

PRIVATE SPECIFICATION

prepared for



Utility Trousers, Men



CSS 286.21 G157
Version 01.0
June 2012

1. Scope

This specification covers the material and make of utility trousers for male personnel of Transnet Limited.

ITEM NUMBER: 35/163866

2. Definitions and abbreviations

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

acceptable: acceptable to Transnet Limited

nominal: subject to the tolerances normal to good manufacturing practice

SANS: South African National Standard

3. Style

The style is as follows:

- ◆ a plain waistband
- ◆ belt loops
- ◆ front pleats
- ◆ slide fastener fly
- ◆ two slanting side pockets
- ◆ two hip pocket
- ◆ embroidery on the right hip pocket
- ◆ reflective tape around legs
- ◆ plain bottoms
- ◆ buttons with corporate logo
- ◆ fitted with a contrast colour laid-on strip along the side seams and sewn to the back panel

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4. Illustrations

Illustrations are not to scale and are for guidance only.



Figure 1 – Trousers, Front & Back

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5. Client furnished materials

No materials will be supplied by Transnet Limited.

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 Outer material

- ♦ to be an acceptable 2/1 twill Poly/Cotton fabric
- ♦ of nominal mass 235 g/m² when tested in accordance with SANS 79
- ♦ fibre composition to be 65% Polyester and 35% Cotton when tested in accordance with SANS 1833-1 and 1833-11
- ♦ resistance to pilling, colour fastness, dimensional stability requirements to comply with the relevant requirements as given in SANS 1387 -2
- ♦ finish to be such that it shall have a soft handle and shall be as agreed upon between the purchaser and supplier
- ♦ colour to be an acceptable black colour as agreed upon between the purchaser and supplier

6.2 Strip material

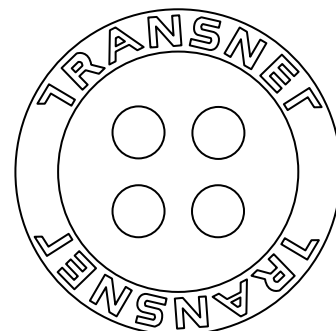
- ♦ to comply with the requirements as given in 6.1
- ♦ colour to be an acceptable match to Pantone Colour No. 376 "Olive green"

6.3 Slide fastener

- ♦ one-way closed end
- ♦ brass elements
- ♦ locking puller and slider
- ♦ to comply with the requirements for performance class B or C of SANS 1822 "Slide fasteners"
- ♦ colour of stringers to be an acceptable match to the colour of the outer material

6.4 Polyester buttons

- ♦ four-hole polyester
- ♦ nominal diameter of 17 mm
- ♦ to comply with the requirements of SANS 1457 "Plastics buttons"
- ♦ dope-dyed
- ♦ fully impregnated
- ♦ to have the Transnet logo engraved on the outer edges
- ♦ colour to be an acceptable match to the colour of the outer material



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6.5 Reflective tape

- ♦ a high visibility reflective silver tape
- ♦ nominal width 37 mm – 40 mm
- ♦ retro-reflective properties to comply with the relevant requirements for a class 2 retro-reflective material of SANS 50471 “High visibility warning clothing for professional use – test methods and requirements”

6.6 Embroidery thread

- ♦ an acceptable 100% Viscose machine embroidery thread
- ♦ colour to be an acceptable match to Pantone colour No 376 “Olive Green”

6.7 Interlining

- ♦ an acceptable fusible woven or non-woven interlining
- ♦ to comply with the requirements of CKS 627 “Fusible interlinings”
- ♦ mass per area shall be such that it is suitable for use in the fly
- ♦ suitable for use in garments which are to be washed
 - capable of withstanding the same washing and drying procedures as specified for the outer material

The selection of interlining of appropriate mass per area to be determined by consultation with the supplier of the interlining.

6.8 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

Sewing and top-stitching thread:

- ♦ polyester-and-cotton core-spun or staple polyester
 - ♦ ticket No 80
- OR
- ♦ an acceptable alternative with a minimum breaking strength of 12N

Overlocking thread:

- ♦ crimp-textured polyamide or crimp-textured polyester
 - ♦ ticket No 80
- OR
- ♦ an acceptable alternative with a minimum breaking strength of 8N

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7. Workmanship

The trousers to be:

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

To be free from:

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

Seams and stitches to be:

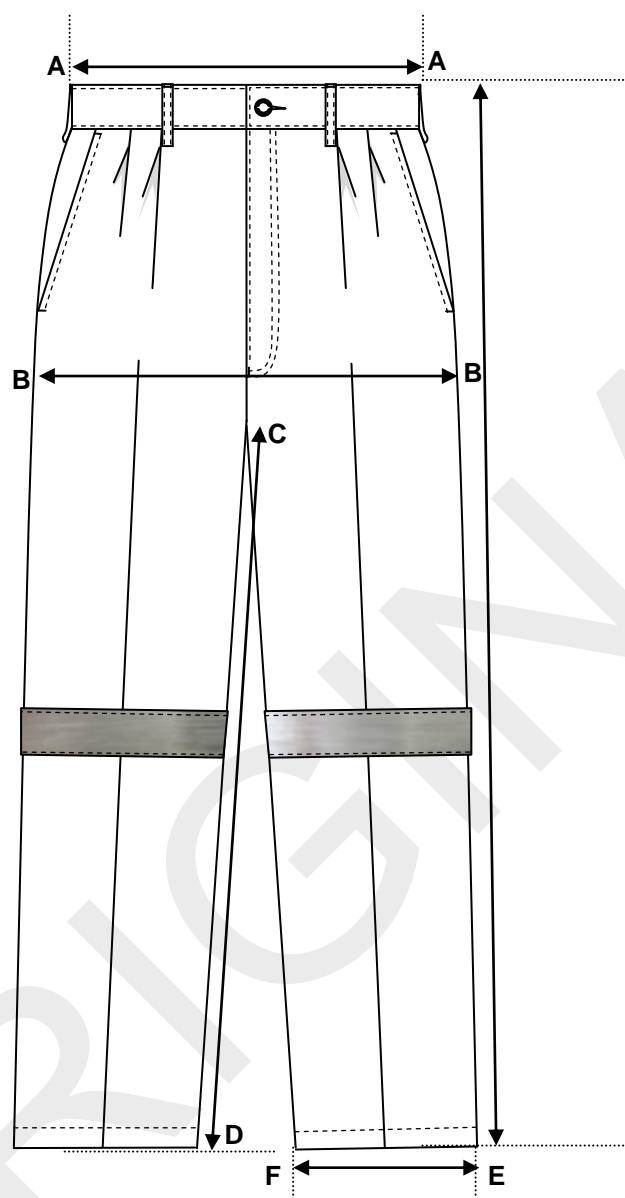
- ♦ smooth and uniform
- ♦ free from twists, pleats and puckers
- ♦ sufficiently extensible to avoid seam cracking and undue shrinkage in use

Ends of sewing to be:

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

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8. Sizes and dimensions



Measuring point		Description
A – A	Waist circumference	Measure across the top edge of the waistband and multiply by two.
B – B	Seat circumference	Measure across the width of the garment at seat level (widest point) and multiply by two.
C – D	Inside leg length	Measure from the crotch seam to the bottom edge of the garment.
A – E	Outside leg length	Measure from the top edge of the waistband to the bottom edge of the garment.
E – F	Bottom hem	Measure along the bottom edge of the leg and multiply by two.

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Table 1 – Size range

1	2	3	4	5	6
Size designation ¹⁾	Nominal finished garment measurements, cm				
	Waist circumference	Seat circumference	Outside leg length	Inside leg length	Bottom hem circumference
72	72	92	102	74	42
77	77	97	102	76	42
82	82	102	104	77	42
87	87	107	104	77	42
92	92	112	106	77	42
97	97	117	106	77	42
102	102	122	110	78	44
107	107	127	110	78	44
112	112	132	112	78	44
117	117	137	112	78	44
122	122	142	112	78	44
127	127	147	113	78	44
132	132	152	113	78	46
137	137	157	113	78	46
142	142	162	114	78	46
147	147	167	114	78	46
152	152	172	114	78	46
157	157	177	115	78	46
162	162	182	115	78	46
1) Based on the waist circumference of the wearer in centimetres.					

9. Make

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

9.1 Fronts

Each front shall have:

- ◆ two pleats
 - reverse pleats
 - first pleat to be positioned in line with the crease line and stitched closed for a distance of 15 mm
 - second pleat to be positioned 35 mm behind the first pleat and stitched closed for a distance of 15 mm
 - each of finished depth 20 mm
- ◆ a slanted side pocket

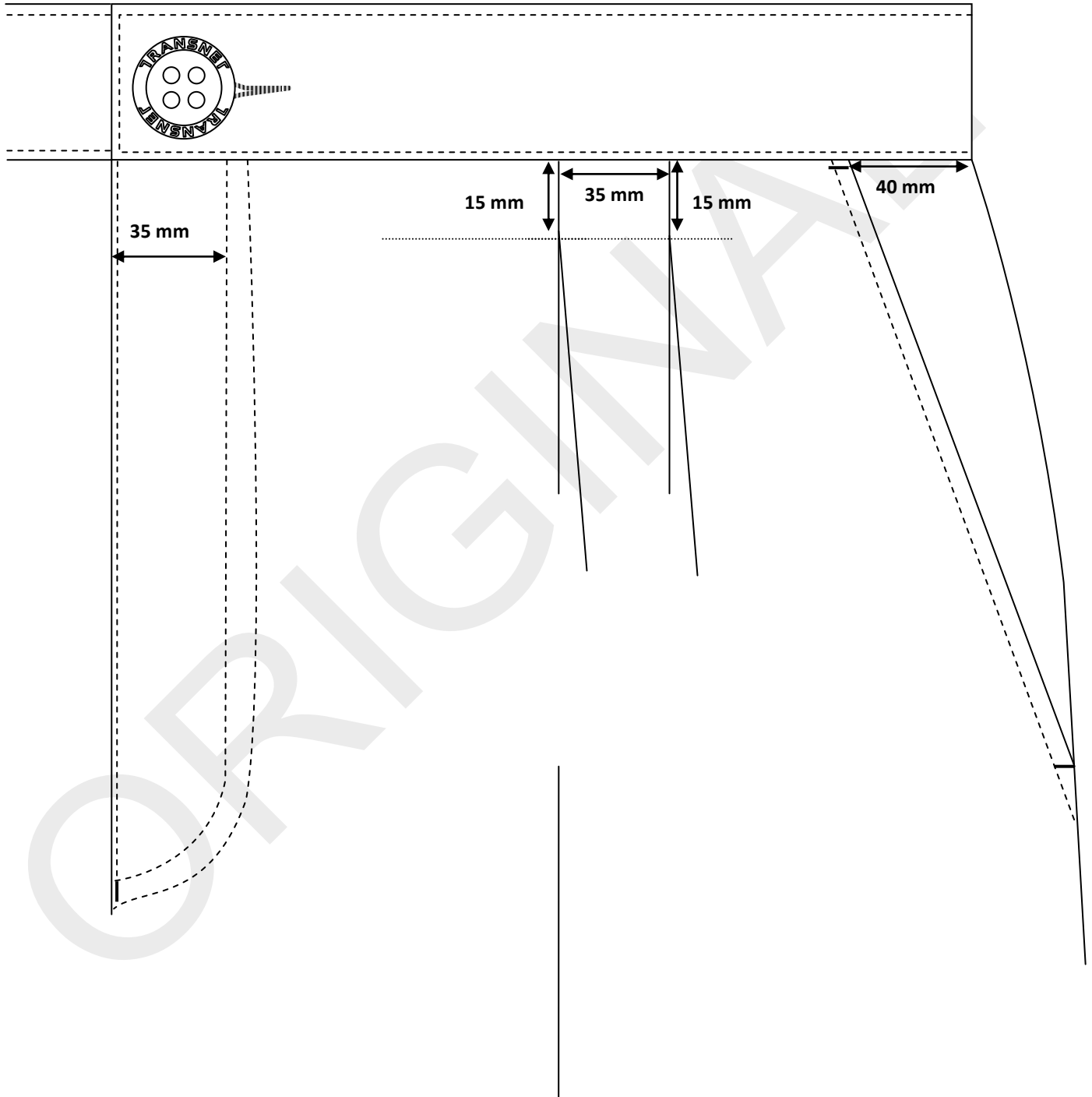
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Left front shall have:

- ♦ a fly

Right front shall have:

- ♦ a fly-catch



NOTE: *Belt loops are omitted in this illustration.*

Figure 2 – Left front

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9.2 Fly

- ♦ lined with outer material
- ♦ interlined with interlining
- ♦ to be equipped with a slide fastener, sewn down 35 mm and 42 mm from the front edge
- ♦ front edge to be edge-stitched 1 mm
- ♦ raw edge to be overlocked
- ♦ the bottom of the fly to be securely finished off with a vertical bar tack

9.3 Fly catch

- ♦ to be of double folded outer material
- ♦ to be of finished width 35 mm (measured from the seam where stringer of the slide fastener is inserted to the outer edge of the fly-catch)

9.4 Waistband

- ♦ to be a continuous length of double folded outer material
- ♦ interlined with fusible interlining
- ♦ of finished width in the range of 35 mm to 40 mm
- ♦ edge-stitched 3 mm along all edges
- ♦ front edges to be boxed
- ♦ left front edge to be fitted with a buttonhole
 - trouser type buttonhole, gimped and of finished length 20 mm (length of slit opening)
 - positioned with front edge 10 mm from the free outer edge
- ♦ the right front edge to be fitted with a plastics button
 - in a corresponding position to the buttonhole

9.5 Belt loops

- ♦ each pair of trousers to have seven belt loops (see figure 6)
- ♦ loops to be of folded outer material, 12 mm wide and secured as follows:
 - one on each front pleat
 - one at each side seam (sewn to the back panel)
 - one at each back dart
 - one at the centre back
- ♦ the loops to be bar tacked approximately 10 mm below the waistband seam, turned up and bar tacked 2 mm from the top edge of the waistband
- ♦ the finished length of the belt loops to be 45 mm between the bar tacks

9.6 Backs

Each back shall have:

- ♦ a centrally positioned closed dart of finished length 80 mm
- ♦ a hip pocket
- ♦ fitted with a laid-on strip of contrast colour material
 - of strip material (see 6.2)
 - side edges to be turned in and edge-stitched 2 mm along both edges
 - of finished width 15 mm
 - positioned adjacent to the side seam and sewn to the back panel
 - top edge to be sewn in with waistband seam

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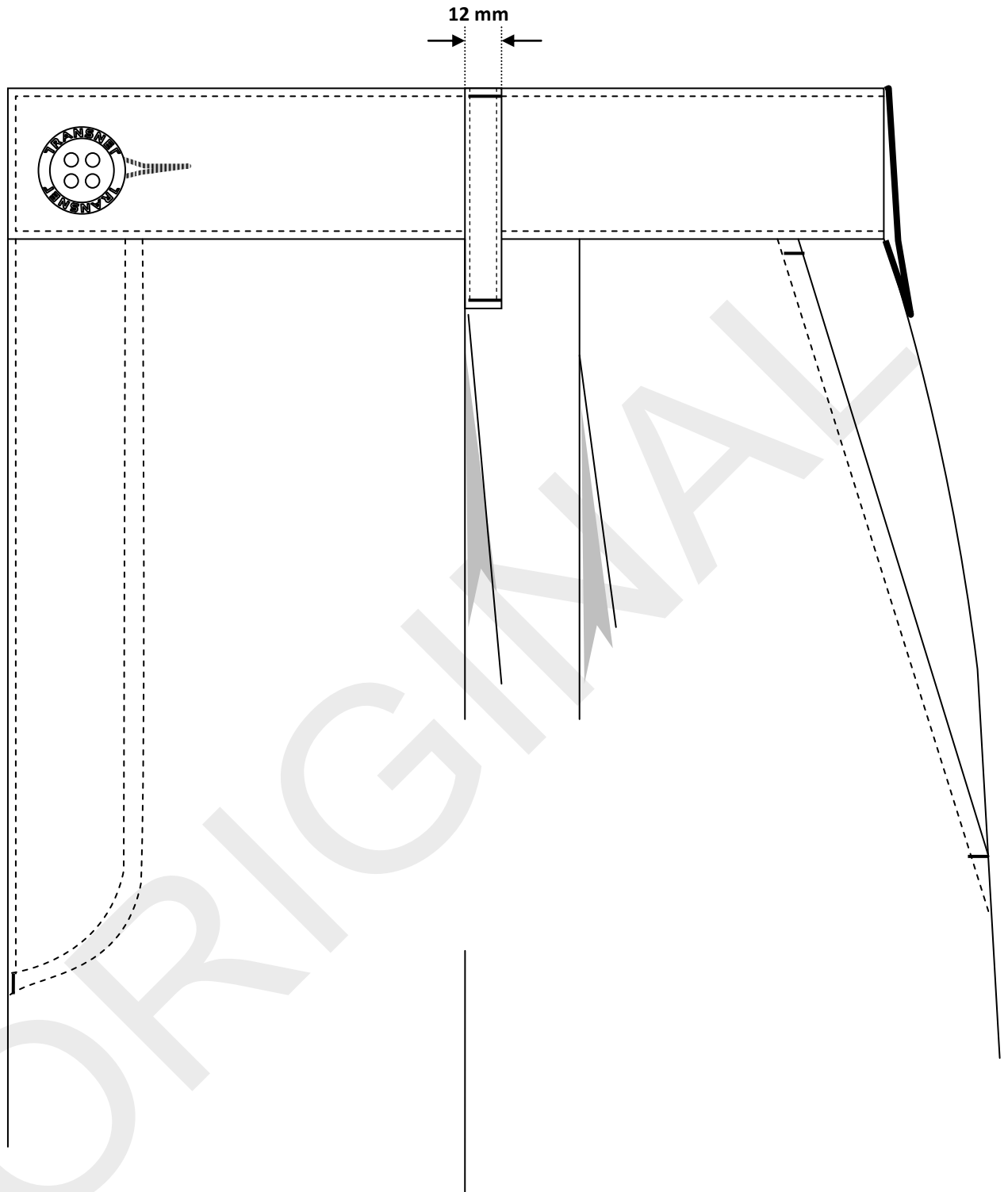


Figure 3 – Positioning of front belt loop

9.7 Pockets

- ◆ each trouser shall have two side pockets and two hip pockets
- ◆ all pocket mouth ends shall be securely finished off with bar tacks

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9.7.1 Side pockets

- ◆ slanted mouth openings
- ◆ positioned 40 mm forward of the side seam
- ◆ mouth opening to be stayed with stay-tape or interlining
- ◆ edge-stitched 6 mm along the mouth opening
- ◆ to have a facing that shall extend along the full length of the mouth opening
 - facing to be a continuation of the front panels which are folded to the inside
 - raw edges of facing to be turned in and sewn on top of the outer pocket bag
- ◆ pocket bags to be of outer material
- ◆ top and bottom edges of mouth opening to be horizontally bar-tacked
- ◆ the dimensions shall be as given in table 2
- ◆ pocket bags to be bagged out
- ◆ upper ends of the side pockets to be carried into the waistband

Table 2 – Side pocket dimensions

1	2	3	4
Size designation	Width of pocket bag, minimum	Depth of pocket bag, minimum	Length of pocket mouth opening between the bar-tacks
	Measured below the lower bar tack		
All sizes	18 cm	14 cm	17 cm

9.7.2 Hip pockets

- ◆ each back panel shall be fitted with a hip pocket
- ◆ to be centrally positioned at the base of back darts
- ◆ to be patch pockets
- ◆ to have blunted corners of finished length 28 mm
- ◆ the dimensions of the pockets shall be as given in table 3
- ◆ the side and bottom edges shall be turned in 10 mm and edge-stitched 1 mm and 8 mm
- ◆ bar tacks on the outer edge of the pocket mouth shall be inserted horizontally between the edge-stitchings
- ◆ pocket mouth hem to be of finished depth 15 mm
- ◆ right hip pocket to be fitted with embroidery
 - embroidered with embroidery thread (contrast colour to the outer material)
 - the registered Transnet Logo to be centrally positioned in the pocket
 - dimensions to be as given in figure 4

Table 3 – Hip pocket dimensions

1	2	3
Size designation	Width of pocket bag	Depth of pocket bag
All sizes	16,5 cm	16 cm

NOTE: If the pockets do not fit on all sizes, deviations shall be as agreed upon between the purchaser and supplier.

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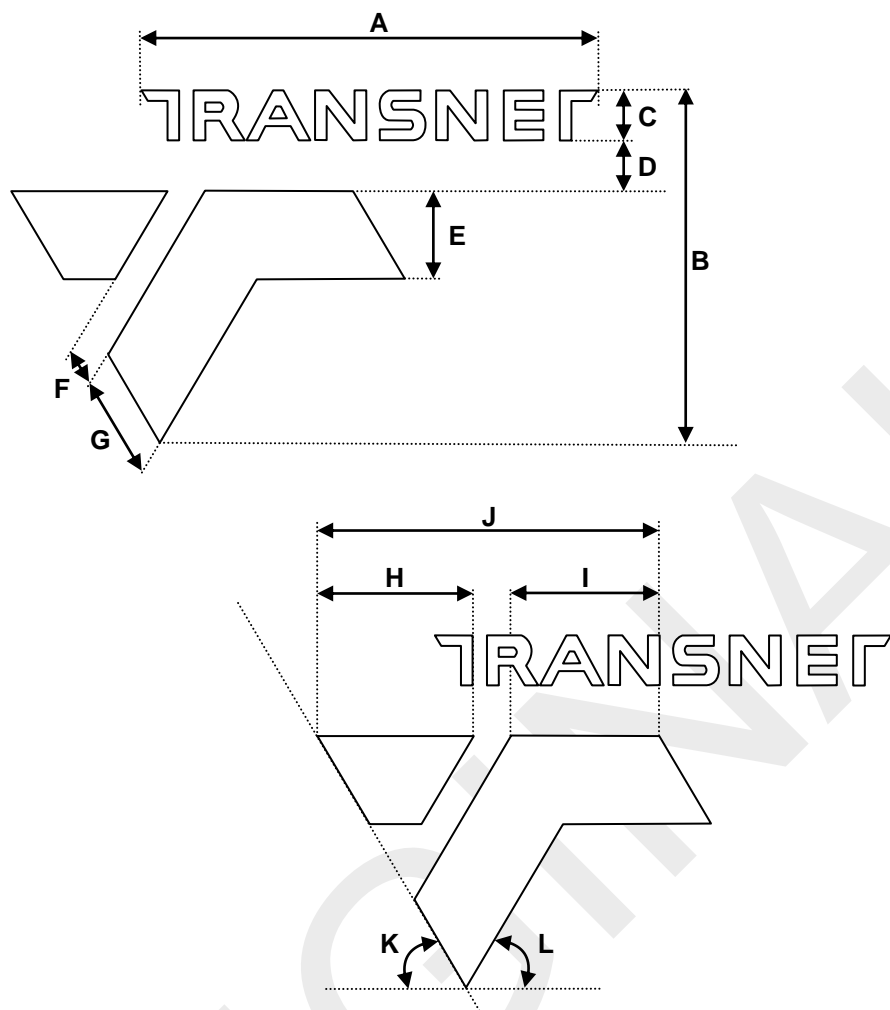


Figure No	Item	A	B	C	D	E	F	G
5		37 mm	32 mm	6 mm	6 mm	8 mm	2 mm	8 mm
	Item	H	I	J	K	L	-	-
		12 mm	12 mm	25 mm	60°	60°	-	-

Figure 4 – Dimensions of embroidered logo

9.8 Reflective strips

- ♦ sewn along the full circumference of the legs
- ♦ sewn in with the inside leg seams
- ♦ attached to the trouser legs by means of 2 mm edge-stitchings
- ♦ to overlap the contrast coloured side seam strips
- ♦ positioned in such a way that when the trouser leg is folded up in line with the crotch, the bottom edge of the reflective tape shall be positioned 10 mm above the foldline as given in figure 5

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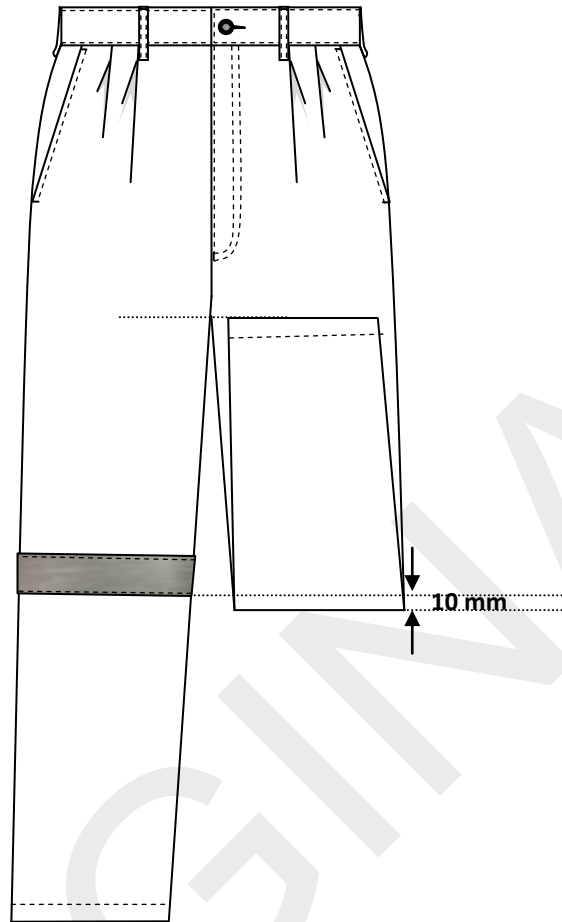


Figure 5 – Positioning of reflective tape

9.9 Bottoms

- ◆ to be plain
- ◆ folded in 20 mm and stitched down

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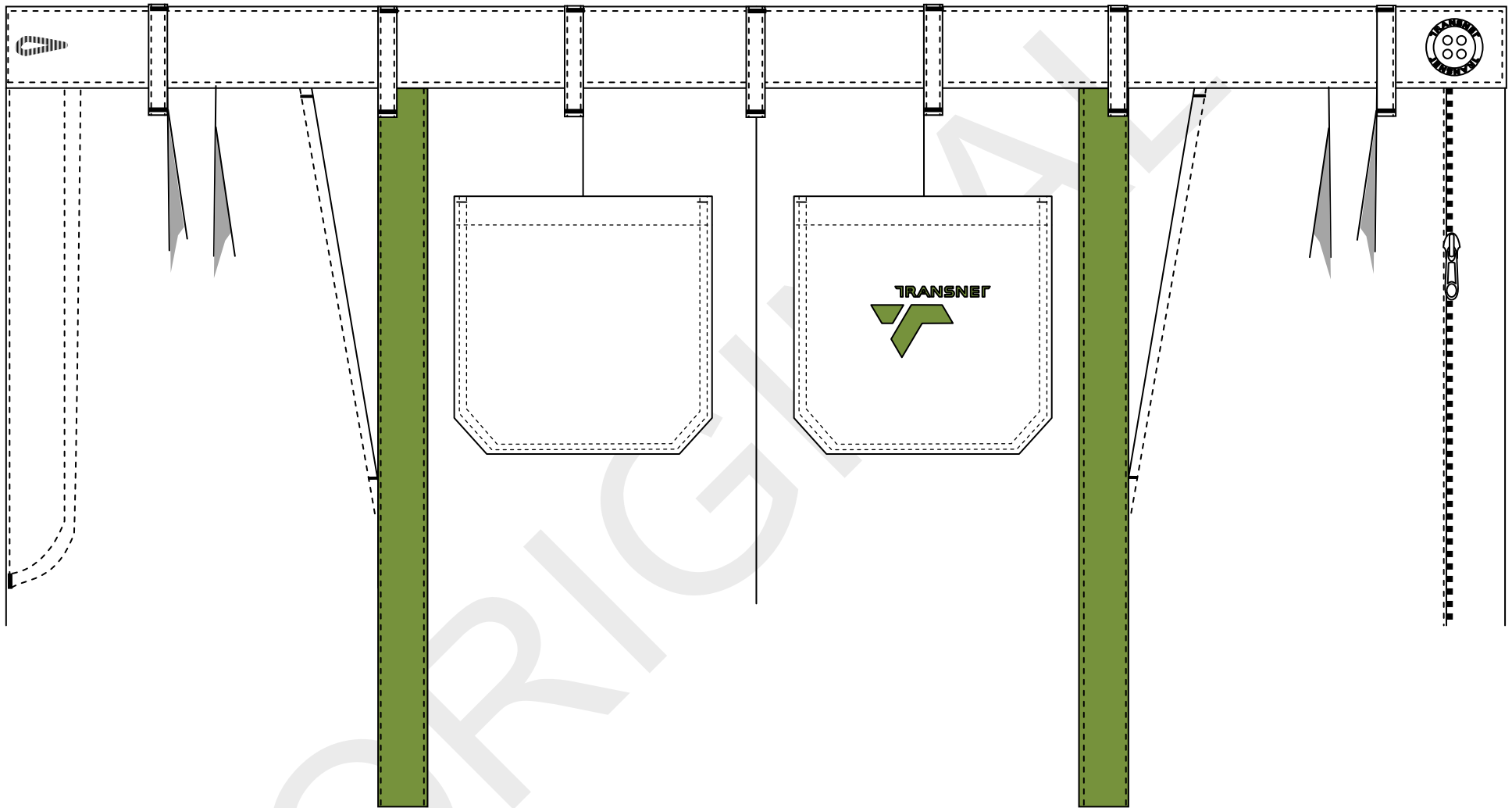


Figure 6 – Belt loop positioning

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10. Stitches, seams and stitchings

10.1 Stitches

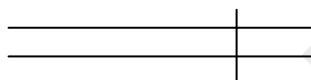
Side seams, leg seams and seat seams: safety stitch

Overlocking: three thread overlock stitch

Other sewing: single needle lock stitch

10.2 Seams

Outside leg seam and seat seam: seam type SSa



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

Side pocket bag edges: seam type SSe-2



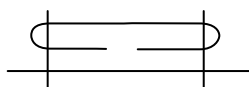
Form seam type SSa, using two plies of material. Then turn back each ply at the seam and seam through the turned edges with the appropriate number of rows of stitches.

Attachment of hip pockets: seam type SSb-2



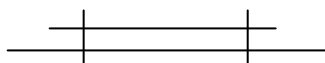
Turn in the specified width at the edge of one ply of material, superimpose it on a second ply, and seam through the turned edge with the appropriate number of rows of stitches.

Attachment of side seam strips: seam type SSat-2



Turn in the edges of a strip of material, superimpose it on a ply, and seam with the appropriate number of rows of stitches.

Attachment of reflective strips: seam type SSau-2



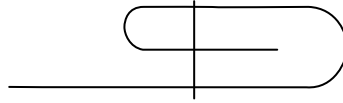
Superimpose a strip on a ply of material and seam with the appropriate number of rows of stitches.

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Other seams: seam type SSa

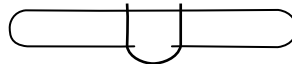
10.3 Stitchings

Hems and hip pocket hems: stitching type EFb



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

Belt loops: stitching type EFh



Turn in the edges of a strip of material, abut the edges, and stitch the abutted edges with one row of stitches that extends across and covers the edges.

10.4 Number of stitches

Seams: 40 ± 4 per 10 cm

Overlocking: 32 ± 2 per 10 cm

Buttonholes: 12 ± 1 per 1 cm

Buttons: 18 ± 1 per button

11. Care-labelling and marking

11.1 Label properties

All labels shall:

- ♦ be white woven rayon labels that are printed
- ♦ comply with SANS 1309 "Printed labels for textiles"
 - information to be in legible and indelible block letters of height at least 3 mm
- ♦ permanently secured
- ♦ be such that they outlast the garments (including the markings)

11.2 Care-labelling

- ♦ each garment shall have a label that provides correct and appropriate care instructions (in words and symbols, 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"

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11.3 Marking

- ◆ Each pair of trousers shall have, sewn in with the waistband **on the right front inside**, a label that provides the following information:
 - the word “TRANSNET”
 - the manufacturer's name of trade mark or both
 - the item number
 - the size designation
 - the spec number
 - the fibre composition of the body fabric
 - the country of origin
 - the year of manufacture
 - the VAT number of the contractor

<p style="text-align: center;">TRANSNET</p> <p style="text-align: center;">Manufacturer's name</p> <p style="text-align: center;">ITEM NO: 35/000000</p> <p style="text-align: center;">SIZE: 87</p> <p style="text-align: center;">Spec No: CSS 286.21 G157</p> <p style="text-align: center;">65% Polyester/ 35 % Cotton</p> <p style="text-align: center;">MADE IN SOUTH AFRICA</p> <p style="text-align: center;">2012</p> <p style="text-align: center;">VAT No: 4679312</p>

Figure 7 – Example of information on label

12. Packaging and marking of packaging

12.1 Packing

12.1.1 The trousers shall be:

- ◆ delivered in a commercially dry condition
- ◆ so packed that they will not be damaged in transit or in storage
- ◆ neatly folded and individually packed in a plastics envelope of suitable size and shape
 - each pair of trousers shall be packed in the plastic envelope in such a way the right front edge is folded open to expose the label
- ◆ unless otherwise specified in the order or contract, acceptably packed for transportation in acceptable bulk containers

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12.1.2 Trousers:

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

12.2 Marking

12.2.1 Envelopes

To be as specified in CSS 286.21 LAB/1.

12.2.2 Bulk containers

To be as specified in CSS 286.21 PAC/1.

12.3 Additional marking

When so required by the Transnet, trousers, envelopes or containers (or any combination of these) to bear information additional to that specified above.

13. Normative References

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

CKS 627, *Fusible interlinings.*

CSS 286.21 LAB/1, *Labelling.*

CSS 286.21 PAC/1, *Packaging.*

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

SANS 1309, *Printed labels for textiles.*

SANS 1362, *Sewing threads.*

SANS 1387-2, *Woven cotton and similar apparel fabrics – Part 2: Polyester-and-cotton workwear fabrics.*

SANS 1457, *Plastics buttons.*

SANS 1822, *Slide fasteners.*

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

* Standards South Africa: Tel. +27 (0) 12 4287911

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

SANS 5278, *Sewing stitches per unit length.*

SANS 50471, *High visibility warning clothing for professional use – test methods and requirements,*

SANS 10011, *Care-labelling of textiles and clothing.*

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

SANS 10371, *Terms and definitions for clothing.*

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ANNEX A

(Normative)

Special conditions of tender

A-1 GENERAL

- A-1.1** Unless otherwise stated, Transnet (or an organization deputed by it), shall be the inspecting authority.
- A-1.2** Three pre-production sample trousers, shall have been inspected, tested and approved by the inspecting authority before bulk production is commenced. Each one of these samples shall be accompanied by a trim chart containing a sample of each component material (as given in section 6) and the relevant certificates. It shall be the duty of the manufacturer to give adequate notice to the inspecting authority of the availability of these samples.
- A-1.3** The trousers shall be subject to inspection during the course of manufacture. The inspector shall, during normal working hours, be given all reasonable facilities for carrying out his duties and shall have the right of entry into the contractor's factory and the factory or works of any subcontractor where work on trousers supplied to this specification may be in progress
- A-1.4** The contractor shall inspect the finished trousers for compliance with the specification before submitting them to the inspecting authority for final inspection.
- A-1.5** Before acceptance, the trousers shall have been inspected and tested by the inspecting authority and found to comply with the requirements of the specification.

A-2 DOCUMENTATION

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

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

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ANNEX B

(Normative)

CKS 129 Colours

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.

A. The following scenarios require a submission of three metres of fabric and/or a reel of embroidery thread from the successful tenderer:

1. A colour standard is archived.
2. First time registration is required (CKS 129 colour number does not exist).
3. Colour swatch stock at the SABS is no longer available.

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

1. The colour shall be as agreed upon between Transnet and the successful tenderer.
2. The fabric and embroidery thread shall be used to make new colour swatches which shall be the responsibility of the SABS.
3. The cost of the three metres of fabric and embroidery thread shall be incorporated in the relevant tender submission.

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HISTORY SHEET				
VERSION	DATE	AMENDMENTS/HISTORY	CHECKED	
			NAME	INIT.
01.1	June 2012	First release		

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