allowance at the bottom of the label.

LABELS ON FRONT AND BACK OUTER PANELS (continued)

FIGURE B-1.2: LOOP LABEL (continued)

BALLISTIC MARKINGS ON UNDERSIDE OF LABEL FOR FRONT AND BACK OUTER PANELS

NOTE: Content below to serve as example only – information to match the ballistic requirements of this specification.



LEVEL II (SOFT BALLISTIC PANELS ONLY:)

BULLET TYPE	MASS	VELOCITY
.357 MAG JSP	158 gr	436 m/s
9 MM PARA FMJRN	124 gr	367 m/s

AND ALL LESSER THREATS

THIS STANDARD IS BASED ENTIRELY ON THE USE OF STANDARD FACTORY LOADED AMMUNITIONS ONLY, AND EXCLUDES SPECIAL PURPOSE, COATED, STEEL JACKETED OR OTHER ARMOUR PIERCING ROUNDS.

LEVEL III PLATES WITH LEVEL II SOFT BALLISTIC PANELS)

BULLET TYPE	MASS	VELOCITY
5,56 mm x 45 mm NATO BALL LEAD CORE (R4, R5)	55 gr	955 m/s
7,62 mm x 39 mm BALL MILD STEEL CORE (AK47)	123 gr	710 m/s
7,62 mm x 51 mm NATO BALL LEAD CORE (R1)	143 gr	862 m/s

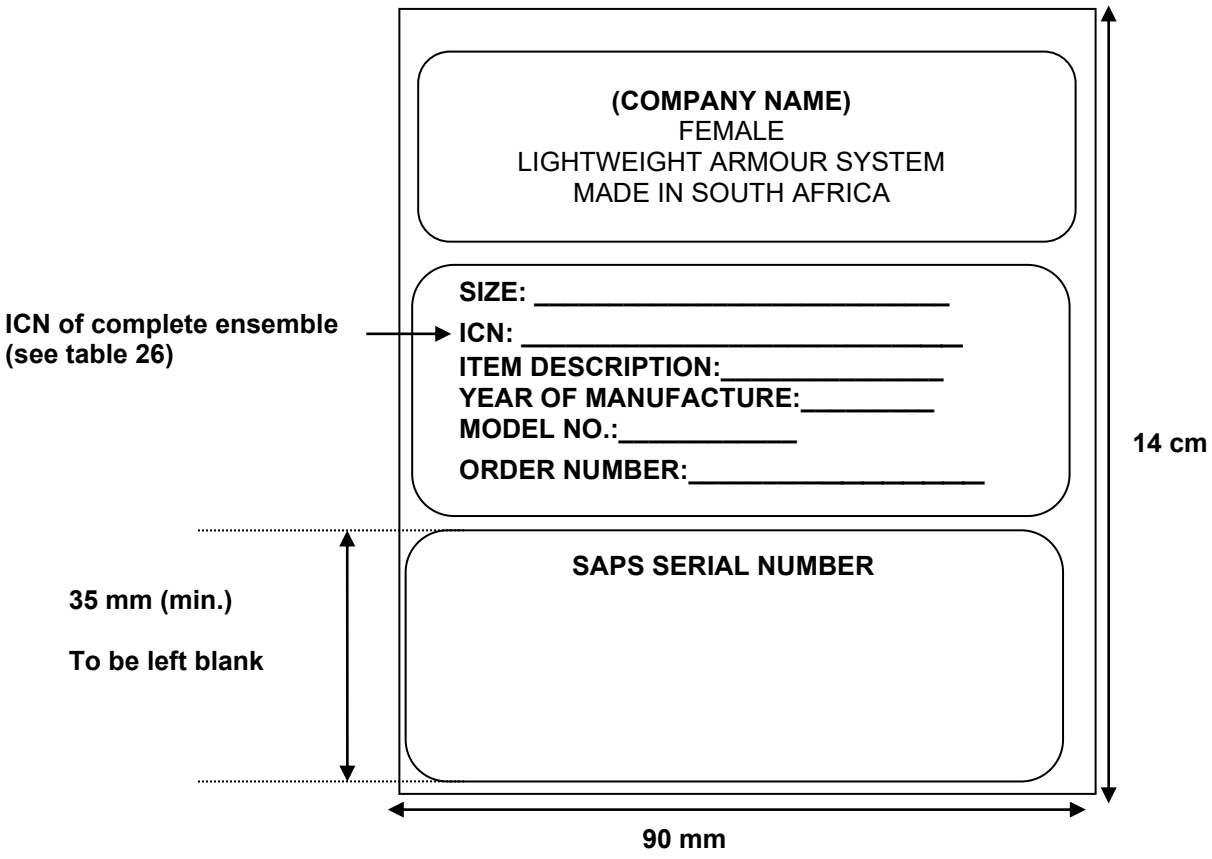
AND ALL LESSER THREATS

The body armour may be worn with or without one or both hard ceramic plates, depending on the task to be performed.

ANNEX B-2

FIGURE B-2.1: PRIMARY MARKINGS ON LABEL OF CARRYBAG

NOTE: This label shall be sewn to the outside of the carry bag



ANNEX C

(Normative)

MARKINGS ON SOFT BALLISTIC ARMOUR PACKS

FEMALE

FRONT/BACK							
SMALL	MEDIUM	LARGE	X-LARGE	2X-LARGE	3X-LARGE	4X-LARGE	5X-LARGE

NOTE: Only indicate the application information, e.g. : "**FEMALE** Back Medium" or "**FEMALE** front 3X-Large"

BALLISTIC CATEGORY FOR SOFT BALLISTIC ARMOUR PACKS

THIS ARMOUR PANEL IS DESIGNED TO STOP THE FOLLOWING:

BULLET TYPE MASS VELOCITY

INSERT INFORMATION AS SPECIFIED IN PARAGRAPH 9.3.1

AND ALL LESSER THREATS.

SPECIAL-PURPOSE, ARMOUR-PIERCING OR OTHER NON-STANDARD FACTORY AMMUNITIONS ARE EXCLUDED.

CARE INSTRUCTIONS

THE OUTER COVER OF THIS ARMOUR PACK HAS BEEN HEAT SEALED TO KEEP MOISTURE OUT. PLEASE HANDLE WITH CARE AND DO NOT CUT OR PUNCTURE IN ANY WAY. CLEAN SIMPLY BY WIPING WITH DAMP CLOTH. DO NOT MACHINE WASH OR DRY-CLEAN OR IMMERSE IN WATER OR CLEANING LIQUID.

DATE OF MANUFACTURER:

MANUFACTURER'S NAME OR TRADE MARK

LOT AND BATCH NO:

"THIS SIDE FACES BODY" (bold, uppercase large font)

FOR: SOUTH AFRICAN POLICE SERVICE

ICN: see tables 29 & 30

SERIAL NUMBER:

THE REGISTERED SAPS STAR

ANNEX D-1

(Normative)

MARKINGS ON FRONT HARD BALLISTIC ARMOUR PLATES

FEMALE

FRONT

BALLISTIC CATEGORY FOR HARD BALLISTIC ARMOUR PLATES

IF USED CORRECTLY WITH THE APPROPRIATE SOFT BALLISTIC ARMOUR PACK, THIS PLATE WILL PROVIDE PROTECTION AGAINST THE FOLLOWING:

BULLET TYPE	MASS	VELOCITY
INSERT INFORMATION AS SPECIFIED IN PARAGRAPH 9.3.2.		

AND ALL LESSER THREATS.

CAUTION

1. THIS PLATE IS NOT INTERCHANGEABLE IN ANY OTHER BODY ARMOUR.
2. THIS PLATE WILL NOT PROVIDE THE NECESSARY PROTECTION ON ITS OWN. ALWAYS USE WITH THE CORRECT SOFT BALLISTIC ARMOUR PACK.

MODEL:

DATE OF MANUFACTURER:

MANUFACTURER'S NAME OR TRADE MARK

BATCH NO:

"THIS SIDE FACES BODY" (bold, uppercase large font)

FOR: SOUTH AFRICAN POLICE SERVICE

ICN: see table 28

SERIAL NUMBER:

THE REGISTERED SAPS STAR

NOTE: *A WHITE BLOCK SHALL BE PRINTED AND LEFT BLANK TO MAKE PROVISION FOR THE SAPS SERIAL NUMBER. MINIMUM DIMENSIONS OF WHITE BLANK BLOCK TO BE: 35 mm x 10 mm*

ANNEX D-2

(Normative)

MARKINGS ON BACK HARD BALLISTIC ARMOUR PLATES

BACK (UNISEX)

BALLISTIC CATEGORY FOR HARD BALLISTIC ARMOUR PLATES

IF USED CORRECTLY WITH THE APPROPRIATE SOFT BALLISTIC ARMOUR PACK, THIS PLATE WILL PROVIDE PROTECTION AGAINST THE FOLLOWING: BULLET TYPE MASS VELOCITY *INSERT INFORMATION AS SPECIFIED IN PARAGRAPH 9.3.2.* AND ALL LESSER THREATS.

CAUTION

1. THIS PLATE IS NOT INTERCHANGEABLE IN ANY OTHER BODY ARMOUR. **2.** THIS PLATE WILL NOT PROVIDE THE NECESSARY PROTECTION ON ITS OWN. ALWAYS USE WITH THE CORRECT SOFT BODY ARMOUR.

MODEL:

DATE OF MANUFACTURER:

MANUFACTURER'S NAME OR TRADE MARK

BATCH NO:

"THIS SIDE FACES BODY" (bold, uppercase large font)

FOR: SOUTH AFRICAN POLICE SERVICE

ICN: see table 28

SERIAL NUMBER:

THE REGISTERED SAPS STAR

NOTE: *A WHITE BLOCK SHALL BE PRINTED AND LEFT BLANK TO MAKE PROVISION FOR THE SAPS SERIAL NUMBER. MINIMUM DIMENSIONS OF WHITE BLANK BLOCK TO BE: 35 mm x 10 mm*

ANNEX E

(Normative)

FEMALE

LIGHTWEIGHT ARMOUR SYSTEM

USER MANUAL

READ THESE INSTRUCTIONS CAREFULLY – THIS ARMOUR MAY SAVE YOUR LIFE!

MODEL:
BODY ARMOUR, BULLET RESISTANT
YEAR OF MANUFACTURE:

1. General

1.1 INTRODUCTION

This body armour is manufactured from extensively tested and proven ballistic material. Pocket mouth openings are provided on the front and rear outer garments to accommodate additional hard armour plates. The complete body armour unit consists of the following parts:

1. Front outer panel of vest
2. Rear outer panel of vest
3. Front soft ballistic armour pack
4. Rear soft ballistic armour pack
5. Front hard ballistic armour plate
6. Back hard ballistic armour plate
7. Carry bag
8. User manual

1.2 SIZE RANGE

This model is available in sizes Small to 5X-Large.

1.3 PROTECTION LEVELS

This vest is rated in accordance with SANS 1658:2025/ NIJ 0101.04 for ballistic test methods and conditioning for soft ballistic panels and hard armour plates. The soft armour units will provide protection against most local encountered handgun threats and the addition of the hard armour plates will increase the protection level to also provide protection against rifle threats.

Details as follow:
WHEN ONLY SOFT BALLISTIC ARMOUR PACKS ARE USED, PROTECTION WILL BE PROVIDED AGAINST THE FOLLOWING THREATS:

BULLET TYPE	**MASS**	**VELOCITY**
INSERT AND LIST INFORMATION AS SPECIFIED IN PARAGRAPH 9.3.1		
AND ALL LESSER THREATS		

THIS STANDARD IS BASED ENTIRELY ON THE USE OF STANDARD FACTORY-LOADED AMMUNITION ONLY, AND EXCLUDES SPECIAL-PURPOSE, COATED, STEEL-JACKETED OR OTHER ARMOUR-PIERCING ROUNDS.

WHEN HARD BALLISTIC ARMOUR PLATE IS USED TOGETHER WITH THE SOFT BALLISTIC ARMOUR PACKS, THIS PLATE WILL PROVIDE PROTECTION AGAINST THE FOLLOWING THREATS:

BULLET TYPE	**MASS**	**VELOCITY**
INSERT AND LIST INFORMATION AS SPECIFIED IN PARAGRAPH 9.3.2		
AND ALL LESSER THREATS		

2. WARNING

2.1 **DO NOT** attempt to prove the effectiveness of the body armour.

2.2 Always remember that the body armour will only protect that part of the body which it covers.

2.3 Wearing the body armour will not make you immune to injury.

2.4 Treat and handle this equipment with extreme care and respect.

2.5 Your best protection is **CAUTION.**

2.6 **BLUNT TRAUMA:** While the correct level of protection will prevent a bullet from penetrating the body, the tissue surrounding the impact point receives a hammer-like blow that may cause bruising and lacerations.

2.7 The covered multi-curved plate shall be capable of stopping ammunition types specified for hard ballistic plates in par. 1.3, provided shots do not superimpose on previous shots and are fair shots. A fair shot is defined as not nearer than 50 mm from an edge, and not closer than 100 mm from each other. (Measurements from centre of point of impact.)

3. WEARING INSTUCTIONS

3.1 The hard armour plates must be inserted with the curve of the plates aligning with the body. Make sure that the plates are secured correctly**.**

3.2 When not in use, the body armour is to be stored in the carry bag, away from heat sources, direct sunlight or damp conditions.

4. CLEANING INSTRUCTIONS

4.1 Remove the soft ballistic units from the outer vest.

4.2 The outer vest can be hand washed or machine washed at medium settings.

4.3 Allow to air dry.

4.4 The soft ballistic units can be cleaned with a damp cloth. Merely wipe clean. Refer to instructions on the panels.

4.5 **DO NOT** dry-clean any part of this garment.

4.6 Always ensure that the touch and close fastenings are kept clean and free of dirt.

5. REPLACEMENT

5.1 Exchange your body armour at stores if:

a) Outer cover is torn or damaged

b) side or shoulder straps are damaged

c) Soft ballistic armour pack's waterproof coverings are torn or damaged

d) Hard ballistic armour plates are cracked or damaged

e) When the armour sustained any shots

6. INDEMNITY

If not used correctly, the manufacturer and Purchasing Authority shall not be responsible for any death, injury or damages suffered by the wearer of this equipment.

ANNEX F

(Normative)

Layout of user manual

Note: Content below to serve as example only.

Manual inside

1. **BRAND MODEL:**
SAPS G.P.V.

2. **GENERAL:**

2.1. **Introduction:** This body armour is manufactured from extensively tested and proven ballistic materials. Pockets are provided on the front and rear outer garment to accommodate additional ceramic plates. The complete body armour unit consists of the following parts:

1. Front ballistic panel.
2. Rear ballistic panel.
3. Front outer garment.
4. Rear outer garment.
5. Two ceramic plates.
6. Carry bag.

2.2. **Size range and item codes:** This model is available in the following sizes:

SIZE	CHEST MEASUREMENTS IN CM
Small	87 - 92
Medium	97 - 102
Large	107 - 112
X-Large	117 - 122
2X-Large	127 - 132
3X-Large	137 - 142
4X-Large	147 - 152
5X-Large	157 - 162

2.3. **Protection levels:** This body armour is rated according to the internationally accepted Standard NIJ0101.04 for ballistic testing and test procedures for soft ballistic panels and ceramic plates. The SOFT BALLISTIC PANEL only affords LEVEL II protection. Addition of the hard ceramic plates increases protection to LEVEL III.

FOLDLINE

Details as follows:

LEVEL II (SOFT BALLISTIC PANELS ONLY:)

BULLET TYPE	MASS	VELOCITY
.357 MAG JSP	158 gr	436 m/s
9 MM PARA FMJRN	124 gr	367 m/s

AND ALL LESSER THREATS

THIS STANDARD IS BASED ENTIRELY ON THE USE OF STANDARD FACTORY LOADED AMMUNITIONS ONLY, AND EXCLUDES SPECIAL PURPOSE, COATED, STEEL JACKETED OR OTHER ARMOUR PIERCING ROUNDS.

LEVEL III (CERAMIC PLATES WITH LEVEL II SOFT BALLISTIC PANELS)

BULLET TYPE	MASS	VELOCITY
5,56 mm x 45 mm NATO BALL LEAD CORE (R4, R5)	55 gr	955 m/s
7,62 mm x 39 mm BALL MILD STEEL CORE (AK47)	123 gr	710 m/s
7,62 mm x 51 mm NATO BALL LEAD CORE (R1)	143 gr	862 m/s

AND ALL LESSER THREATS

The body armour may be worn with or without one or both hard ceramic plates, depending on the task to be performed.

FOLDLINE

3. **WARNING:**

3.1 DO NOT attempt to prove the effectiveness of the body armour.

3.2 Always remember that the body armour will only protect the part of the body which it covers.

3.3 Wearing the body armour will not make you immune to injury.

3.4 Treat and handle this equipment with extreme care and respect.

3.5 Your best protection is CAUTION.

3.6 **BLUNT TRAUMA:** While the correct level of protection will prevent a bullet from penetrating the body, the tissue surrounding the impact point receives a hammerlike blow that may cause bruising and lacerations.

3.7 The covered multicurved plate shall be capable of stopping ammunition types specified for ceramic plates in para 2.3, provided shots do not superimpose on previous shots and are fair shots. A fair shot is defined as not nearer than 50mm from an edge, and not closer than 100mm from each other (measurement from centre of point of impact).

4. **WEARING INSTRUCTIONS:**

4.1 The hard ceramic plates must be inserted with the curve of the plates aligning with the body. Make sure that the plates are secured correctly.

4.2 When not in use the body armour is to be stored in the carry bag, away from heat sources, direct sunlight or damp conditions.

Manual outside

5. **CLEANING INSTRUCTIONS:**

5.1 Remove the soft ballistic panels from the outer garment.

5.2. The outer garment can be hand or machine washed at medium settings.

5.3 Allow to air dry.

5.4 The soft ballistic panels can be cleaned with a damp cloth. Merely wipe clean. Refer to instructions on the panels.

5.5 DO NOT Dry clean any part of this garment.

5.6 Always ensure that the velcro fastenings are kept clean and free of dirt.

6. **REPLACEMENT:**

6.1 Exchange your body armour at the stores if:

a) Outer cover is torn or damaged.

b) Side or shoulder straps are damaged.

c) Ballistic panel waterproof coverings are torn or damaged.

d) Hard ceramic plates are cracked or damaged.

7. **INDEMNITY:**

If not used correctly the manufacturer and purchasing authority shall not be responsible for any death, injury or damages suffered by the wearer of this equipment.

Formatt ☎ 011-452-7070 (ALL 0006 002)

Trade name

GENERATION II LIGHTWEIGHT ARMOUR SYSTEM

Made in SOUTH AFRICA

USER'S MANUAL

READ THESE INSTRUCTIONS CAREFULLY - THIS ARMOUR MAY SAVE YOUR LIFE!

MODEL: SAPS G.P.V.
VEST, BULLET RESISTANT

YEAR OF MANUFACTURE: 2008

ANNEX G

(Normative)

Shape of front hard ballistic armour plates

Figure G-1: FRONT PLATE - Strike face side

Figure G-2: FRONT PLATE - Underside [2]

Figure G-3: FRONT PLATE - Top view

Figure G-4: FRONT PLATE – Bottom view

[2] The markings in figure G-2 serves as an example only and the plate shall display the ballistic information as specified in this specification.

Figure G-5: FRONT PLATE - Side view

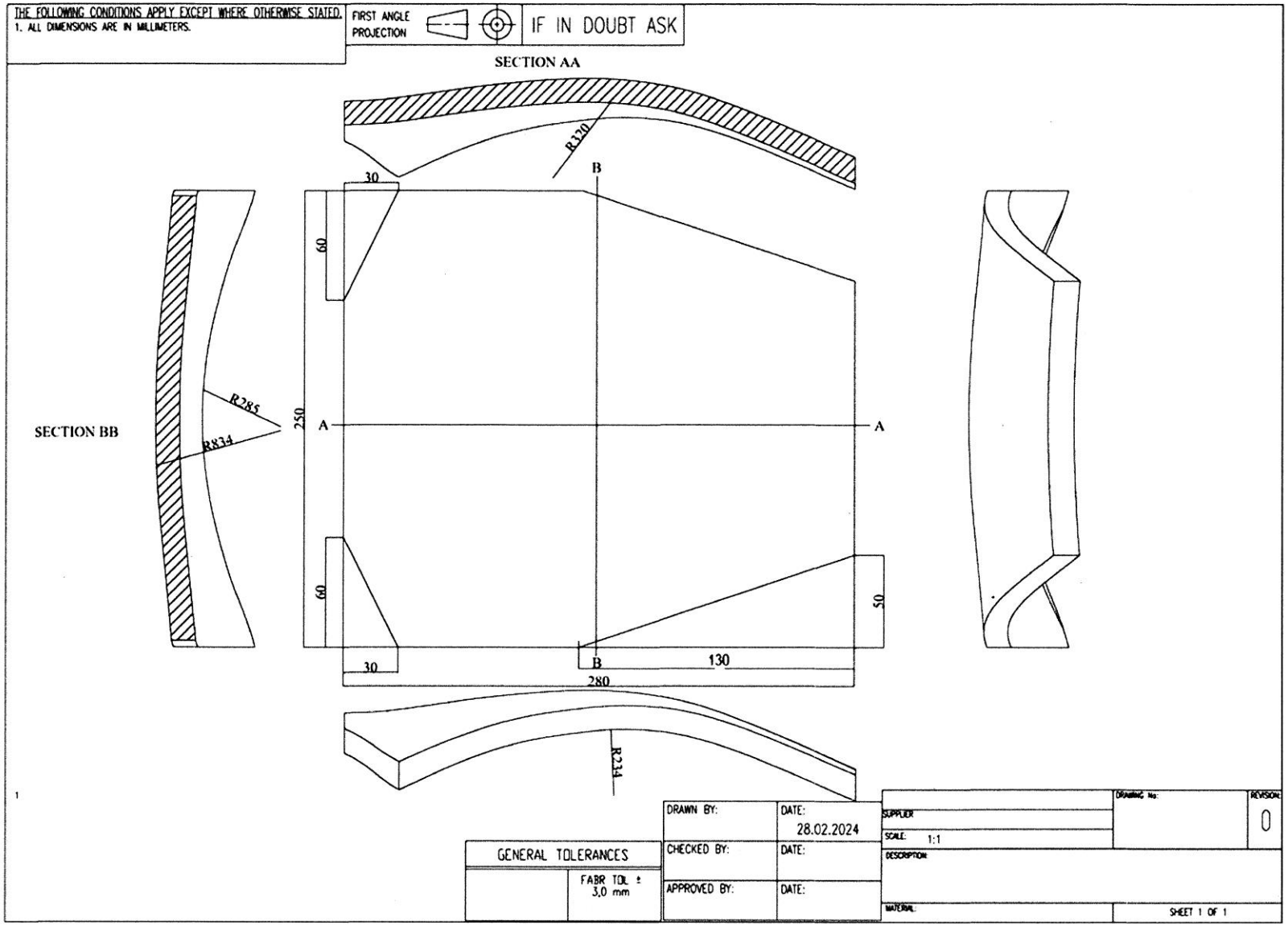


Figure G-6: FRONT PLATE – Technical illustration

ANNEX H

(Normative)

Shape of back hard ballistic armour plates

Figure H-1: BACK PLATE - Strike face side

Figure H-2: BACK PLATE - Underside[3]

Figure H-3: BACK PLATE - Top view

Figure H-4: BACK PLATE - Bottom view

[3] The markings in figure H-2 serves as an example only and the plate shall display the ballistic information as specified in this specification.

Figure H-5: BACK PLATE – Side view

ANNEX I

(Normative)

Alternative Touch and Close fastener performance requirements

1	2	3
Property	**Requirement**	**Test method** (unless otherwise indicated)
Peeling force after 1 x opening and closing, N/cm width	2.3 (±1)	EN 12242
Peeling force after 10 000x opening and closing, N/cm width, min.	0.65	EN 12242
Sheering force after 1 x opening and closing, N/cm^2	10.0 (±4)	EN 13780
Sheering force after 10 000 x opening and closing, N/cm^2, min.	3.0	EN 13780
Breaking force, Lengthwise, N/cm, min	200	EN 13780[a]
Extension before breaking, Lengthwise, %, min. .	35	EN 13780[a]
Shrinkage, %, max. Hook ..... Loop.....	 2 2	ISO 6330
Colour fastness to: Light, rating, min.	 5	 ISO 105-B02
Water and seawater, rating, min. ..... Washing, 60 °C..... Perspiration..... Rubbing, Wet and Dry.....	4 4-5 4 4-5	ISO 105-E01 ISO 105-C10 ISO 105-E04 ISO 105-X12
[a] Tested in a standard temperature atmosphere of 20°C (±2°C) and a relative humidity of 65% (±2%).		

ANNEX J

(Normative)

Textile Colour Registrations

Due to the fact that colours can change over a period of time, any colour standard which has been registered for a period of SEVEN YEARS or more shall be considered obsolete. These standards shall then be allocated an archived status (as opposed to current status) and re-registration shall be required.

Before fabric is sent to the Custodian of the relevant colour library for colour registration purposes, the Inspection Authority shall confirm with the Custodian of the colour library whether a submission is required or not. If a new submission is required, it shall be facilitated and managed by the appointed Inspection Authority.

A. The following scenarios require a submission of three metres of fabric to SAPS from the successful bidder:

1. A colour standard is archived.
2. First time registration is required (Colour number does not exist).
3. Colour swatch stock at the Custodian of the colour library is no longer available.

B. Requirements for the submission of fabric as identified in A:

1. The colour shall be as agreed upon between the South African Police Service and the successful bidder.
2. The fabric shall be used to make new colour swatches which shall be the responsibility of the Custodian of the colour library.
3. The cost of the three metres of fabric shall be incorporated into the relevant bid submission.

ANNEX K

(Normative)

COMPULSORY COMPLIANCE DECLARATION

The bidder shall only state “COMPLY” or “DO NOT COMPLY” under particulars of bid, against each requirement mentioned below, whether the bidder comply or do not comply with the requirement of the specification. No other indication such as “X’, “√ “, etc. shall be allowed. If there are deviations due to – for example – unavailability of components or alternative offers in the marketplace, the bidder shall state “DO NOT COMPLY” and explain in detail the nature of the suggested deviation on the *DEVIATIONS* page as given in Annex L.

Table K-1

1	2	3	4	5	
Paragraph No.	**Table No.**	**Figure No.**	**Heading**	**COMPLY**	**DO NOT COMPLY**
3			Style (overview)		
	1		Summary of the complete body armour ensemble		
4			Illustrations		
		1(a)	Face side of front outer panel		
		1(b)	Face side of front outer panel		
		2	Inside view of front outer panel		
		3	Lining of front outer panel		
		4	Inside view of lining of front outer panel		
		5(a)	Face side of back outer panel		
		5(b)	Face side of back outer panel		
		6	Inside view of back outer panel		
		7	Facing at top of back outer panel		
		8(a)	Lining of back outer panel (inner waist straps omitted in this illustration)		
		8(b)	Lining of back outer panel		
5			Client furnished materials		
5.1			General		
5.2			Patterns		
6			Component materials		
6.1			Components of outer vest		
6.1.1			Outer material		
	2		Outer material requirements		
	3		CKS 129 Colours		
6.1.2			Spacer fabric (body lining)		
	4		Spacer fabric requirements		
		9	Construction of spacer fabric		
6.1.3			Touch and close fasteners		
6.1.4			Woven elastic webbing		
	5		Elastic webbing requirements		
6.1.5			Closed cell foam		
	6		Closed cell foam requirements		
6.1.6			Slide fasteners		
6.1.7			Webbing		
	7		Webbing requirements		
6.1.8			Paint compound for printing		
6.1.9			Sewing thread		
6.1.9.1			General		
6.1.9.2			Sewing thread		
6.1.9.3			Overlocking thread		
6.2			Soft ballistic armour packs		

Table K-1 (continued)

1	2	3	4	5	
Paragraph No.	**Table No.**	**Figure No.**	**Heading**	**COMPLY**	**DO NOT COMPLY**
6.2.1			Components of soft ballistic armour packs		
6.2.1.1			Soft ballistic textile material requirements		
	8(a)		Yarn requirements that are to be used for the woven soft ballistic material		
	8(b)		Requirements of woven soft ballistic material		
6.2.1.2			PVC encasing material requirements		
	8(c)		Requirements of PVC encasing material		
6.2.1.3			Sewing thread		
6.2.2			Performance requirements		
6.3			Hard ballistic armour plates		
6.3.1			Physical requirements		
6.3.2			Performance requirements		
	9		Finished dimensions and weight of front covered hard ballistic armour plate		
	10		Finished dimensions and weight of back covered hard ballistic armour plate		
6.4			Carry bag components		
6.4.1			Outer material		
6.4.2			Edge binding tape		
	11		Colours identification of the edge binding tape		
6.4.3			Carry bag handle webbing		
	12		Webbing requirements for carry bag handles		
6.4.4			Carry bag slide fasteners		
6.4.5			Transparent sheeting for user manual pouch		
6.4.6			Threads		
6.5			User manual materials		
7			Workmanship		
8			Sizes and dimensions		
8.1			Pattern measurements: Soft ballistic textile material cut layers		
8.1.1			Finished dimensions and measuring points of the front soft ballistic textile material cut layers (NOT the PVC cover)		
	13(a)		Finished dimensions of the front soft ballistic textile material cut layer		
	13(b)		Finished dimensions of the front soft ballistic textile material cut layer (continued)		
8.1.2			Finished dimensions and measuring points of the back soft ballistic textile material cut layers (NOT the PVC cover)		
	14		Finished dimensions of the back soft ballistic textile material cut layer		

Table K-1 (continued)

1	2	3	4	5	
Paragraph No.	**Table No.**	**Figure No.**	**Heading**	**COMPLY**	**DO NOT COMPLY**
8.2			Outer panel measurements		
8.2.1			Finished dimensions and measuring points of the front outer panel		
	15		Finished measurements of front outer panel		
8.2.2			Finished dimensions and measuring points of the back outer panel		
	16		Finished measurements of back outer panel		
9			Performance Requirements		
9.1			General		
9.2			Determination of the correct size		
9.3			Qualification testing requirements		
9.3.1			When the vest is used with only the soft ballistic armour packs inserted		
9.3.2			When the vest is used with the hard ballistic armour plates in conjunction with the soft ballistic armour packs		
9.3.3			Multi-shot requirements of the hard ballistic armour plates		
9.3.3.1			Back face derformation		
10			Make		
10.1			Outer vest		
10.1.1			General		
		10	Section identification and design features on face side of front outer panel		
10.1.2			Front outer panels		
10.1.2.1			General		
10.1.2.2			Face side of front outer panels		
10.1.2.2.1			General		
10.1.2.2.2			Upper section		
		11	Positioning of edge-stitchings around the outer edges of the front outer panel		
		12(a)	Positioning of touch and close fastener		
		12(b)	Total width of touch and close fastener on front (attachment point for torso straps)		
10.1.2.2.3			Mid section		
		13	Securing straps and touch and close fastener patches at shoulders with chest badge flap open		
		14	Dimensions of printing on front and back outer panels		
		15	Positioning of printing on front outer panel		
		16	Flap for attachment of embossed chest badge		
10.1.2.2.4			Lower section		
		17	Lower section dimensions and cross section of construction of front packet		
10.1.2.3			Front pocket		

Table K-1 (continued)

1	2	3	4	5	
Paragraph No.	**Table No.**	**Figure No.**	**Heading**	**COMPLY**	**DO NOT COMPLY**
10.1.2.3.1			General		
		18	Inside view of front outer panel		
10.1.2.3.2			Pocket bag		
10.1.2.4			Front lining		
10.1.2.4.1			General		
10.1.2.4.2			Top section		
10.1.2.4.3			Lower section		
		19	Lining of front outer panel		
		20	Cross section of mouth opening in lining of front outer panel		
		21	Positioning and dimensions of the patterns of the foam inserts in the lining of the front outer panel on a size Medium which shall be graded on other sizes		
		22(a)	Face side of front outer panel lining		
		22(b)	Inside view of front outer panel lining		
10.1.3			Back outer panel		
10.1.3.1			General		
		23	Back outer panel section identification		
10.1.3.2			Face side of back outer panels		
10.1.3.2.1			General		
		24	Back outer panel design features		
10.1.3.2.2			Upper section		
10.1.3.2.3			Mid section		
		25	Finished dimensions of design features on back outer panel		
		26	Positioning of printing on the back outer panel		
		27	Cross section of mouth opening on face side of back outer panel		
10.1.3.2.4			Lower section		
	17		Finished length of the torso straps (relaxed measurement)		
10.1.3.3			Back pocket		
10.1.3.3.1			General		
10.1.3.3.2			Pocket bag		
		28	Inside view of back outer panel		
10.1.3.4			Shoulder straps		
		29	Finished dimensions of shoulder straps of back outer panel		
	18		Finished length of the shoulder straps		
10.1.3.5			Back outer panel lining		
10.1.3.5.1			General		
		30	Identification of sections of lining of back outer panel		
10.1.3.5.2			Top section		
		31	Design features on lining of back outer panel		
		32	Facing at top edge		
		33	Positioning and dimensions of the patterns of the foam inserts in the lining of the back outer panel on a size Medium which shall be graded on other sizes		

Table K-1 (continued)

1	2	3	4	5	
Paragraph No.	**Table No.**	**Figure No.**	**Heading**	**COMPLY**	**DO NOT COMPLY**
10.1.3.5.3			Lower section		
10.1.3.5.4			Side sections		
		34	Finished width of side section		
10.1.3.6			Inner waist support straps		
	19		Nominal finished length of each inner waist support strap (relaxed measurement)		
		35(a)	Cross section of construction of left inner waist support strap when 80 mm wide touch and close fastener is used		
		35(b)	Cross section of construction of left inner waist support strap when 10 cm wide touch and close fastener is used		
		35(c)	Cross section of construction of right inner waist support strap		
10.2			Soft ballistic armour pack and square flat pack for soft ballistic textile material qualification		
10.2.1			General		
10.2.2			Front soft ballistic armour pack		
		36	Cross stitch and edge-stitching on front soft ballistic armour pack		
10.2.3			Back soft ballistic armour pack		
10.2.4			Square flat test pack for qualification of the soft ballistic textile material		
		37(a)	Determination of positioning of darts of the soft ballistic textile material stacks on size Medium and graded on the other sizes		
	20		Measurement from apex of bust to outer edge of soft ballistic textile material stacks on size MEDIUM		
		37(b)	Determination of positioning of darts of the soft ballistic textile material stacks on size Medium and graded on the other sizes		
	21		Dart positioning on soft ballistic textile material stacks on size MEDIUM		
10.3			Carry bag		
10.3.1			Carry bag design		
	22		Dimensions of finished carry bag		
10.3.2			Inside transparent PVC pocket		
		38	Carry bag		
		39	Design of the inside transparent PVC pocket		
10.4			User manual		
10.5			Assembly		
11			Stitches, seams and stitching		
11.1			Stitches		
11.2			Seams		
11.3			Stitchings		
11.4			Number of stitches		
13			Label and marking requirements		

Table K-1 (concluded)

1	2	3	4	5	
Paragraph No.	**Table No.**	**Figure No.**	**Heading**	**COMPLY**	**DO NOT COMPLY**
13.1			Outer vest label properties and markings		
13.2			Hard ballistic armour plate markings		
13.3			Soft ballistic armour pack markings		
13.3.1			Inner material of soft ballistic armour pack		
13.3.2			Outer PVC casing of soft ballistic armour pack shall be identified as follows		
	23		Printing colours on outer PVC casing of soft ballistic panels		
13.4			Carry bag markings		
14			Packing, marking of packaging and delivery		
14.1			Packing		
14.1.1			If the complete body armour ensemble is ordered		
	24		Bulk container requirements		
14.1.2			If only Hard Ballistic Armour Plates are ordered, packaging shall be as follows		
14.1.3			If soft ballistic armour packs, outer vests or carry bags are ordered individually, the packaging for each component shall be as follows		
	25		Bulk container requirements		
14.2			Bulk container marking		
14.3			Additional markings		
14.4			Documentation and delivery requirements		
14.4.1			Documentation that shall accompany each delivery to SAPS stores		
14.4.2			Delivery requirements		
14.4.2.1			Delivery requirements		
14.4.2.2			Delivery requirements		
14.4.2.3			Delivery requirements		
Annex A			Quality Assurance Provision		
	31		Listed defects		
Annex B-1			Labels on front and back outer panels		
		B-1.1	Primary markings on loop label		
		B-1.2	Ballistic markings on underside of loop labels		
Annex B-2		B-2.1	Primary markings on label on carry bag		
Annex C			Markings on soft ballistic armour packs		
Annex D-1			Markings on front hard ballistic armour plates		
Annex D-2			Markings on back (unisex) hard ballistic armour plates		
Annex E			User manual		
Annex F			Layout of user manual		
Annex G			Shape of front hard ballistic armour plates		
Annex H			Shape of back hard ballistic armour plates		
Annex I			Alternative touch and close fastener performance requirements		
Annex J			Textile colour registrations		

ANNEX L

(Normative)

DEVIATION SHEET

Please complete the deviation sheet for all alternative or additional offers made.

Please complete the deviation sheet for all paragraphs/tables and figures in the specification that you comment “DO NOT COMPLY” in ANNEX K.

DEVIATION SHEET: Bid ……..

Specification paragraph (as indicated in Annex K):
Reason:
Offered:

For office use only	

HISTORY SHEET

VERSION	DATE	AMENDMENTS/HISTORY
A	October 2025	First draft – incorporated all changes as identified in DRAFT E of Men's BRV
B	December 2025	Add dimensions Amend according to changes identified in Men's BRV Amend Outer material Table to reflect 60/40 Cotton/Polyester and add 5% Tolerance Add dimensions and align with relevant changes made to men's BRV Add spec numbers and pattern numbers; Change packaging: delete double walled corrugated boxes and replace with standard commercially available boxes and plastic bag;; Keep "Arial" but delete 18 mm width of printing; Add reference to square qualification panels; Amend Annex A; Amend "make" of soft ballistic pack; Amend stitch length of soft aramid panels; Add technical illustration of front hard ballistic plate. Add definition of a stack.
Z	June 2026	Change Aramid textile to 280gms Amend Aramid sewing thread requirements Change number of layers to 21 on all Aramid textile packs; stacks of 7 layers x 3 Amend PVC encasing material requirements Add recommendation to use heavy duty walking foot machine for sewing or aramid Remove stitching around outer edge of front aramid textile panels and add neck stitching on front aramid panels Update Normative references
1	June 2026	First release

APPROVAL PAGE:

LIGHTWEIGHT FEMALE BULLET RESISTANT VEST

Approved by: _____

Division: Detective & Forensic Services **Date: _____**

Approved by: _____

Division: Visible Policing & Operations **Date: _____**

Approved by: _____

Division: Human Resource Development **Date: _____**

Approved by: _____

Division: Supply Chain Management **Date: _____**