
**Clothing — Standard method of
garment measurement**

Habillement — Méthode normalisée de mesurage des vêtements

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

This document was prepared by ISO/TC 133, *Clothing sizing systems — Size designation, size measurement methods and digital fittings*.

Introduction

This document is intended to serve as a global reference document for defining the key and common measurement points of a garment and the methodology to be used to measure garments, as well as to facilitate the maintenance of garment measurements and aid reduction of discrepancies in the product life cycle.

The points of garment measurements can be useful for (non exhaustive list):

- creation of table of measurements;
- developments of garment prototypes;
- stages of sample approval;
- production control;
- garment inspection and quality control;
- testing houses (e.g. determination of dimensional change of garments).

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Clothing — Standard method of garment measurement

1 Scope

This document defines the main measurement points and describes the method used to measure garment dimensions.

Additional measurement points can be determined between interested parties.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 139, *Textiles — Standard atmospheres for conditioning and testing*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>

3.1

side neck point

SNP

position on the garment where the garment body intersects with the side of the neck

Note 1 to entry: Side neck point does not include any neck trim, collar or hood.

Note 2 to entry: “Side neck point” is known also as High Point Shoulder, HPS.

3.2

from the invisible line

FIL

imaginary line taken between two points

Note 1 to entry: It is used to determine an exact position of a measurement to be taken.

3.3

centre front

CF

vertical intersection that is centrally positioned on the front of a garment

3.4

centre back

CB

vertical intersection that is centrally positioned on the back of a garment

3.5 required position

position of a point specified by the interested party, as input data, prior to measuring

Note 1 to entry: If a required position is not specified, the selected measurements cannot be carried out.

Note 2 to entry: A measurement based on a required position is identified by a code beginning with "Z" in Tables.

4 Measuring methodologies

4.1 General principle

The garment to be measured is laid on a flat surface, its measurement points identified and the measurements carried out between the relevant measurement points using a measurement device.

In some cases, other apparatus can be required for specific measurements when extended (see [Annex A](#)).

4.2 Apparatus

4.2.1 Measurement surface

Clean, flat and even surface, the dimensions of which are suitable for the garment to be laid flat with no overhang.

4.2.2 Measurement tape

Flexible and non-stretchable measurement tape, graduated in millimetres.

The measurement tape should be regularly checked to ensure its ends and edges present no damage. Calibration is recommended.

Any measurement device which leads to the same results may be used. The use of such measurement device should be reported.

4.3 Procedures

4.3.1 Preparation of the garments or textile articles

Select garments or textile articles to be measured.

Ensure that each garment or textile article is flat, in an ambient environment and without mechanical tension.

This preparation is especially important for knitted garments which should be in a "relaxed state".

When it is required by interested parties, if the garment conditioning and the garment measurements are carried out in a conditioned laboratory room, the standard atmosphere as specified in ISO 139 (i.e. 20 °C, 65 % RH) shall be used.

Lay down the garment or the textile article on the measurement surface ([4.2.1](#)), with any fasteners closed (e.g. buttons, slide fasteners, touch and close fasteners), unless otherwise stated. Place the garment or textile article as flat as possible, except the preformed garment or textile article (e.g. hat, bra cups).

Avoid any unattended folds, wrinkles and/or creases of the garment or textile article.

4.3.2 Garment or textile article measurement

Unless otherwise specified, measure in a straight line between two points as shown in the Figures and as instructed by measurement description.

For measurement without tension, ensure that the area being measured is not stretched.

For measurement under tension, ensure that the area being measured is stretched to the maximum without seam or stitch breakage, or tear of the fabrics (see [Annex A](#)).

5 Measurements of parts of garment or textile product

5.1 General

The area of measurement and measurement descriptions stated in this document can be used across different product types. For instance, measurements for a pair of shorts can be used for a woven formalwear short as well as a pair of cycling shorts or swimming trunks.

The area of measurement and measurement descriptions are uniquely identified by letter(s) and digit(s). Taking into account the actual garment to be measured, the combination of the selected measurements could mean different tables and figures in this document are applicable.

Depending on the garment style, measurements for different garment types or parts of different garment types could be combined, for example an all-in-one where the upper section is based on a shirt and the lower section is based on a pair of shorts.

On agreement between interested parties, measurements can refer partially or completely to those listed in the tables.

5.2 Upper garment body part

5.2.1 Set in sleeves

The measurement points in [Table 1](#) and [Table 2](#) are shown in [Figure 1](#) (front) and [Figure 2](#) (back) for upper garment body part with set in sleeves.

[Figure 1](#) and [Figure 2](#) represent examples of upper garment body parts with set in sleeves [such as short sleeves (T-shirt), long sleeves (cardigan), long sleeves (buttoned through shirt), long sleeves (single breasted jacket)].



Figure 1 — Garment body length and width (set in sleeves) — Front

Table 1 — Key to measurement points indicated in Figure 1

Ref.	Area of measurement	Description of measurement
A1	Front length	SNP to hem edge
ZC1	Across front position from SNP	Distance from SNP to the across front required position
C1	Across front	Armhole seam to seam or edge to edge at position as indicated by ZC1
D1	Chest at armhole	Base of armhole to base of armhole
D2	Chest at 2,5 cm below armhole	At 2,5 cm below base of armhole measure from edge to edge
ZE1	Waist position from SNP	Distance from SNP to the waist required position
E1	Waist	At position as indicated by ZE1 measure from edge to edge
I1	Hem width (or lower edge width, when appropriate)	Measure along hem edge from edge to edge of garment. For garments with shaped hems/side vents: measure straight across at top of shaped hem/side vents from edge to edge.

Table 1 (continued)

Ref.	Area of measurement	Description of measurement
J1	Shoulder length/strap width	SNP to shoulder point seam to seam or edge to edge as agreed by interested parties
J2	Shoulder slope	Measure vertically FIL at SNP to shoulder point
M1	Armhole	Shoulder point to base of armhole seam to seam or edge to edge as indicated by design of garment
V1	Hem depth	Hem edge to seam or to top row of hem depth stitching



Figure 2 — Garment body length and width (set in sleeves) — Back

Table 2 — Key to measurement points indicated in Figure 2

Ref.	Area of measurement	Description of measurement
A2	Centre back length	CB neck seam to hem edge
B1	Across shoulder	Shoulder point to shoulder point
Q1	Back neck width	Measure SNP to SNP seam to seam (excluding any neck trim) or SNP to SNP edge to edge if there is no neck trim or as agreed by interested parties
ZC2	Across back position from SNP	Distance from SNP to the across back required position
C2	Across back	Armhole seam to seam or edge to edge at position as indicated by ZC2

5.2.2 Raglan sleeves

The measurement points in Table 3 and Table 4 are shown in Figure 3 (front) and Figure 4 (back) for an upper garment body part with raglan sleeves.

Figure 3 and Figure 4 show examples of an upper garment body part with raglan sleeves [such as short sleeves (T-shirt) and long sleeves (jumper)].

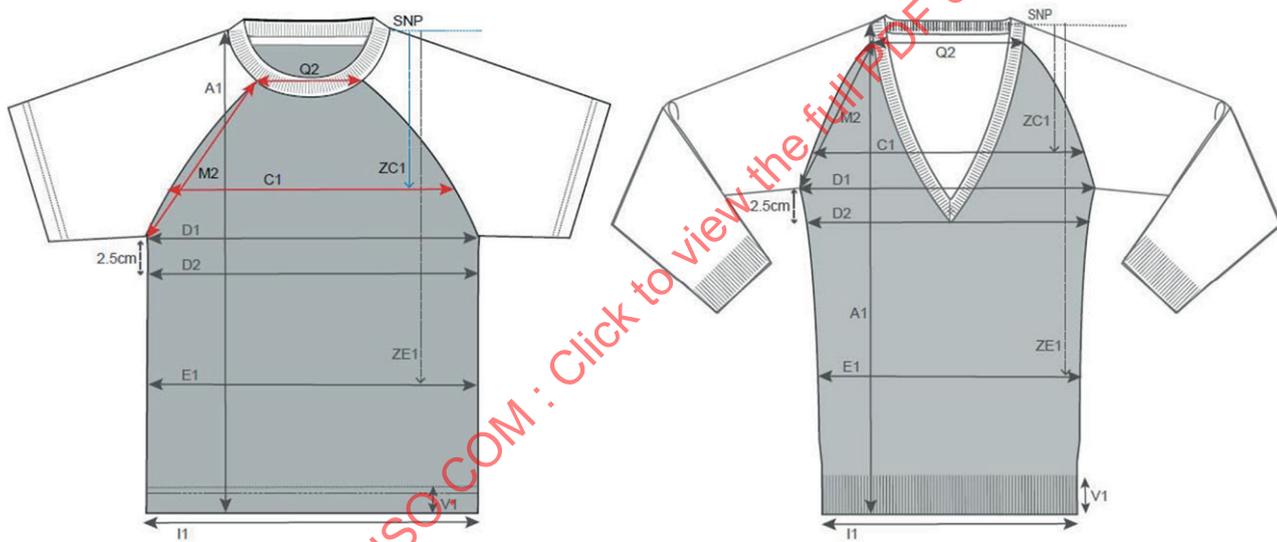


Figure 3 — Garment body length and width (raglan sleeves) — Front

Table 3 — Key to measurement points indicated in Figure 3

Ref.	Area of measurement	Description of measurement
ZC1	Across front position from SNP	Distance from SNP to the required across front position
C1	Across front	Armhole seam to seam or edge to edge at position as indicated by ZC1
M2	Front raglan length	From raglan point at front neck seam measure in a straight line to base of armhole.
Q2	Across front raglan at neck	Measure straight across front neck from raglan seam to seam.

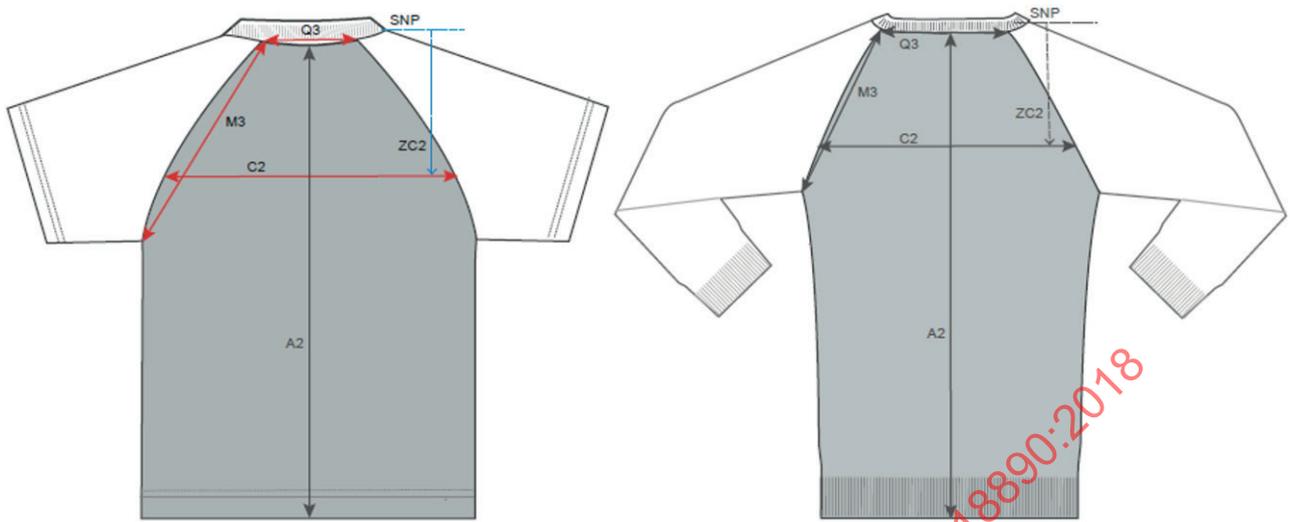


Figure 4 — Garment body length and width (raglan sleeves) — Back

Table 4 — Key to measurement points indicated in Figure 4

Ref.	Area of measurement	Description of measurement
ZC2	Across back position from SNP	Distance from SNP to required position of across back
C2	Across back	Armhole seam to seam or edge to edge at position as indicated by ZC2
Q3	Across back raglan at neck	Measure straight across back neck from raglan seam to seam.
M3	Back raglan length	From raglan point at back neck seam measure in a straight line to base of armhole.

5.2.3 Sleeveless

The measurement points in Table 5 and Table 6 are shown in Figure 5 (front) and Figure 6 (back) for upper garment body part without sleeves.

Figure 5 and Figure 6 show examples of an upper garment body part without sleeves (such as waistcoat, vest and camisole).

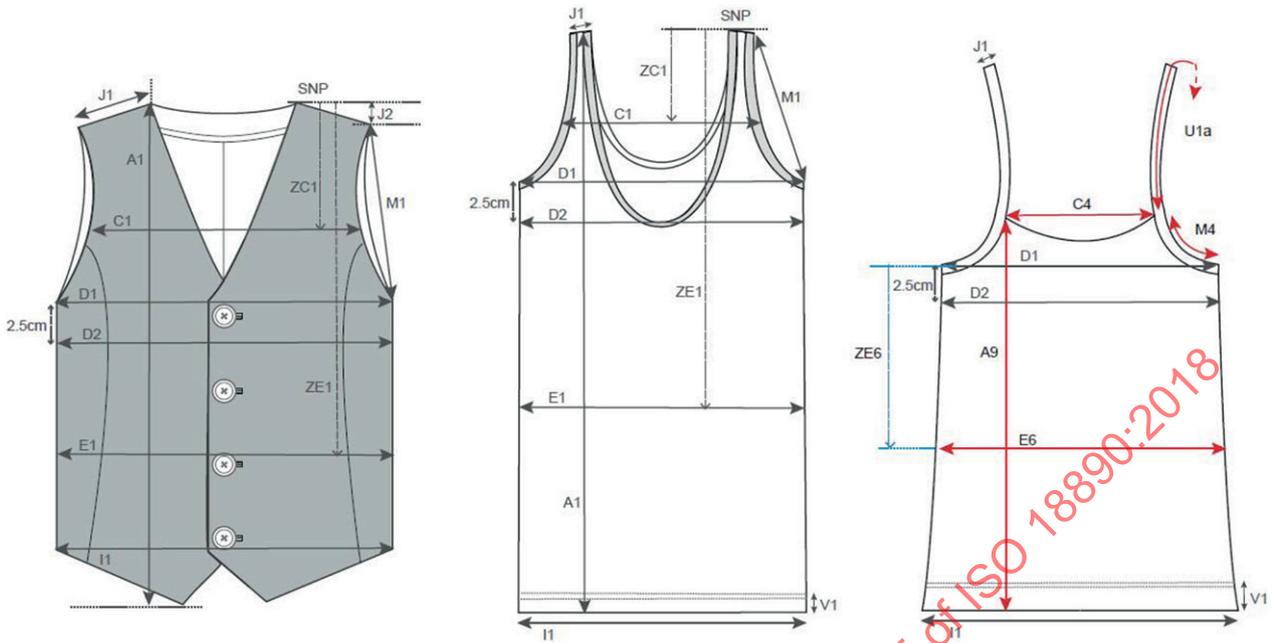


Figure 5 — Garment body length and width (sleeveless) — Front

Table 5 — Key to measurement points indicated in Figure 5

Ref.	Area of measurement	Description of measurement
A9	Front length	Apex (excluding any trims) to hem
C4	Across front	Apex to apex — i.e. between straps (excluding any trim)
ZE6	Waist position from underarm	Distance from underarm to required position of waist
E6	Waist	At position as indicated by ZE6 measure from edge to edge
U1a	Total strap length	Measure along centre of strap from apex/position where strap is attached at front to position where strap is attached at back
M4	Underarm at front	Apex to side seam/side seam fold — measure along the edge (excluding any trim)

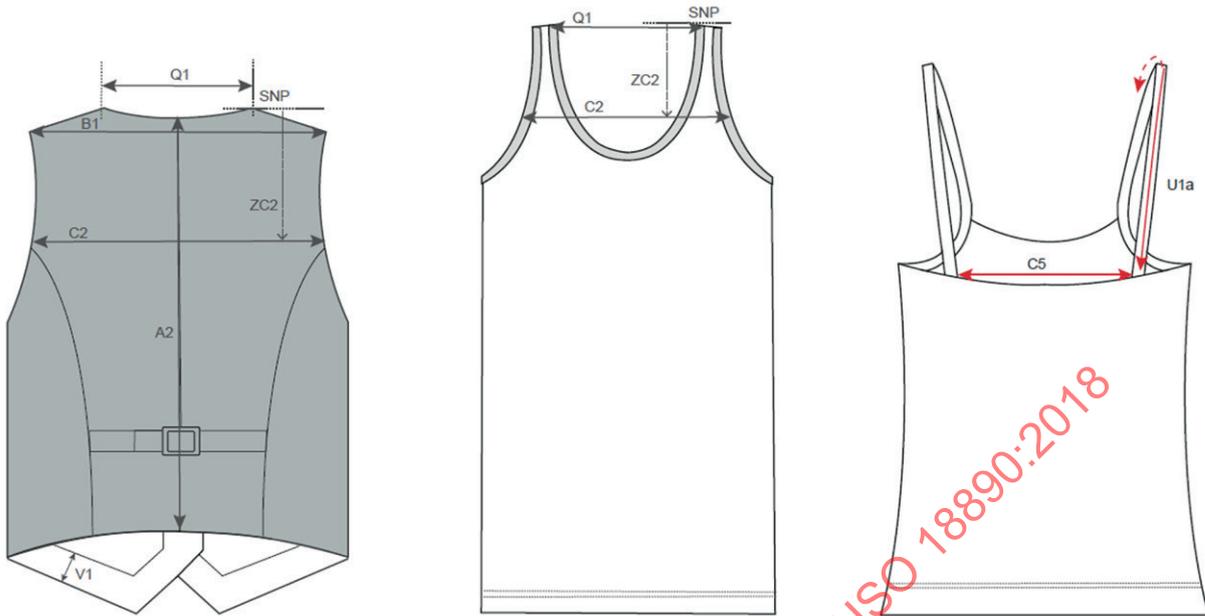


Figure 6 — Garment body length and width (sleeveless) — Back

Table 6 — Key to measurement points indicated in [Figure 6](#)

Ref.	Area of measurement	Description of measurement
C5	Across back	Apex to apex — i.e. between straps (edge to edge excluding any trim)

5.3 Sleeve part

5.3.1 Set in sleeves

The measurement points in [Table 7](#), complementary to [5.2.1](#), are shown in [Figure 7](#) for set in sleeves.

[Figure 7](#) shows examples of set in sleeves for long sleeves (T-shirt, and shirt) on the left and short sleeves on the right (T-shirt and shirt) of each diagram.

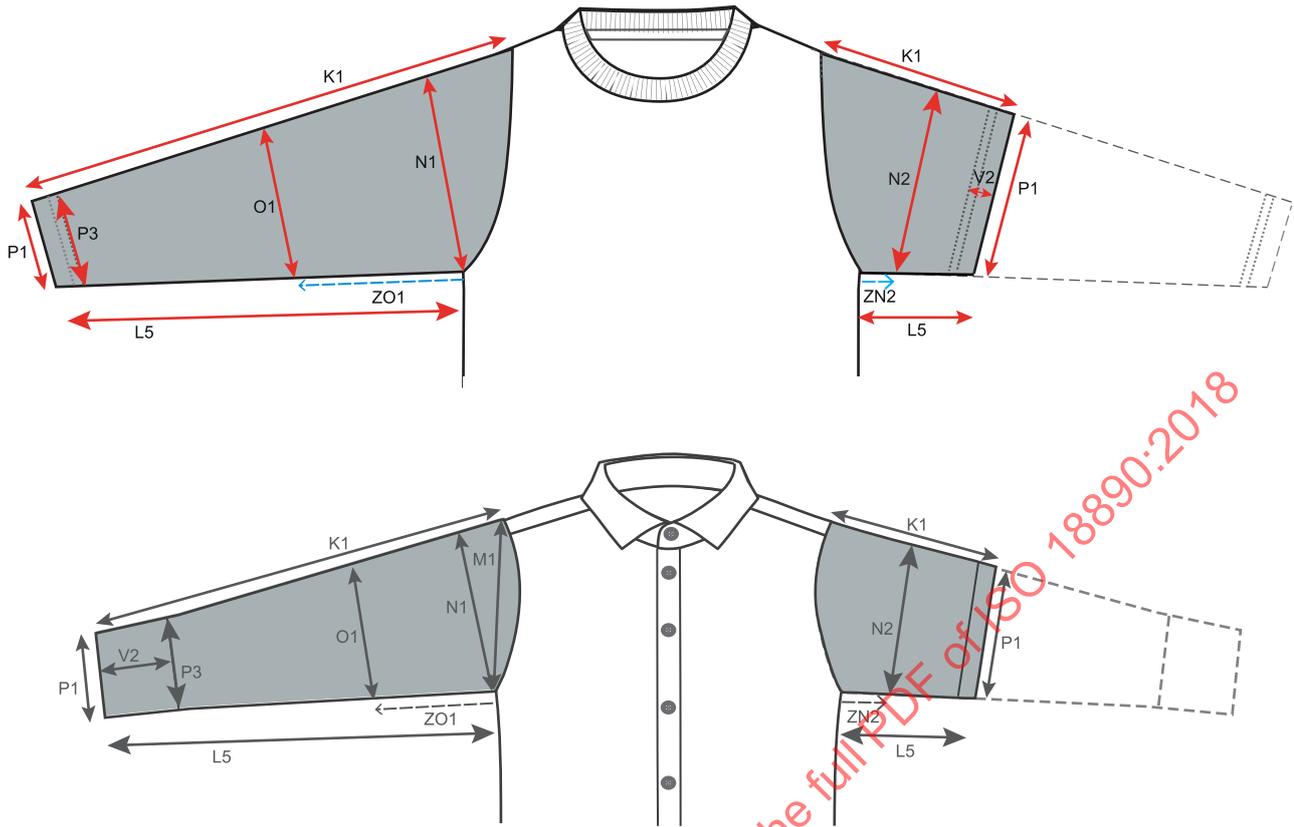


Figure 7 — Sleeve length and width (set in sleeve)

Table 7 — Key to measurement points indicated in Figure 7

Ref.	Area of measurement	Description of measurement
K1	Sleeve length	Shoulder point to cuff edge
L5	Under sleeve length	Base of armhole to cuff edge
N1	Sleeve width at armhole	From base of armhole measure straight across sleeve, forming perpendicular line with sleeve fold
ZN2	Upper sleeve position	Distance from underarm to required position
N2	Upper sleeve width	At position as indicated by ZN2 measure straight across sleeve, forming perpendicular line with sleeve fold
ZO1	Elbow position	Distance from underarm to required position of elbow
O1	Elbow	At position as indicated by ZO1 measure straight across sleeve, forming perpendicular line with sleeve fold
P1	Cuff opening width	Measure along cuff edge from edge to edge. For garments with shaped cuff edge: measure straight across at top of shaped cuff from edge to edge
P3	Cuff width at seam	Measure along cuff seam from edge to edge
V2	Cuff depth	Cuff, edge to edge, to seam or to top row of cuff depth stitching

5.3.2 Raglan sleeves

The measurement points in Table 8, complementary to 5.2.2, are shown in Figure 8 for raglan sleeves.

Figure 8 shows examples of set in sleeves for raglan sleeves (jumper and jacket) on left and short sleeves on right (jumper and jacket) of each diagram.

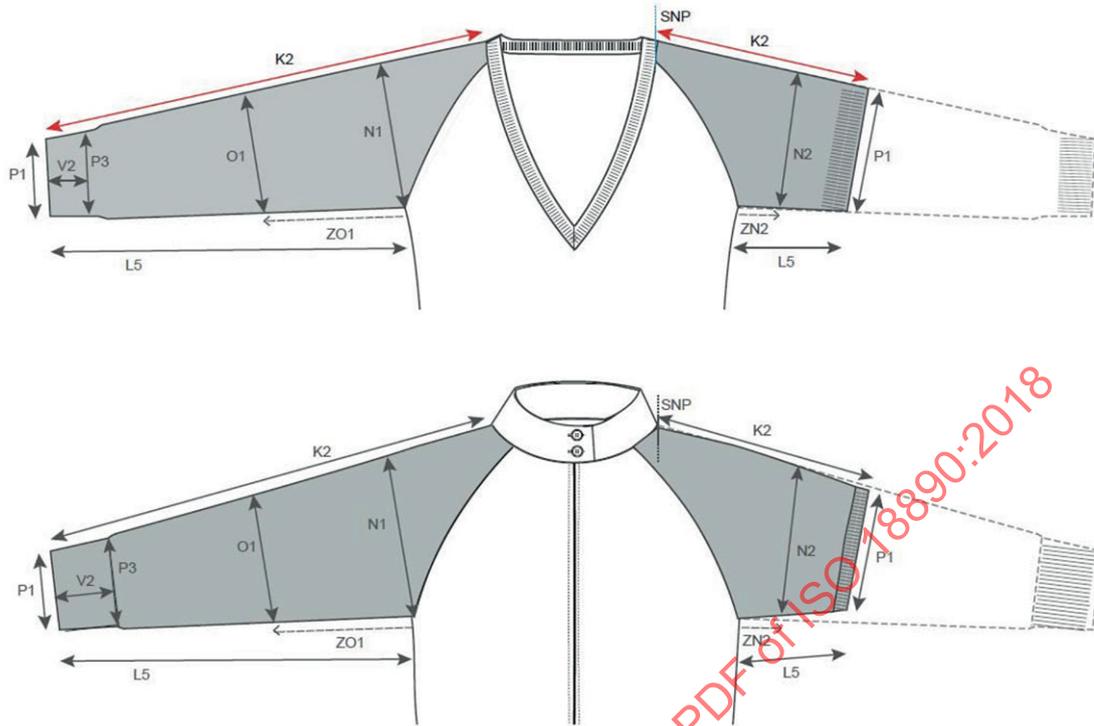


Figure 8 — Sleeve length and width (raglan sleeve)

Table 8 — Key to measurement points indicated in [Figure 8](#)

Ref.	Area of measurement	Description of measurement
K2	Sleeve length	SNP to cuff edge

5.4 Trousers and shorts part

5.4.1 Trousers and short

The measurement points in [Table 9](#) are shown in [Figure 9](#) (front and back) for trousers and short.

[Figure 9](#) shows examples of trousers and shorts.

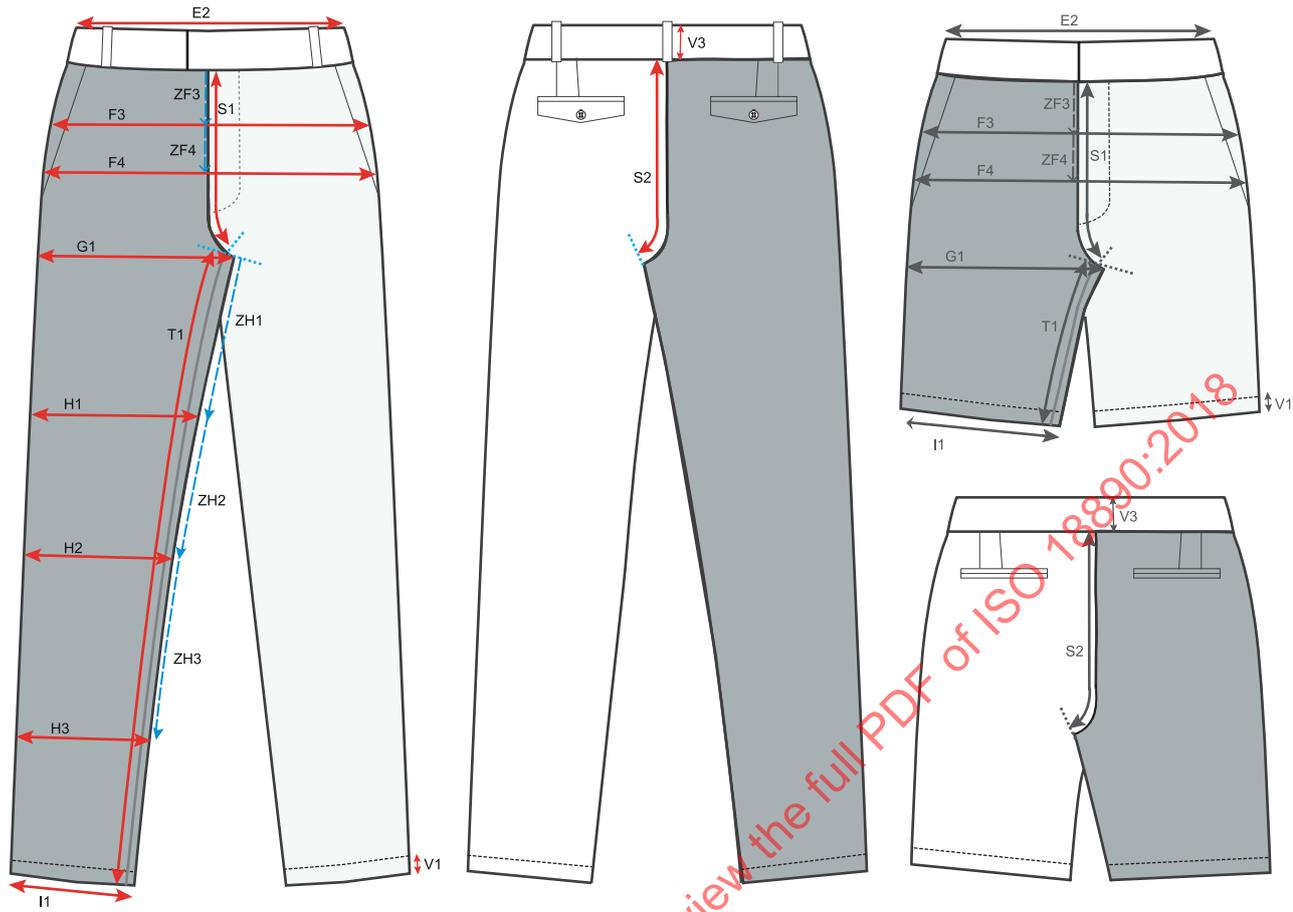


Figure 9 — Trouser and shorts — Front and back

Table 9 — Key to measurement points indicated in Figure 9

Ref.	Area of measurement	Description of measurement
E2	Waist relaxed	With waist edges placed together, measure along top edge
ZF3	Top hip position from waist	Distance from waist seam (excluding waistband) to required position of top hip
F3	Top hip width	At position as indicated by ZF3 measure from edge to edge
ZF4	Mid hip position from waist	Distance from waist seam (excluding waistband) to required position of mid hip
F4	Mid hip width	At position as indicated by ZF4 measure from edge to edge
G1	Thigh width at crotch	From side to crotch fold point
ZH1	Upper leg position from across fork seam (crotch point)	Distance from across fork seam (crotch point) to required upper leg position
H1	Upper leg width	At position as indicated by ZH1 measure from edge to edge
ZH2	Knee position from across fork seam (crotch point)	Distance from across fork seam (crotch point) to required knee position
H2	Knee width	At position as indicated by ZH2 measure from edge to edge
ZH3	Lower leg position from across fork seam (crotch point)	Distance from across fork seam (crotch point) to required lower leg position
H3	Lower leg width	At position as indicated by ZH3 measure from edge to edge
I1	Hem width (or lower edge width, when appropriate)	Measure along hem edge from edge to edge of garment. For garments with shaped hems/side vents: measure straight across at top of shaped hem/side vents from edge to edge.

Table 9 (continued)

Ref.	Area of measurement	Description of measurement
S1	Front rise (excluding waistband)	Measure from waist seam (excluding waistband) following along the front rise seam to across fork seam (crotch point). If there is no front rise seam, measure in a straight vertical line from waist seam (excluding waistband) to across fork seam (crotch point).
S2	Back rise (excluding waistband)	Measure from waist seam (excluding waistband) following along the back rise seam to across fork seam (crotch point). If there is no back rise seam, measure in a straight vertical line from waist seam (excluding waistband) to across fork seam (crotch point).
T1	Inside leg	Measure from across fork seam (crotch point) in a straight line to hem edge. If leg shape is very curved, measure from across fork seam (crotch point) along inside leg seam to hem edge.
V1	Hem depth	Hem edge to seam or to top row of hem depth stitching
V3	Waistband depth	Top edge of waistband to seam where waistband joins garment. this measurement can be taken at CF, CB or at side (fold) of garment

5.4.2 Joggers and leggings

The measurement points in [Table 10](#), complementary to [5.4.1](#) (measurement landmarks based on gusset, or measurements when extended), are shown in [Figure 10](#) (front and back) for joggers and leggings.

[Figure 10](#) shows examples of joggers and leggings.

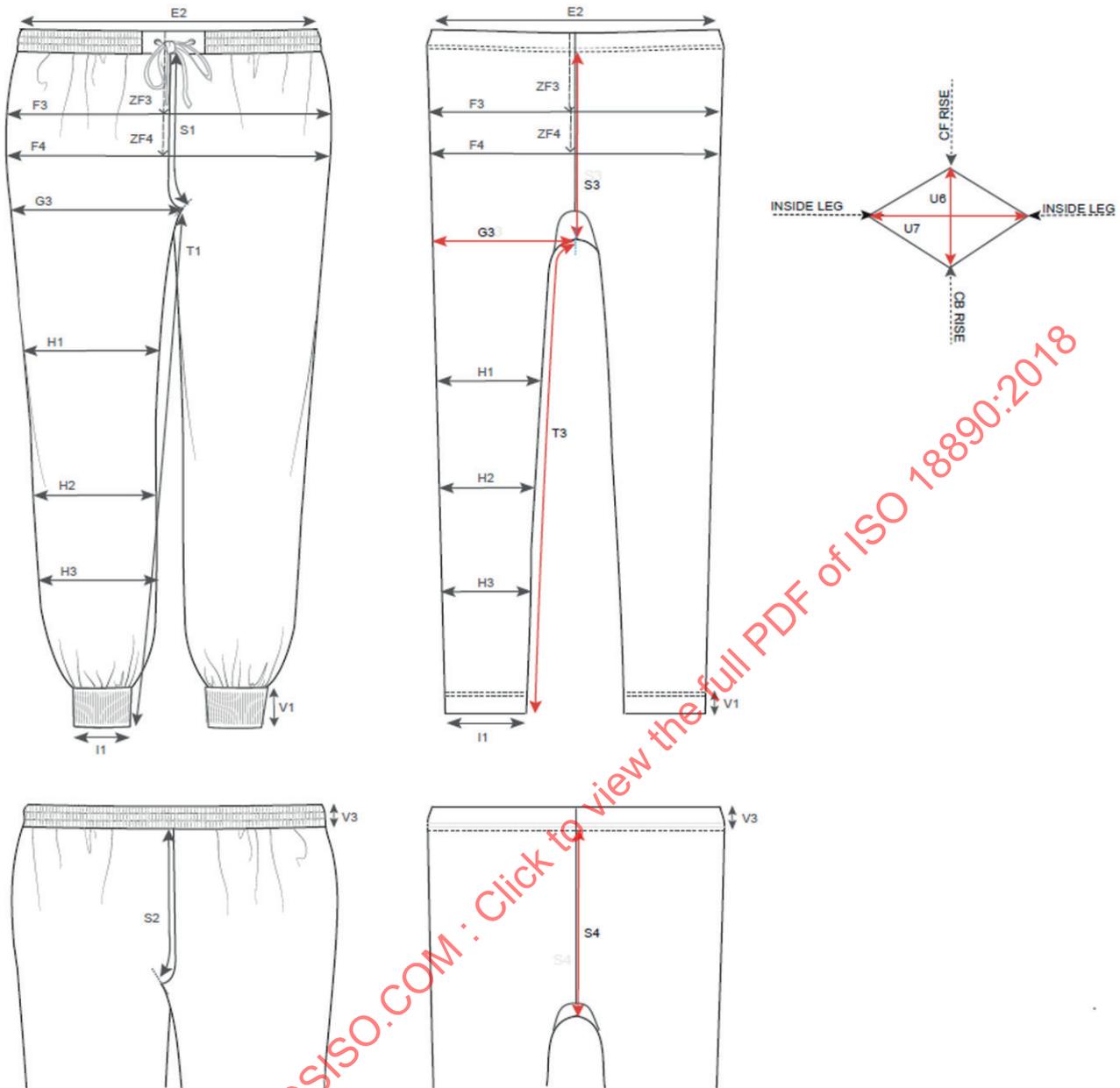


Figure 10 — Joggers and leggings — Front and back

Table 10 — Key to measurement points indicated in Figure 10

Ref.	Area of measurement	Description of measurement
S3	Front rise — excluding waistband	Measure from waist seam (excluding waistband) along the front rise seam to crotch fold. If there is no front rise seam, measure in a straight vertical line from waist seam (excluding waistband) to crotch fold
S4	Back rise — excluding waistband	Measure from waist seam (excluding waistband) along the back-rise seam to crotch fold. If there is no back-rise seam, measure in a straight vertical line from waist seam (excluding waistband) to crotch fold
G3	Thigh width at crotch	From side to gusset crotch fold point

Table 10 (continued)

Ref.	Area of measurement	Description of measurement
T3	Inside leg	Measure from across fork seam (gusset crotch fold point) in a straight line to hem edge. If leg shape is very curved, measure from across fork seam (crotch point) along inside leg seam to hem edge
U6	Gusset length	Front rise seam to back rise seam
U7	Gusset width	Inside leg seam to inside leg seam

5.5 Skirt part

The measurement points in Table 11 are shown in Figure 11 (front and back) for skirt part. Figure 11 shows examples of skirt parts (such as straight skirt and full skirt).

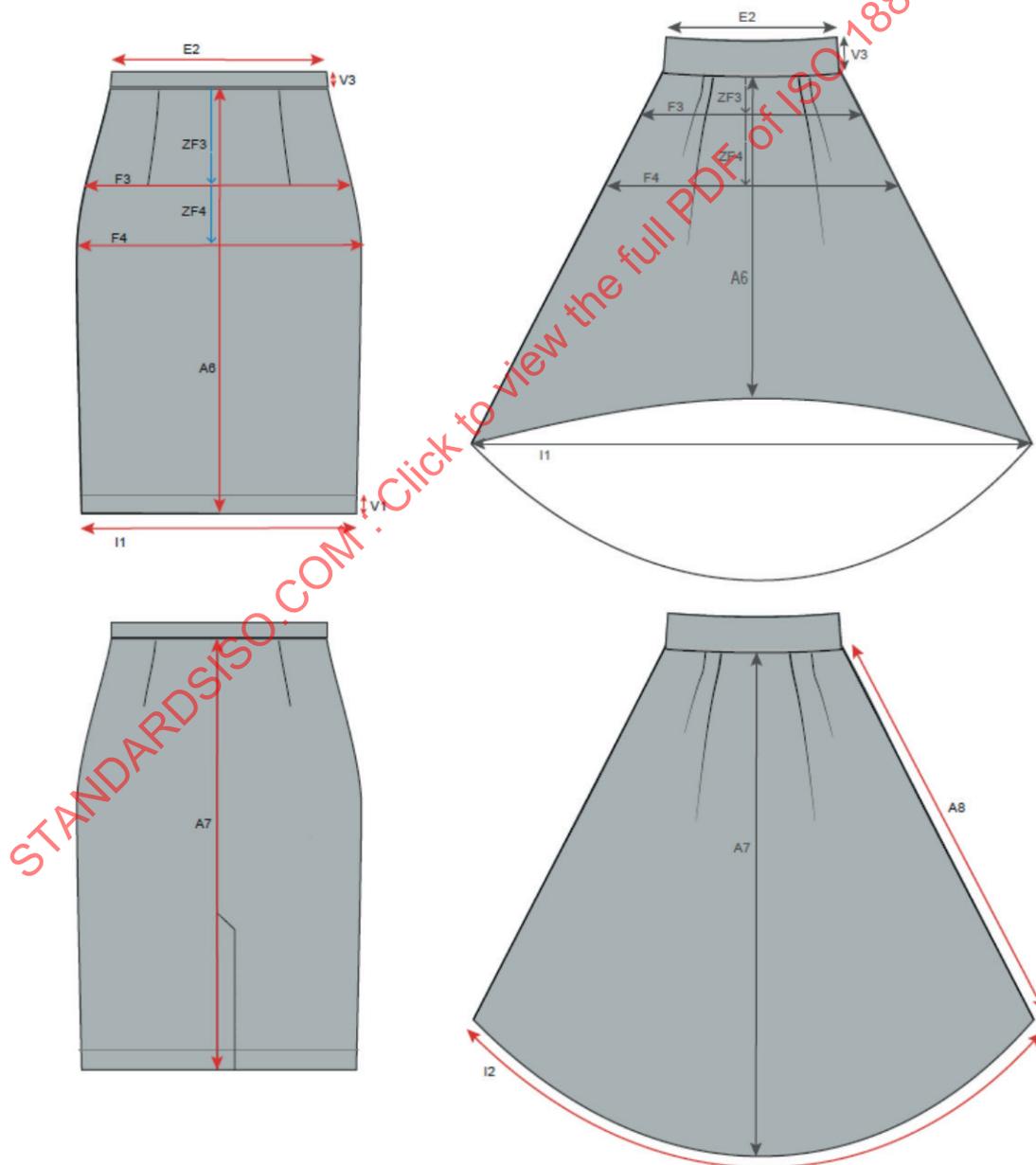


Figure 11 — Straight and full skirts — Front and back

Table 11 — Key to measurement points indicated in [Figure 11](#)

Ref.	Area of measurement	Description of measurement
A6	Centre front length — excluding waistband	From waist seam (waistband excluding) at CF to hem
A7	Centre back length — excluding waistband	From waist seam (waistband excluding) at CB to hem
A8	Side length	Waist seam to hem at side of garment
E2	Waist relaxed	With waist edges placed together measure along top edge
ZF3	Top hip position from waist	Distance from waist seam (excluding waistband) to required position of top hip
F3	Top hip width	At position as indicated by ZF3 measure from edge to edge
ZF4	Mid hip position from waist	Distance from waist seam (excluding waistband) to required position of mid hip
F4	Mid hip width	At position as indicated by ZF4 measure from edge to edge
I1	Hem width (or lower edge width, when appropriate)	Measure along hem edge from edge to edge of garment. For garments with shaped hems/side vents: measure straight across at top of shaped hem/side vents from edge to edge.
I2	Hem edge	Measure along the curved hem edge from side edge to side edge
V1	Hem depth	Hem edge to seam or to top row of hem depth stitching
V3	Waistband depth	Top edge of waistband to seam where waistband joins garment. this measurement can be taken at CF, CB or at side (fold) of garment

5.6 Dress part

The measurement points in [Table 12](#) are shown in [Figure 12](#) (front and back) for dress part.

[Figure 12](#) shows an example of a dress part (such as straight dress).



Figure 12 — Dress — Front and back

Table 12 — Key to measurement points indicated in Figure 12

Ref.	Area of measurement	Description of measurement
A1	Front length	SNP to hem edge
A2	Centre back length	CB neck seam to hem edge
B1	Across shoulder	Shoulder point to shoulder point
ZC1	Across front position from SNP	Distance from SNP to the required across front position
C1	Across front	Armhole seam to seam or edge to edge at position as indicated by ZC1
ZC2	Across back position from SNP	Distance from SNP to the required across back position
C2	Across back	Armhole seam to seam or edge to edge at position as indicated by ZC2
D1	Chest at armhole	Base of armhole to base of armhole
D2	Chest at 2,5 cm below armhole	At 2,5 cm below base of armhole measure from edge to edge
ZE1	Waist position from SNP	Distance from SNP to the waist required position
E1	Waist	At position as indicated by ZE1 measure from edge to edge
ZF1	Top hip position from SNP	Distance from SNP to top hip required position
F1	Top hip width	At position as indicated by ZF1 measure from edge to edge
ZF2	Mid hip position from SNP	Distance from SNP to required mid hip position
F2	Mid hip width	At position as indicated by ZF2 measure from edge to edge
I1	Hem width (or lower edge width, when appropriate)	Measure along hem edge from edge to edge of garment. For garments with shaped hems/side vents: measure straight across at top of shaped hem/side vents from edge to edge.

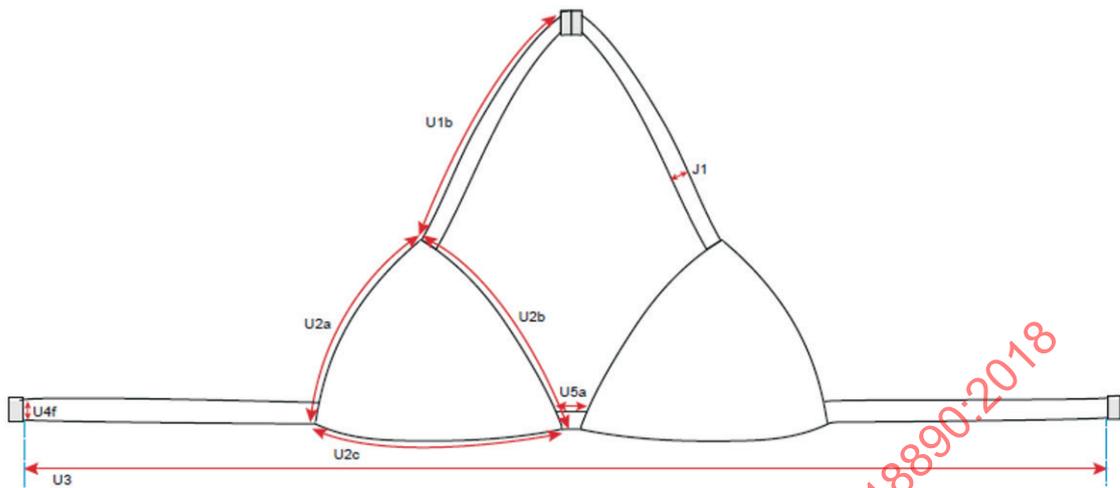
Table 12 (continued)

Ref.	Area of measurement	Description of measurement
J1	Shoulder length/strap width	SNP to shoulder point seam to seam or edge to edge as agreed by interested parties
J2	Shoulder slope	Measure vertically FIL at SNP to shoulder point
M1	Armhole	Shoulder point to base of armhole seam to seam or edge to edge as indicated by design of garment
Q1	Back neck width	Measure SNP to SNP seam to seam (excluding any neck trim) or SNP to SNP edge to edge if there is no neck trim or as agreed by interested parties
V1	Hem depth	Hem edge to seam or to top row of hem depth stitching

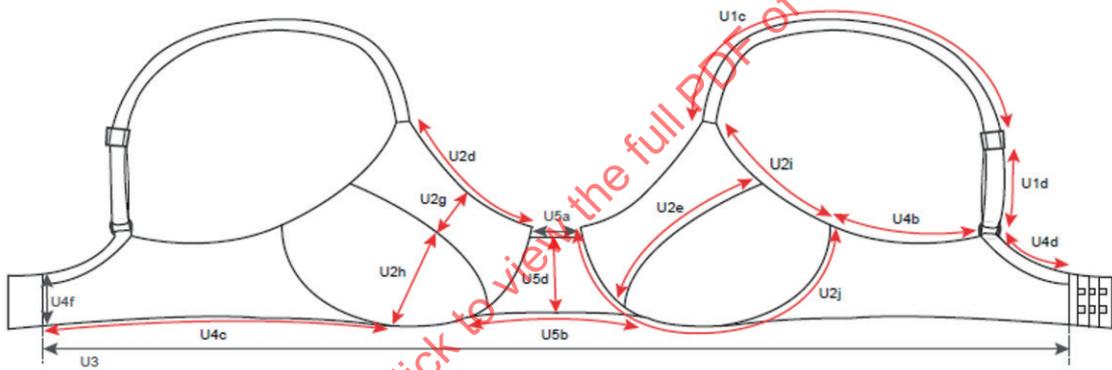
5.7 Bras (including cup)

The measurement points in [Table 13](#) are shown in [Figure 13 a](#)) (triangle cups), [Figure 13 b](#)) (cups with centre front) and [Figure 13 c](#)) (cups with cradle) for bras.

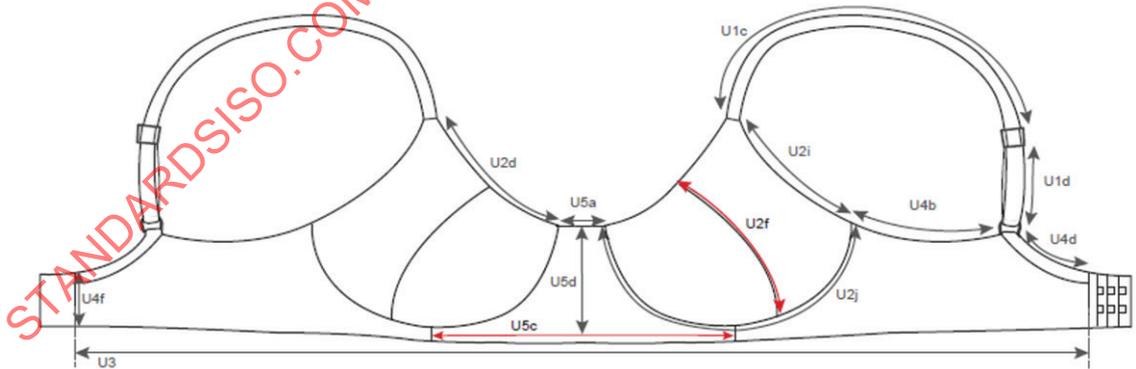
[Figure 13](#) shows examples of bras with triangle cups, cups with centre front and cups with cradle.



a) With triangle cups



b) Underwire bra or non-wired with centre front



c) Underwire bra or non-wired with cradle

Figure 13 — Example of bras

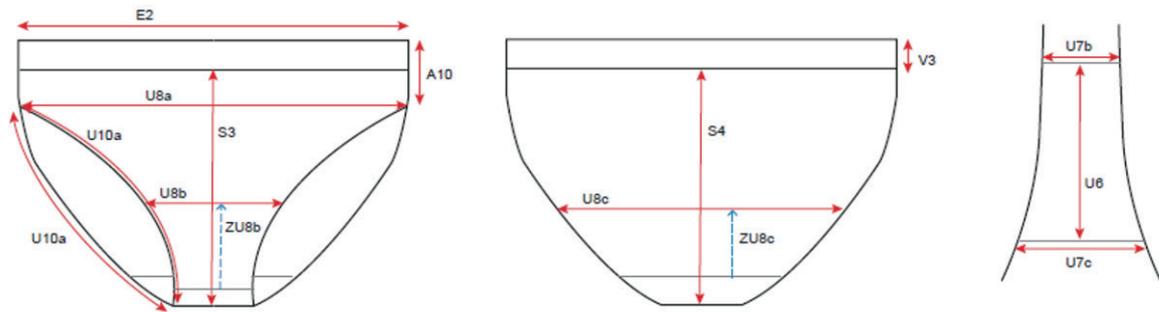
Table 13 — Key to measurement points indicated in Figure 13

Ref.	Area of measurement	Description of measurement
J1	Shoulder length/strap width	SNP to shoulder point seam to seam or edge to edge as agreed by interested parties
U1b	Single strap length	Measure along centre of strap from apex to strap end (excluding clasp closure)
U1c	Front strap length	With garment in hand, measure along centre of strap from apex to end of front strap at ring or join to back strap (excluding ring)
U1d	Back strap length	With garment in hand, ensure there is a 5 cm adjustment before measuring. Measure along centre of strap from front strap.
U2a	Side Cup Length	With cup in hand, measure along the side edge of cup from apex to base of cup
U2b	Inside cup length	With cup in hand, measure along the inside edge of cup from apex to base of cup
U2c	Base of cup width	With cup in hand, measure along the bottom edge of cup base
U2d	Front neck edge	With cup in hand, measure along the front neck edge from CF cup seam to apex (if cup has wire casing, then wire casing should be excluded)
U2e	Over bust seam	With cup in hand, measure along the over bust seam from edge to edge (if cup has wire casing, then wire casing should be excluded)
U2f	Bust depth	With cup in hand, measure from neck edge along seam to cup edge (if cup has wire casing, then wire casing should be excluded)
U2g	Depth of top cup	With cup in hand, measure from centre of cup neck edge to a required point of cup shaping (usually the bust point)
U2h	Depth of bottom cup	With cup in hand, measure from bust point to under bust (if cup has wire casing, then wire casing should be excluded)
U2i	Apex to side cup	With cup in hand, measure along edge from apex to cup seam (if cup has wire casing, then wire casing should be excluded)
U2j	Around wire casing	With garment flat and keeping tape measure on it edge, measure along outer edge of wire casing, from top of cup
U3	Total under band	With garment placed flat, measure in a straight line from end to end (excluding fastening)
U4b	Upper edge of wing	With garment placed flat, measure along outer edge from side cup seam to inside edge of back strap
U4c	Lower edge of wing	With garment placed flat, measure along outer edge from base of cup to end of under band (excluding fastening)
U4d	Back curve of wing	With garment in hand, measure along the stitching from back apex to end of under band (excluding fastening)
U4f	Under band depth	Top to bottom edge of under band at seam (excluding fastening)
U5a	Top edge of CF	Measure top edge of bridge from cup edge to cup edge
U5b	Bottom edge of CF	Measure bottom edge of bridge from cup edge to cup edge
U5c	Cradle width	With garment placed flat, measure in a straight line from seam to seam
U5d	Depth at CF	Top of CF to base of CF (exclude picot edges of elastic)

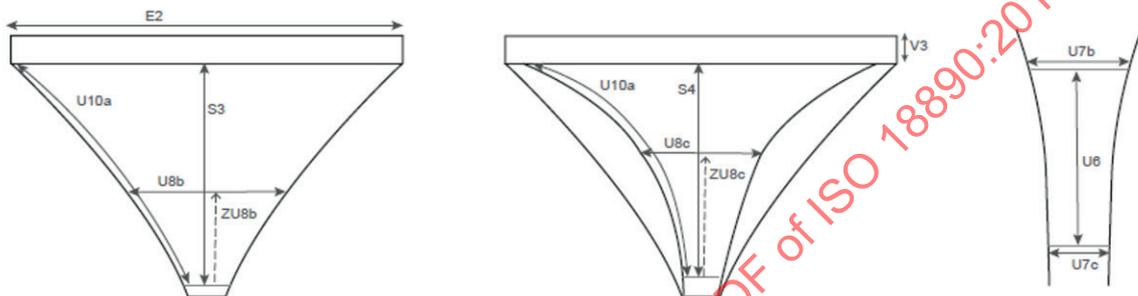
5.8 Brief part

The measurement points in Table 14 are shown in Figure 14 a) (brief), Figure 14 b) (thong) and Figure 14 c) (string) for brief part.

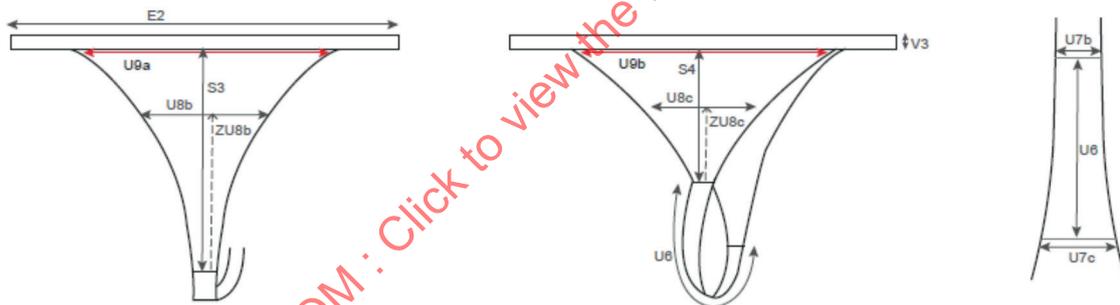
Figure 14 shows examples of brief, thong and string brief.



a) Brief — Front, back and gusset



b) Thong — Front, back and gusset



c) String — Front, back and gusset

Figure 14 — Brief part

Table 14 — Key to measurement points indicated in [Figure 14](#)

Ref.	Area of measurement	Description of measurement
A10	Side length	Top of waistband at side to top of leg opening
E2	Waist relaxed	With waist edges placed together measure along top edge
S3	Front rise — excluding waistband	Measure from waist seam (excluding waistband) along the front rise seam to crotch fold. If there is no front rise seam, measure in a straight vertical line from waist seam (excluding waistband) to crotch fold
S4	Back rise — excluding waistband	Measure from waist seam (excluding waistband) along the back-rise seam to crotch fold. If there is no back-rise seam, measure in a straight vertical line from waist seam (excluding waistband) to crotch fold
U6	Gusset length	Front rise seam to back rise seam
U7b	Gusset width at front	Seam to seam or edge to edge as agreed by interested parties
U7c	Gusset width at back	Seam to seam or edge to edge as agreed by interested parties
U8a	Half hip	Measure edge to edge at top of leg opening

Table 14 (continued)

Ref.	Area of measurement	Description of measurement
ZU8b	Front coverage position	Distance from front gusset/nearest gusset seam to required position of front coverage
U8b	Front coverage	At position as indicated by ZU8b measure from seam to seam or edge to edge as agreed by interested parties
ZU8c	Back coverage position	Distance from back gusset/nearest gusset seam to required position of back coverage
U8c	Back coverage	At position as indicated by ZU8c measure from seam to seam or edge to edge as agreed by interested parties
U9a	Front panel width	At base of waist elastic measure seam to seam or edge to edge as agreed by interested parties
U9b	Back panel width	At base of waist elastic measure seam to seam or edge to edge as agreed by interested parties
U10a	Half leg relaxed	With edges placed together measure along edge
V3	Waistband depth	Top edge of waistband to seam where waistband joins garment. this measurement can be taken at CF, CB or at side (fold) of garment

5.9 Combination/all-in-one/swimsuit

5.9.1 Combination/all-in-one

The measurement points in [Table 15](#) are shown in [Figure 15](#) (front and back) for all in one. In this case, these measurement points are combined from [Table 5 \(5.2.3\)](#), [Table 6 \(5.2.3\)](#) and [Table 9 \(5.4.1\)](#).

[Figure 15](#) shows an example of a sleeveless all-in-one.

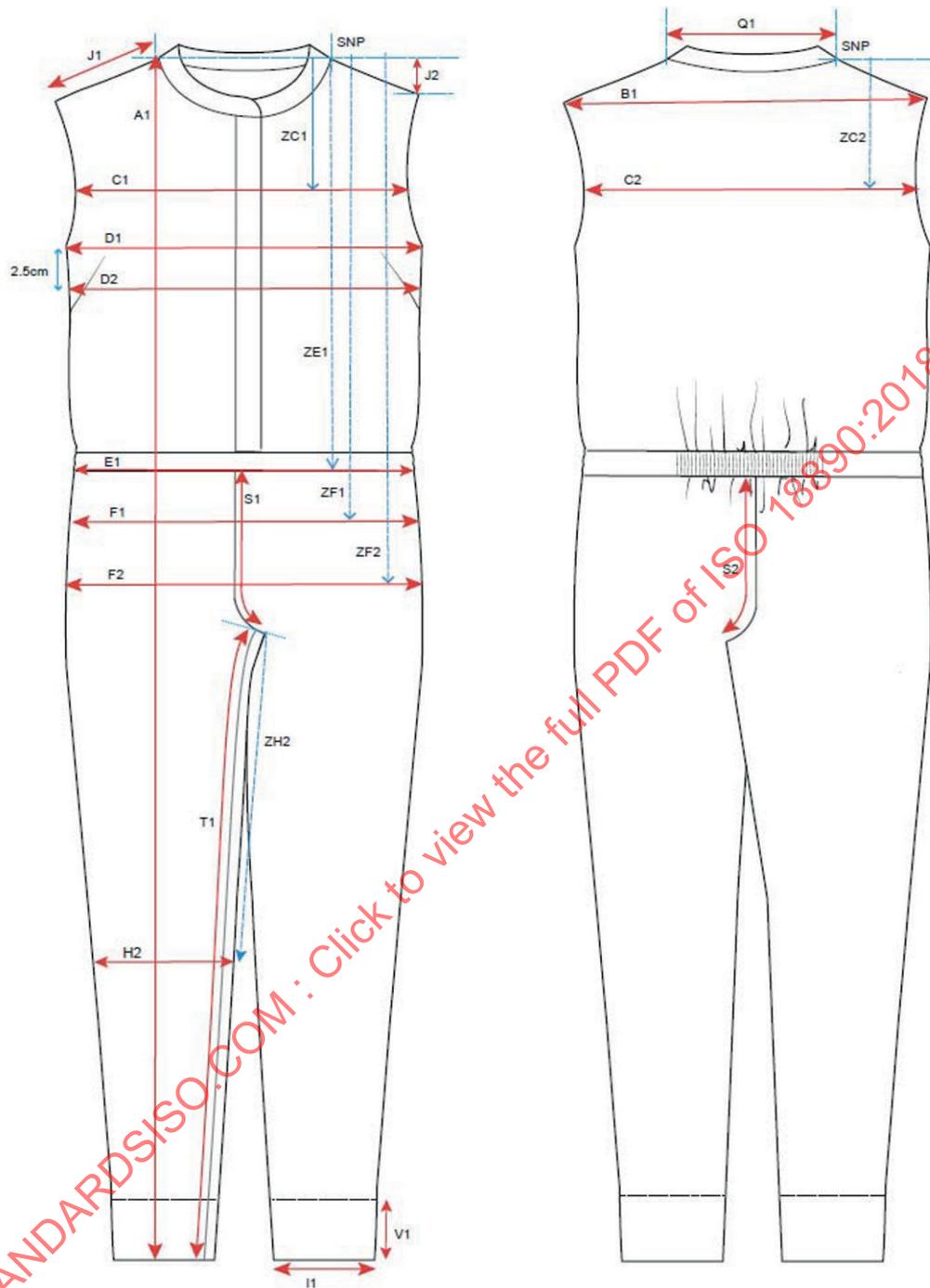


Figure 15 — Combination/all-in-one — Front and back

Table 15 — Key to measurement points indicated in Figure 15

Ref.	Area of measurement	Description of measurement
A1	Front length	SNP to hem edge
B1	Across shoulder	Shoulder point to shoulder point
ZC1	Across front position from SNP	Distance from SNP to the across front required position
C1	Across front	Armhole seam to seam or edge to edge at position as indicated by ZC1
ZC2	Across back position from SNP	Distance from SNP to the across back required position

Table 15 (continued)

Ref.	Area of measurement	Description of measurement
C2	Across back	Armhole seam to seam or edge to edge at position as indicated by ZC2
D1	Chest at armhole	Base of armhole to base of armhole
D2	Chest at 2,5 cm below armhole	At 2,5 cm below base of armhole measure from edge to edge
ZE1	Waist position from SNP	Distance from SNP to the waist required position
E1	Waist	At position as indicated by ZE1 measure from edge to edge
ZF1	Top hip position from SNP	Distance from SNP to top hip required position
F1	Top hip width	At position as indicated by ZF1 measure from edge to edge
ZF2	Mid hip position from SNP	Distance from SNP to required mid hip position
F2	Mid hip width	At position as indicated by ZF2 measure from edge to edge
ZH2	Knee position from across fork seam (crotch point)	Distance from across fork seam (crotch point) to knee required position
H2	Knee width	At position as indicated by ZH2 measure from edge to edge
I1	Hem width (or lower edge width, when appropriate)	Measure along hem edge from edge to edge of garment. For garments with shaped hems/side vents: measure straight across at top of shaped hem/side vents from edge to edge.
J1	Shoulder length/strap width	SNP to shoulder point seam to seam or edge to edge as agreed by interested parties
J2	Shoulder slope	Measure vertically FIL at SNP to shoulder point
Q1	Back neck width	Measure SNP to SNP seam to seam (excluding any neck trim) or SNP to SNP edge to edge if there is no neck trim or as agreed by interested parties
S1	Front rise (excluding waistband)	Measure from waist seam (excluding waistband) following along the front rise seam to across fork seam (crotch point). If there is no front rise seam, measure in a straight vertical line from waist seam (excluding waistband) to across fork seam (crotch point).
S2	Back rise (excluding waistband)	Measure from waist seam (excluding waistband) following along the back rise seam to across fork seam (crotch point). If there is no back rise seam, measure in a straight vertical line from waist seam (excluding waistband) to across fork seam (crotch point).
T1	Inside leg	Measure from across fork seam (crotch point) in a straight line to hem edge. If leg shape is very curved, measure from across fork seam (crotch point) along inside leg seam to hem edge.
V1	Hem depth	Hem edge to seam or to top row of hem depth stitching

5.9.2 Swimsuit

The measurement points in [Table 16](#) are shown in [Figure 16](#) (front, back and gusset) for a swimsuit. In this case, these measurement points are combined from [Table 5](#) (5.2.3), [Table 6](#) (5.2.3) and [Table 14](#) (5.8).

[Figure 16](#) shows an example of a swimsuit.

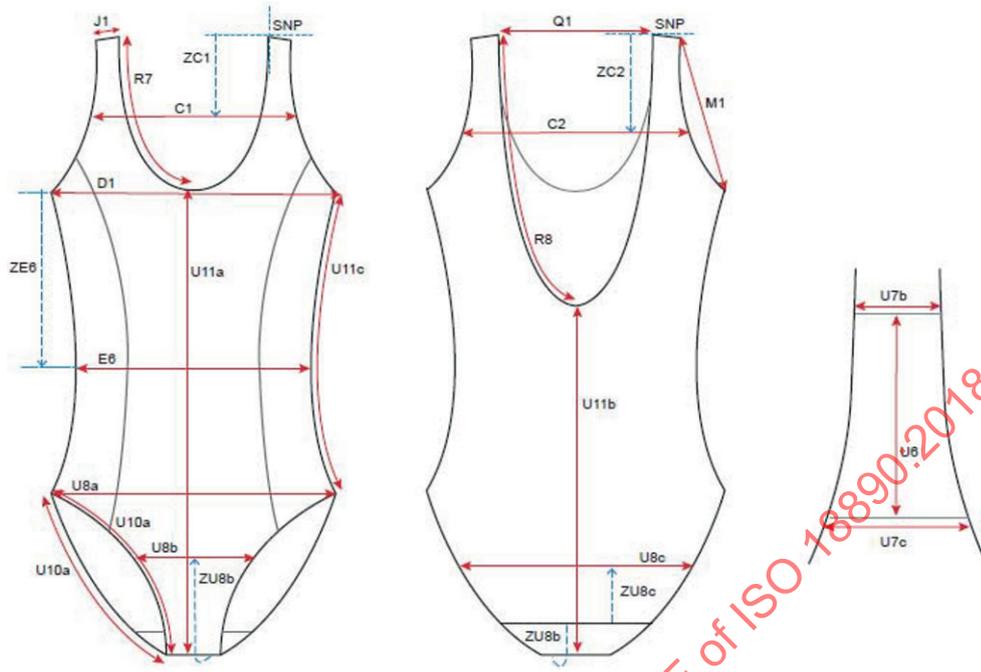


Figure 16 — Swimsuit — Front, back and gusset

Table 16 — Key to measurement points indicated in Figure 16

Ref.	Area of measurement	Description of measurement
ZC1	Across front position from SNP	Distance from SNP to the across front required position
C1	Across front	Armhole seam to seam or edge to edge at position as indicated by ZC1
ZC2	Across back position from SNP	Distance from SNP to the across back required position
C2	Across back	Armhole seam to seam or edge to edge at position as indicated by ZC2
D1	Chest at armhole	Base of armhole to base of armhole
ZE6	Waist position from underarm	Distance from underarm to required position of waist
E6	Waist	At position as indicated by ZE6 measure from edge to edge
J1	Shoulder length/strap width	SNP to shoulder point seam to seam or edge to edge as agreed by interested parties
M1	Armhole	Shoulder point to base of armhole seam to seam or edge to edge as indicated by design of garment
Q1	Back neck width	Measure SNP to SNP seam to seam (excluding any neck trim) or SNP to SNP edge to edge if there is no neck trim or as agreed by interested parties
R7	Half front neck	Measure along curved edge from shoulder seam/fold to CF point
R8	Half back neck	Measure along curved edge from shoulder seam/fold to CB point
U6	Gusset length	Front rise seam to back rise seam
U7b	Gusset width at front	Seam to seam or edge to edge as agreed by interested parties
U7c	Gusset width at back	Seam to seam or edge to edge as agreed by interested parties
U8a	Half hip	Measure edge to edge at top of leg opening
ZU8b	Front coverage position	Distance from front gusset/nearest gusset seam to required position of front coverage

Table 16 (continued)

Ref.	Area of measurement	Description of measurement
U8b	Front coverage	At position as indicated by ZU8b measure from seam to seam or edge to edge as agreed by interested parties
ZU8c	Back coverage position	Distance from back gusset/nearest gusset seam to required position of back coverage
U8c	Back coverage	At position as indicated by ZU8c measure from seam to seam or edge to edge as agreed by interested parties
U10a	Half leg relaxed	With edges placed together measure along edge
U11a	CF length	CF neck at top edge to crotch fold
U11b	CB length	CB neck at top edge to crotch fold
U11c	Side length	Measure along seam/side fold from underarm to top of leg opening

5.9.3 Body

The measurement points in Table 17 are shown in Figure 17 (front, back and gusset) for body. In this case, these measurement points are combined from Table 13 (5.7) and Table 14 (5.8).

Figure 17 shows an example of a body.

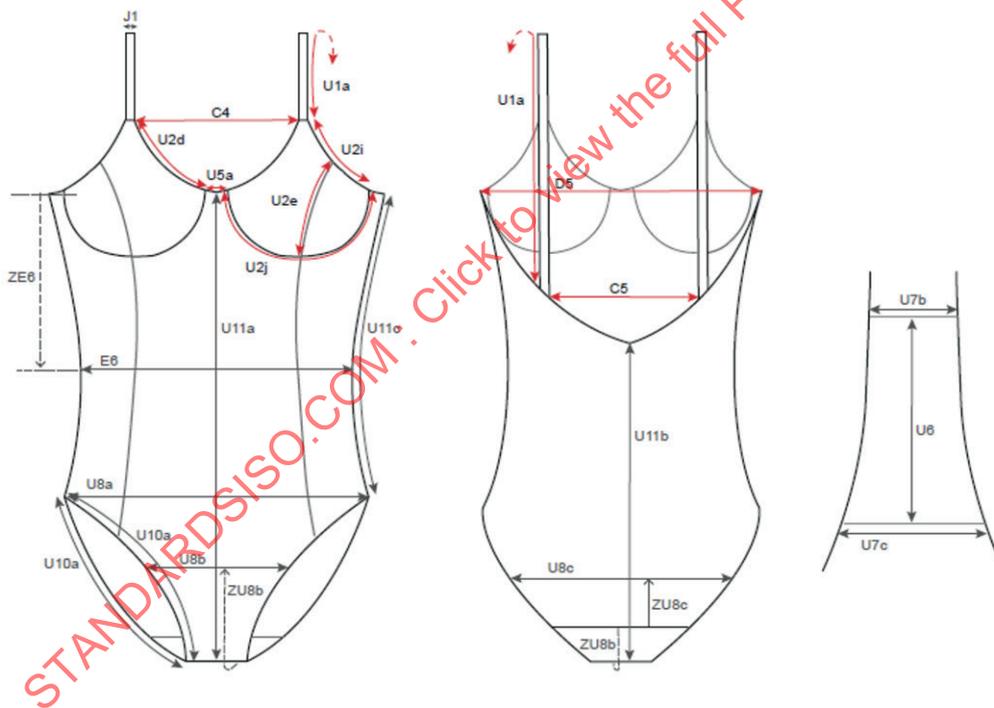


Figure 17 — Underwire body — Front, back and gusset

Table 17 — Key to measurement points indicated in Figure 17

Ref.	Area of measurement	Description of measurement
C4	Across front	Apex to apex — i.e. between straps (excluding any trim)
C5	Across back	Apex to apex — i.e. between straps (edge to edge excluding any trim)
D5	Back chest at armhole	Base of armhole to base of armhole
U1a	Total strap length	Measure along centre of strap from apex/position where strap is attached at front to position where strap is attached at back

Table 17 (continued)

Ref.	Area of measurement	Description of measurement
U2d	Front neck edge	With cup in hand, measure along the front neck edge from CF cup seam to apex (if cup has wire casing, then wire casing should be excluded)
U2e	Over bust seam	With cup in hand, measure along the over bust seam from edge to edge (if cup has wire casing, then wire casing should be excluded)
U2i	Apex to side cup	With cup in hand, measure along edge from apex to cup seam (if cup has wire casing, then wire casing should be excluded)
U2j	Around wire casing	With garment flat and keeping tape measure on it edge, measure along outer edge of wire casing, from top of cup
U5a	Top edge of CF	Measure top edge of bridge from cup edge to cup edge

5.10 Ties

5.10.1 Tie

The measurement points in [Table 18](#) are shown in [Figure 18](#) for ties.

[Figure 18](#) shows an example of a tie.

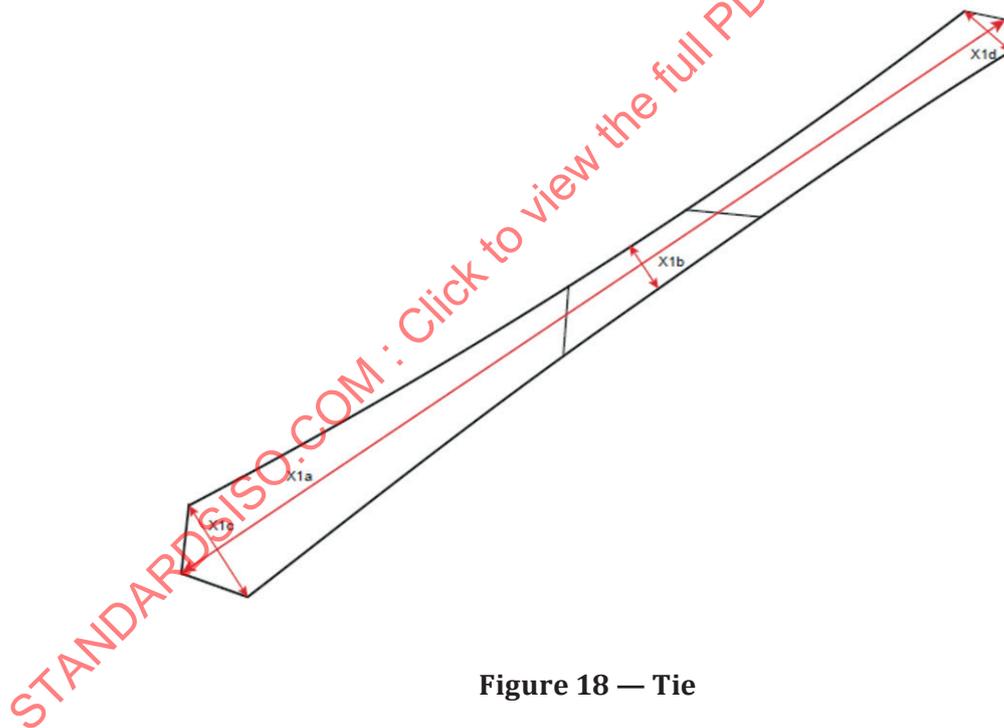


Figure 18 — Tie

Table 18 — Key to measurement points indicated in Figure 18

Ref.	Area of measurement	Description of measurement
X1a	Length	Measure the length from the point of the mitre (wide end) to the opposite point of the mitre (narrow end). If the neck tie does not have any mitres, measure from the one straight edge to the opposite straight edge.
X1b	Width	At narrowest point
X1c	Width (wide end)	Measure across the width, at the base of the mitre, at the wide end of the tie. If the tie does not have a mitre, measure along the straight edge of the wide end of the tie.
X1d	Width (narrow end)	Measure across the width, at the base of the mitre, at the narrow end of the tie. If the tie does not have a mitre, measure along the straight edge of the narrowest end of the tie.

5.10.2 Bow tie

The measurement points in Table 19 are shown in Figure 19 for ties.

NOTE Due to variety of bow tie attachments, no specific dimensions of these attachments have been listed.

Figure 19 shows an example of a bow tie.

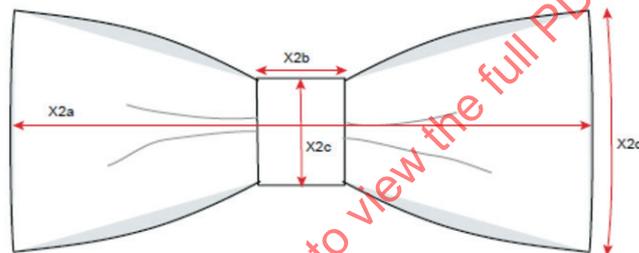


Figure 19 — Bow tie

Table 19 — Key to measurement points indicated in Figure 19

Ref.	Area of measurement	Description of measurement
X2a	Length	Measure from fold to fold at centre
X2b	Loop width	Measure length of loop at top edge
X2c	Loop depth	Measure depth at centre of loop
X2d	Bow depth at widest	Measure along the folded edge at outer end of bow

5.11 Scarf

The measurement points in Table 20 are shown in Figure 20 for scarf.

Figure 20 shows an example of a scarf.

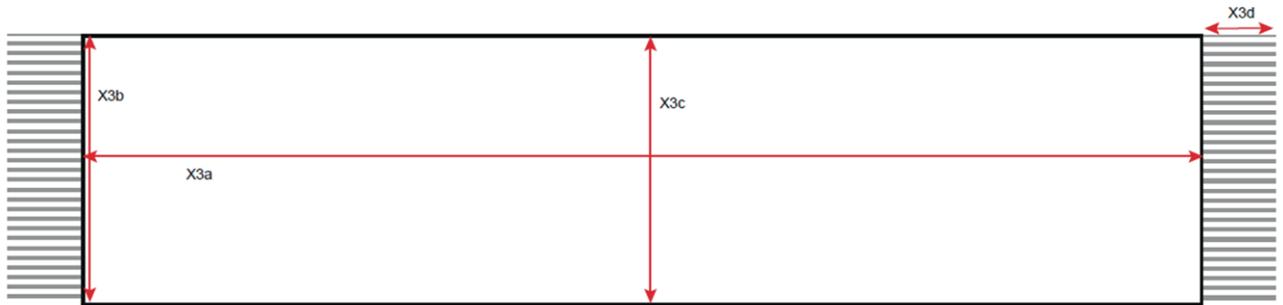


Figure 20 — Scarf

Table 20 — Key to measurement points indicated in Figure 20

Ref.	Area of measurement	Description of measurement
X3a	Length	Edge to edge at centre
X3b	Depth	Edge to edge at side ends
X3c	Depth	Edge to edge at centre
X3d	Tassel length	From joint to end

5.12 Glove

The measurement points in Table 21 are shown in Figure 21 for gloves.

Figure 21 shows an example of a glove.

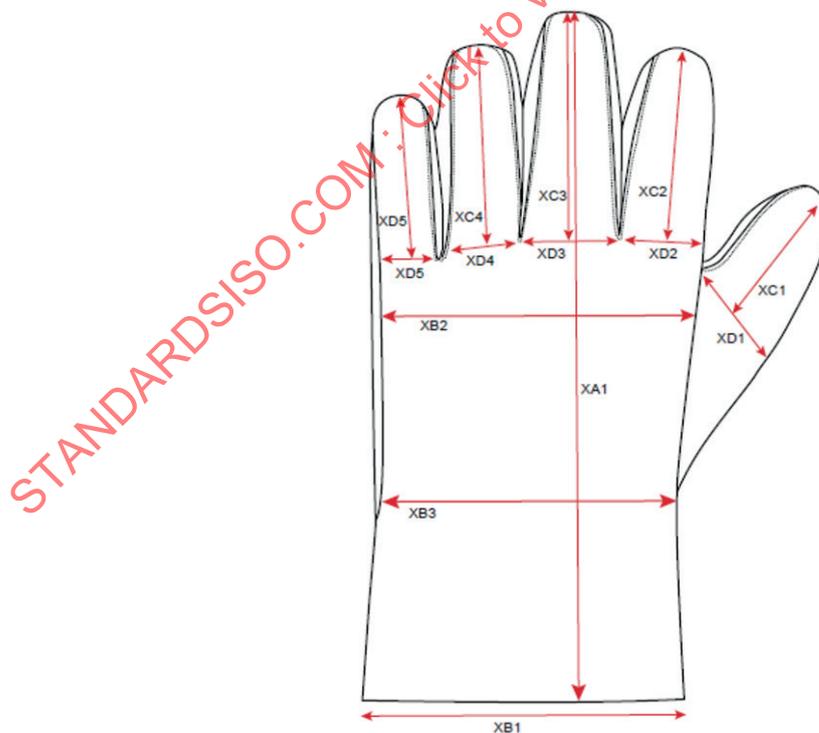


Figure 21 — Glove

Table 21 — Key to measurement points indicated in Figure 21

Ref.	Area of measurement	Description of measurement
XA1	Total length	Tip of second finger to the outer edge of the cuff.
XB1	Hem width (or lower edge width, when appropriate)	Measure along hem edge from edge to edge of garment. For garments with shaped hems/side vents: measure straight across at top of shaped hem/side vents from edge to edge.
XB2	Hand width	Measure across the width at level of the knuckles
XB3	Wrist width	Measure across the width at base of thumb seam
XC1	Thumb length	Base to tip
XC2	1st finger length	Base to tip
XC3	2nd finger length	Base to tip
XC4	3rd finger length	Base to tip
XC5	4th finger length	Base to tip
XD1	Thumb width	At base
XD2	1st finger width	At base
XD3	2nd finger width	At base
XD4	3rd finger width	At base
XD5	4th finger width	At base

5.13 Hats

5.13.1 Beanie hat

The measurement points in Table 22 are shown in Figure 22 for a beanie hat.

Figure 22 shows an example of a beanie hat.

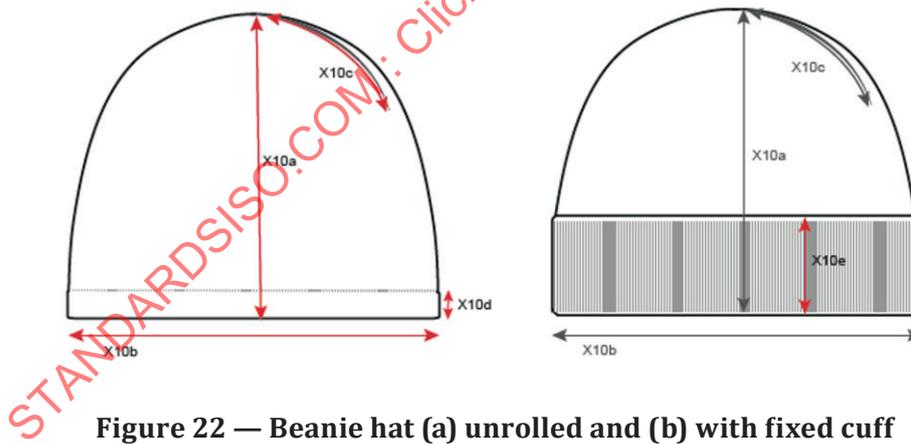


Figure 22 — Beanie hat (a) unrolled and (b) with fixed cuff

Table 22 — Key to measurement points indicated in Figure 22

Ref.	Area of measurement	Description of measurement
X10a	Depth	Measure the length in the centre of the cap from the top edge to the bottom edge (the turned-over section to be folded over the specified distance before measuring).
X10b	Width at opening	Measure along the opening edge of the beanie hat.
X10c	Dart Length	Measure from the top apex of the beanie hat where the dart starts, along the length of the dart to its lower end.
X10d	Hem depth	Measure from seam to edge
X10e	Folded depth	Measure from opening fold to edge

5.13.2 Cap hat

The measurement points in Table 23 are shown in Figure 23 for a cap.

Figure 23 represents an example of a cap.

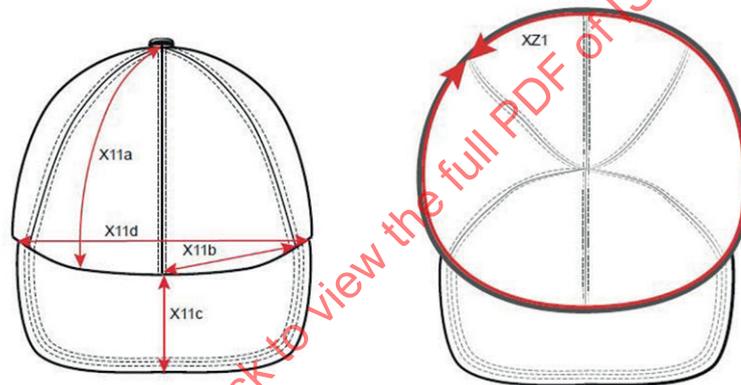


Figure 23 — Cap

Table 23 — Key to measurement points indicated in Figure 23

Ref.	Area of measurement	Description of measurement
X11a	Panel depth	Measure from the apex, along centre of panel following the curve to the panel/peak seam.
X11b	Panel width	Measure at the base of each panel, from the one panel seam to the other.
X11c	Peak depth	Measure in a straight line from the centre of the peak/panel seam, to the front outer edge of the peak.
X11d	Peak width	Measure in a straight line, from the outer edge of the peak-to-crown seam to the other outer edge of the peak-to-crown seam.
XZ1	Opening circumference	Measure inside of the hat, along edge of the opening circumference

5.13.3 Boater/bush hat

The measurement points in Table 24 are shown in Figure 24 for a boater/bush hat.

Figure 24 shows an example of a boater/bush hat.

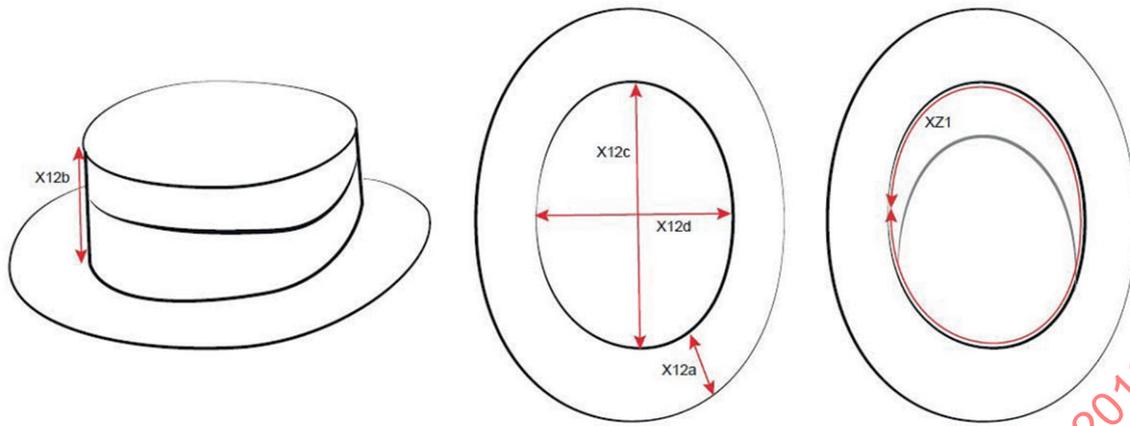


Figure 24 — Boater/bush hat

Table 24 — Key to measurement points indicated in [Figure 24](#)

Ref.	Area of measurement	Description of measurement
X12a	Brim width	Measure in a straight line from brim/crown seam, to outer edge of brim
X12b	Crown depth	Measure from the brim/crown seam to top of crown
X12c	Crown opening length	Measure the length of the crown opening from the CF to CB.
X12d	Crown opening width	Measure the width of the crown opening from left side to right side at the widest points
XZ1	Opening circumference	Measure inside of the hat, along edge of the opening circumference

5.14 Socks, invisible socks and tights

5.14.1 Socks and invisible socks

The measurement points in [Table 25](#) are shown in [Figure 25](#) for socks and invisible socks.

[Figure 25](#) shows an example of a sock and an invisible sock.

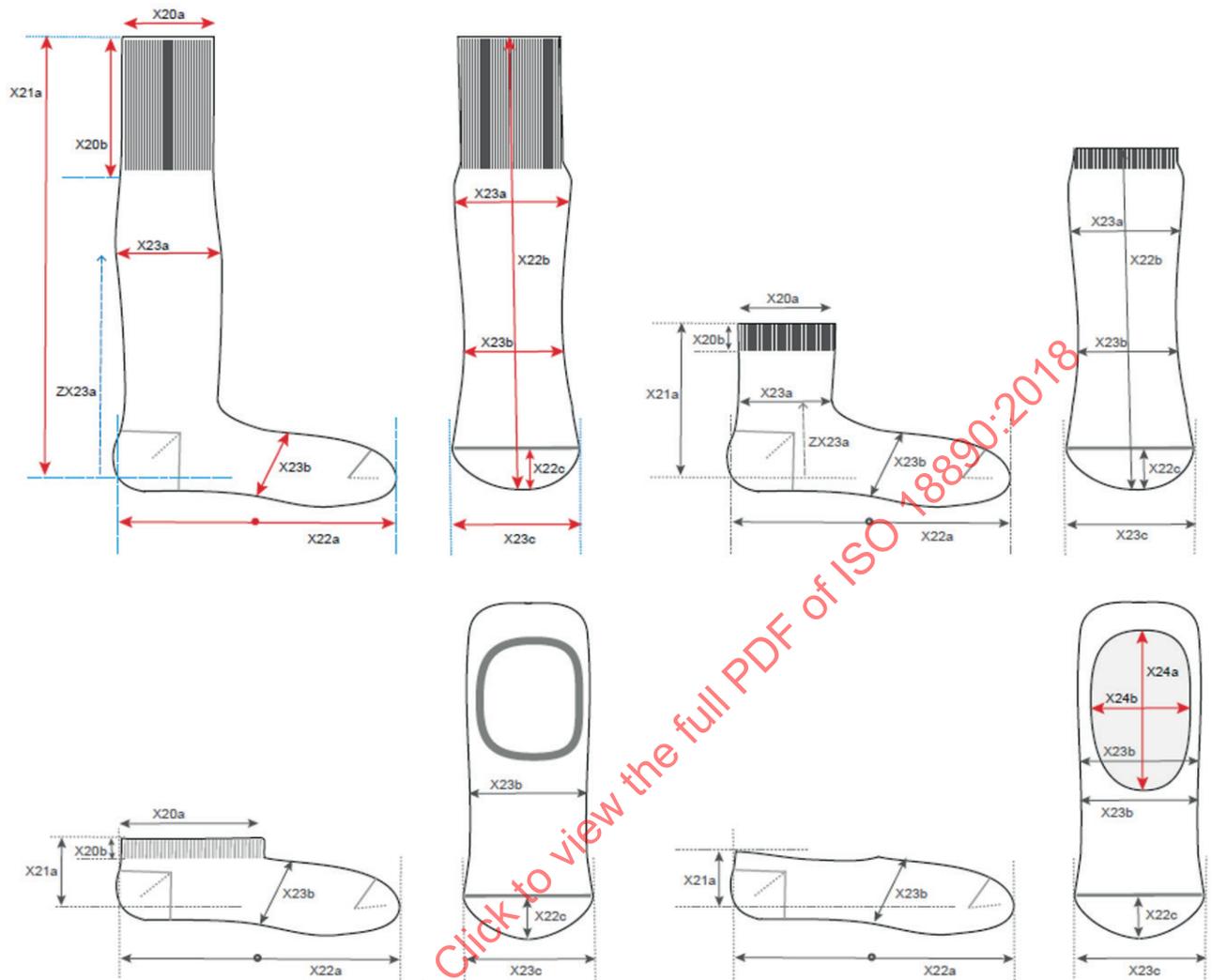


Figure 25 — Sock and invisible sock

Table 25 — Key to measurement points indicated in Figure 25

Ref.	Area of measurement	Description of measurement
X20a	Width of cuff/cast on edge/cast off edge (relaxed)	Measure along top edge of opening
X20b	Depth of cuff/cast on edge/cast off edge	Measure length from opening edge to seam/last course
X21a	Leg length	Measure length from opening edge to the crossing point of pick line [gore line] extension and bottom of heel
X22a	Foot length	Measure length from crossing point of pick line [gore line] extension and bottom of heel to point of toe
X22b	Tube length	Measure from centre of opening edge to centre of toe point
X22c	Toe depth	Measure from centre of toe seam to centre of toe point
ZX23a	Leg width position	Required position (e.g. at ankle, at calf) from the base of foot
X23a	leg width	Measure width of leg at required position ZX21b (e.g. at ankle, at calf) from the base of foot
X23b	Foot width	Measure width at mid-level of the foot length

Table 25 (continued)

Ref.	Area of measurement	Description of measurement
X23c	Toe width	Measure width at toe seam
X24a	Opening depth	Measure the length from CF to CB opening, edge to edge
X24b	Opening width	Measure the opening width from edge to edge

5.14.2 Tights

The measurement points in Table 26, complementary to 5.4.2 and 5.14.1 (measurement landmarks based on gusset, or measurements when extended) are shown in Figure 26 for tights.

Specific measurement under tension for socks and tights is described in A.3.

Figure 26 represents an example of tights.

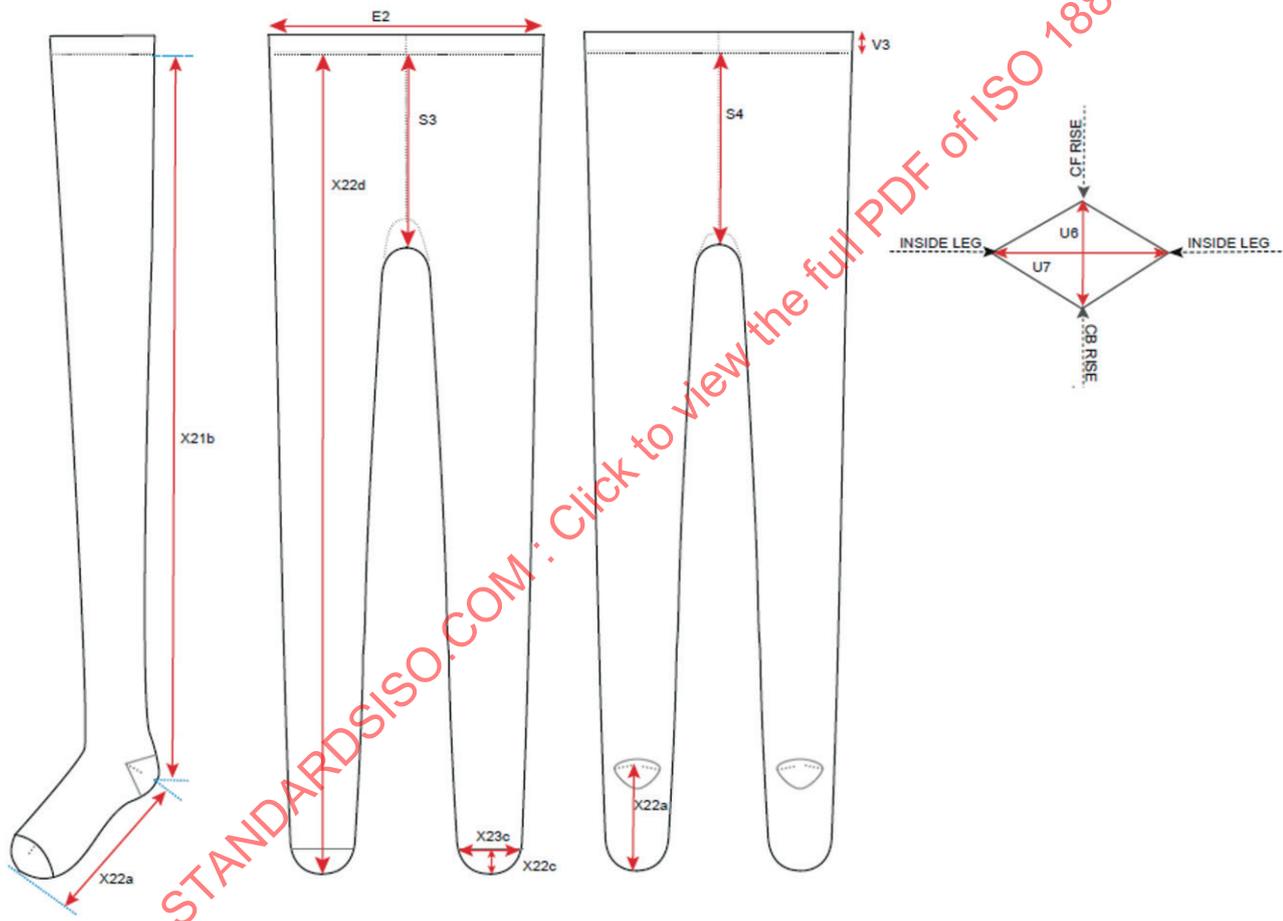


Figure 26 — Tights

Table 26 — Key to measurement points indicated in Figure 26

Ref.	Area of measurement	Description of measurement
E2	Waist relaxed	With waist edges placed together measure along top edge
S3	Front rise — excluding waistband	Measure from waist seam (excluding waistband) along the front rise seam to crotch fold. If there is no front rise seam, measure in a straight vertical line from waist seam (excluding waistband) to crotch fold
S4	Back rise — excluding waistband	Measure from waist seam (excluding waistband) along the back-rise seam to crotch fold. If there is no back-rise seam, measure in a straight vertical line from waist seam (excluding waistband) to crotch fold
U6	Gusset length	Front rise seam to back rise seam
U7	Gusset width	Inside leg seam to inside leg seam
V3	Waistband depth	Top edge of waistband to seam where waistband joins garment. this measurement can be taken at CF, CB or at side (fold) of garment
X21b	Leg length	Measure length from waist seam to the crossing point of pick line [gore line] extension and bottom of heel
X22a	Foot length	Measure length from crossing point of pick line [gore line] extension and bottom of heel to point of toe
X22c	Toe depth	Measure from centre of toe seam to centre of toe point
X22d	Tube length	Measure from waistband seam to centre of toe point
X23c	Toe width	Measure width at toe seam

5.15 Belt

5.15.1 Belt with buckle

The measurement points in Table 27 are shown in Figure 27 for belts.

Figure 27 shows an example of a belt with buckle.

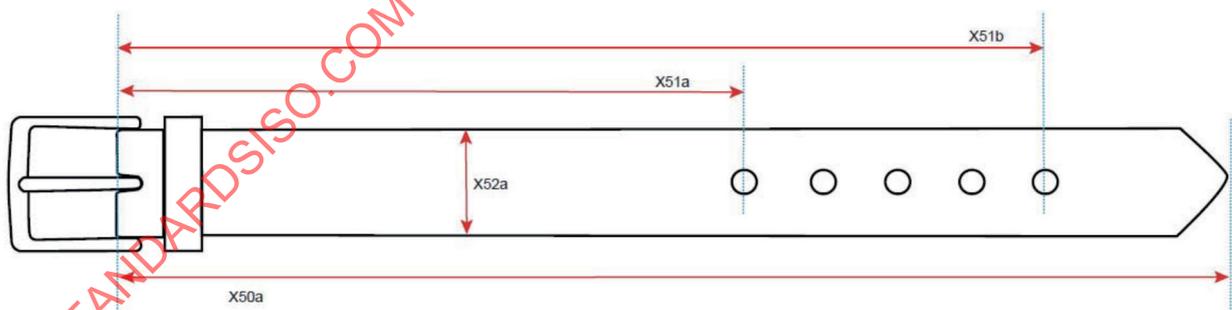


Figure 27 — Belt

Table 27 — Key to measurement points indicated in [Figure 27](#)

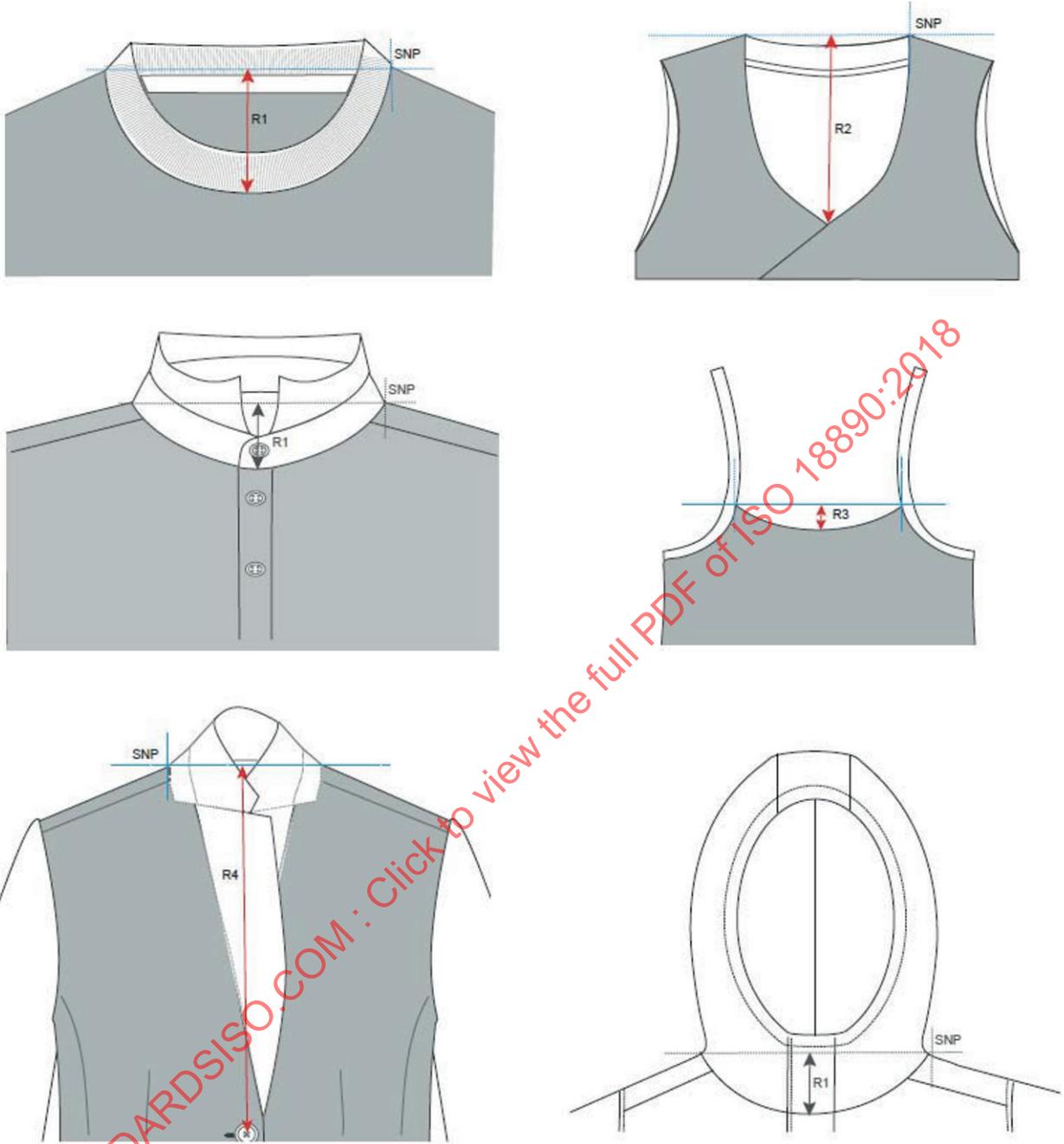
Ref.	Area of measurement	Description of measurement
X50a	Total length	Measure from the return (position where belt is attached to the buckle) to the end of the belt
X51a	Minimum length	Measure from the return (position where belt is attached to the buckle) to centre of first hole
X51b	Maximum length	Measure from the return (position where belt is attached to the buckle) to centre of last hole
X52a	Width	Measure from edge to edge

6 Measurements of certain components of garment or textile product

6.1 Component/neck opening

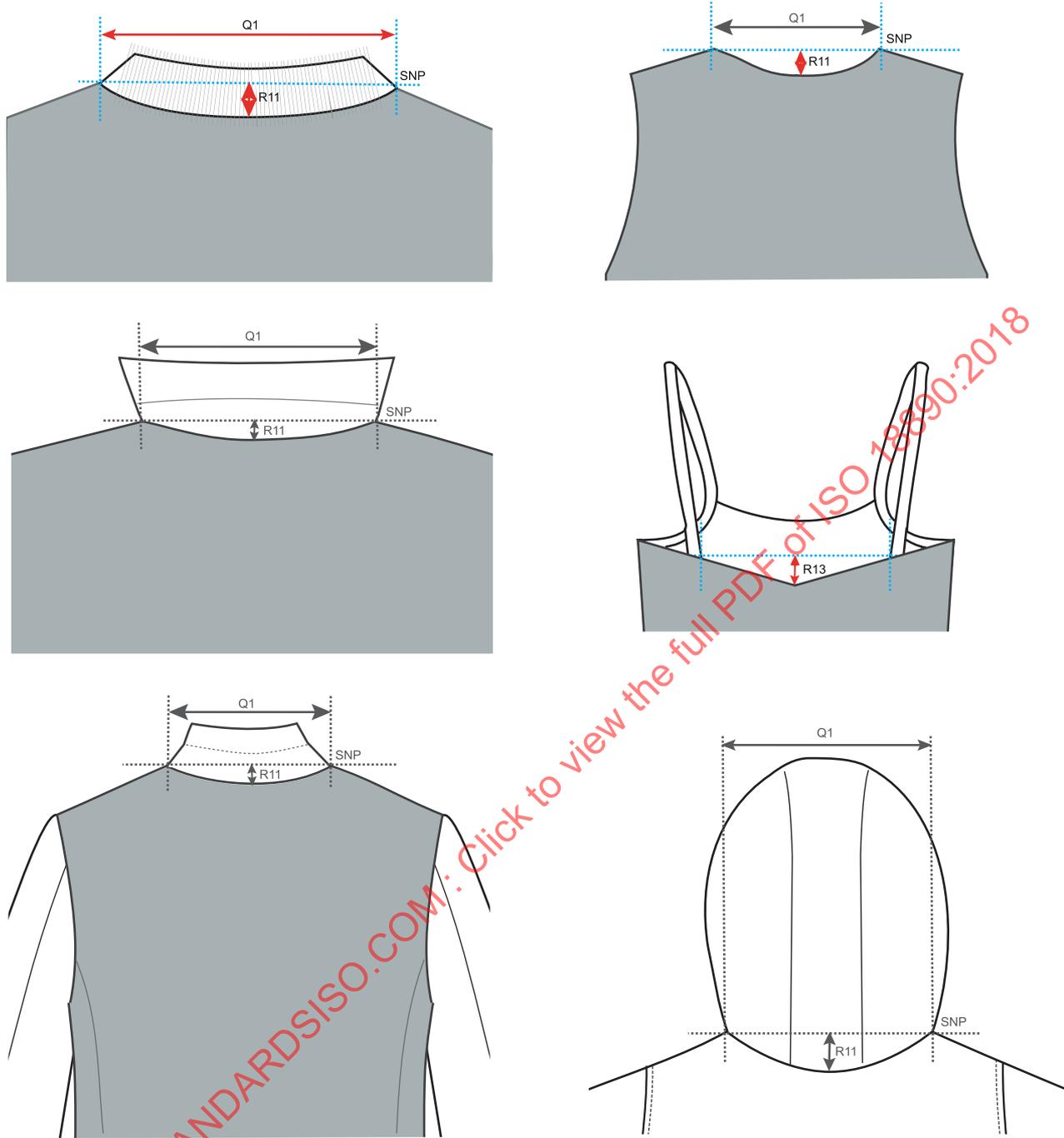
The measurement points in [Table 28](#) are shown in [Figure 28 a](#)) (front) and [Figure 28 b](#)) (back) for neck opening dimensions.

[Figure 28](#) represents examples of front neck for a crew neck with rib collar, wrap over top without collar, pointed collar with collar stand, camisole, single breasted jacket with reverse collar and hooded top.



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a) Front



b) Back

Figure 28 — Neck opening

Table 28 — Key to measurement points indicated in Figure 28

Ref.	Area of measurement	Description of measurement
Q1	Back neck width	Measure SNP to SNP seam to seam (excluding any neck trim) or SNP to SNP edge to edge if there is no neck trim or as agreed by interested parties
R1	Front neck drop	FIL at SNP measure in a vertical line to neck seam at CF. If there is no seam, measure to top edge.
R2	Front neck drop	FIL at SNP measure in a vertical line to cross over point at CF
R3	Front neck drop	FIL at apex measure in a vertical line to neck seam at CF. If there is no seam, measure to top edge.
R4	Front neck drop	FIL at SNP measure in a vertical line to centre of top button.
R11	Back neck drop	FIL at SNP measure in a vertical line to neck seam at CB. If there is no seam, measure to top edge.
R13	Back neck drop	FIL at apex measure in a vertical line to neck seam at CB. If there is no seam, measure to top edge.

6.2 Component/collars and hoods

6.2.1 Collars

The measurement points in [Table 29](#) are shown in [Figure 29](#) for collar dimensions.

[Figure 29](#) shows examples of collars for a rib collar, funnel neck, pointed collar with collar stand, pointed collar without collar stand and reverse collar.

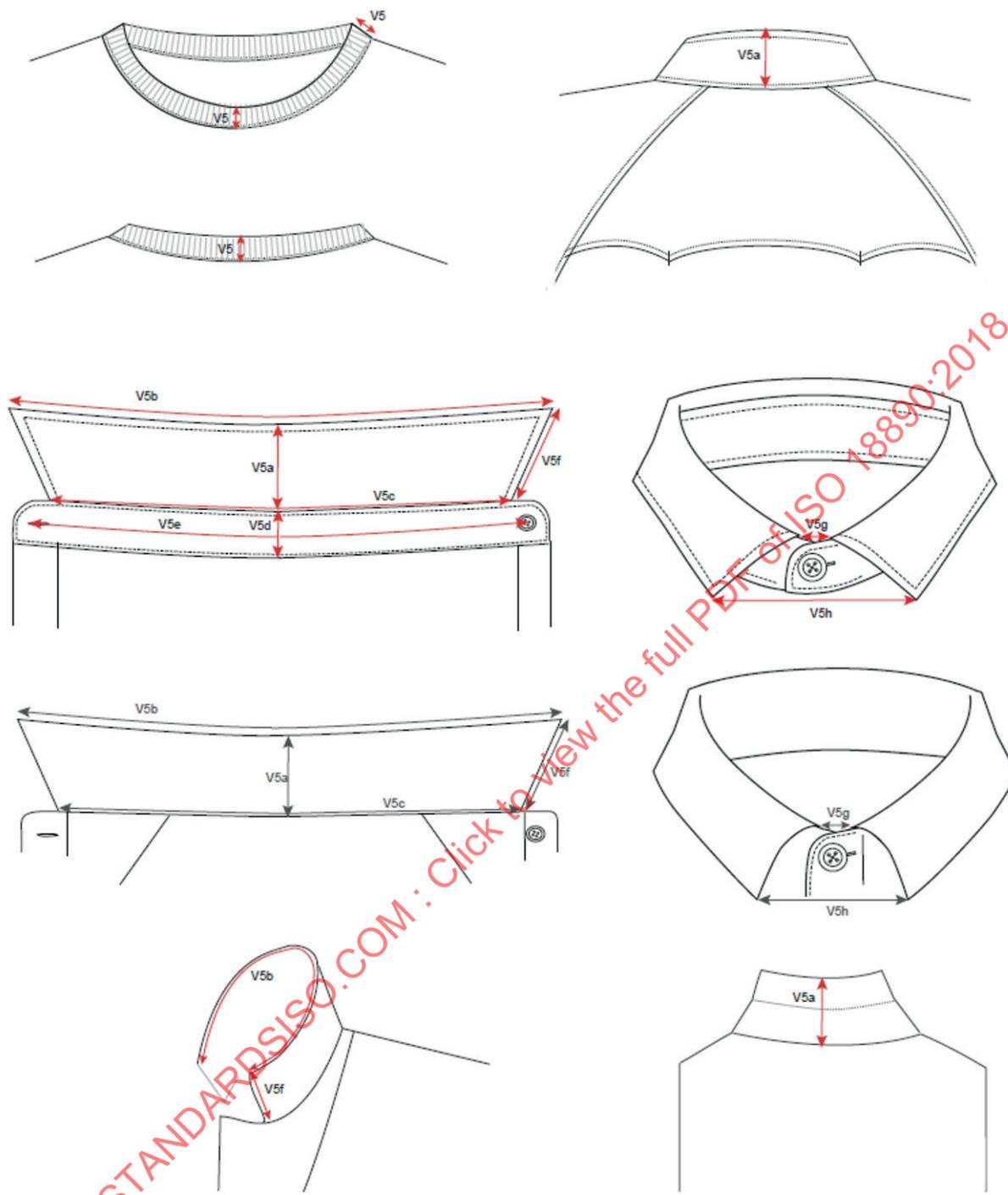


Figure 29 — Collars

Table 29 — Key to measurement points indicated in [Figure 29](#)

Ref.	Area of measurement	Description of measurement
V5	Collar depth	Collar edge to seam where collar joins neck seam. This measurement can be taken at CF, CB or at sides.
V5a	Collar depth	Collar edge to seam where collar joins neck seam at CB. If style has collar stand: measure collar edge to seam where collar joins collar stand at CB
V5b	Collar leaf edge length	Measure from collar point to collar point along the collar leaf edge

Table 29 (continued)

Ref.	Area of measurement	Description of measurement
V5c	Collar base length	Measure the length along the base of the collar (for 2 piece collar, measure along the seam)
V5d	Collar stand depth	Collar stand edge to neck seam where collar stand joins garment at CB
V5e	Collar circumference	Measure from the front edge of the buttonhole to centre of button following shape line of collar stand
V5f	Collar point length	Measure along front edge of collar from collar point to where collar joins neck seam. If style has collar stand: measure from collar point to where collar joins collar stand.
V5g	Tie space	With collar fully fastened, measure gap between the collar point/collar stand join to collar point/collar stand join
V5h	Collar spread	With collar fully fasten, measure gap between the collar point to collar point

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6.2.2 Hoods

The measurement points in [Table 30](#) are shown in [Figure 30](#) for hood dimensions.

[Figure 30](#) shows examples of hoods for three-piece hoods and two-piece hoods.

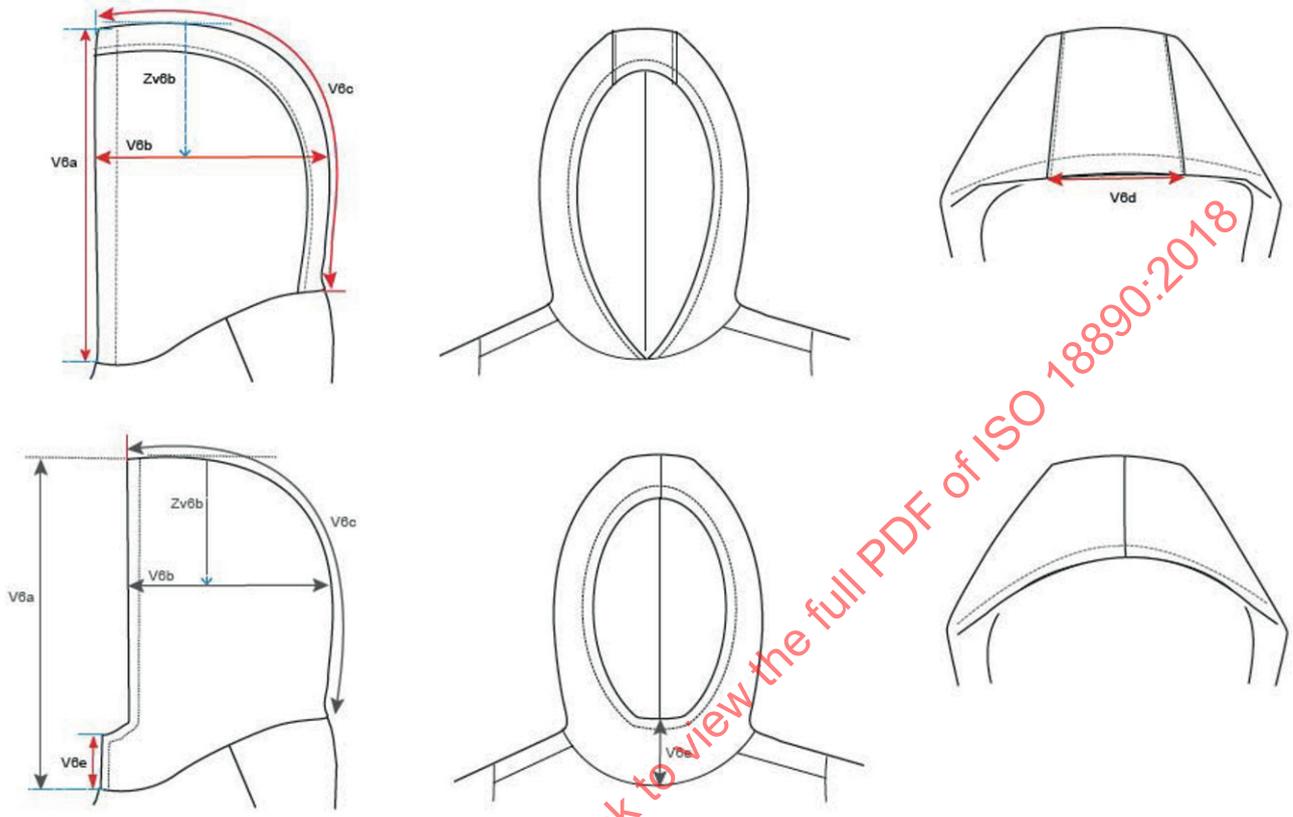


Figure 30 — Hoods

Table 30 — Key to measurement points indicated in [Figure 30](#)

Ref.	Area of measurement	Description of measurement
V6a	Hood opening length	With hood opening edges placed together measure from CF neck seam to top of hood
ZV6b	Hood width position from top of hood	Distance from top of hood to required position of hood width
V6b	Hood width	With hood opening edges placed together and hood as flat as possible, measure from front edge to fold at position as indicated by ZV6b
V6c	Hood overhead length	With hood opening edges placed together and hood as flat as possible, measure from top of hood following hood curve to seam where hood joins garment at CB neck.
V6d	Hood central panel width	At front of hood, measure width of panel seam to seam
V6e	Hood neck guard depth	With hood opening edges placed together and hood as flat as possible, measure from CF neck seam top of neck guard

Annex A (normative)

Measurements when extended

A.1 General

Depending on style and construction, measurement under tension is required for certain garment parts.

The measurement of garments when extended is described in [A.2](#), except for socks and tights, which is described in [A.3](#).

The hand-stretched method ([A.2.1](#)) is used as the reference method.

IMPORTANT — Do not over extend. No breakage of seams or stitching or tearing of fabric shall occur.

Alternative methods to the hand stretched method may be used, such as:

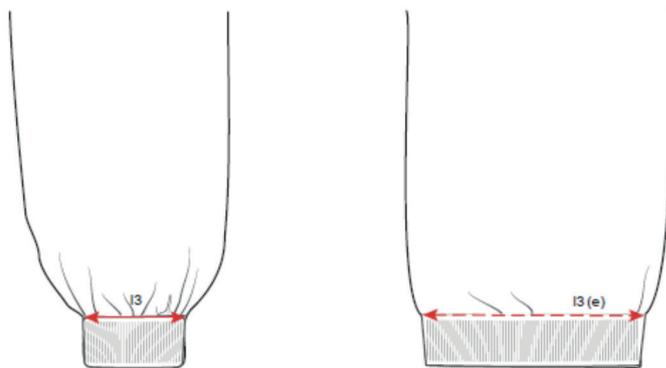
- a) method using a cone ([A.2.2.1](#));
- b) method using head shape ([A.2.2.2](#)).

A.2 Measurement of garments when extended, except socks and tights

A.2.1 Hand stretched

The measurement points in [Table A.1](#) are shown in [Figure A.1](#) for relaxed and extended hem, cuff, waist, neck, under band, leg and beanie hat opening.

[Figure A.1](#) shows examples of a) ribbed hem, b) ribbed cuff, c) shorts with elasticised waist, d) skirt with elasticised waist, e) T-shirt with rib collar, f) T-shirt with point collar, g) bra with under band, h) pants with elasticised waist and leg opening, i) swimsuit leg opening and j) beanie hat.



a) Ribbed hem

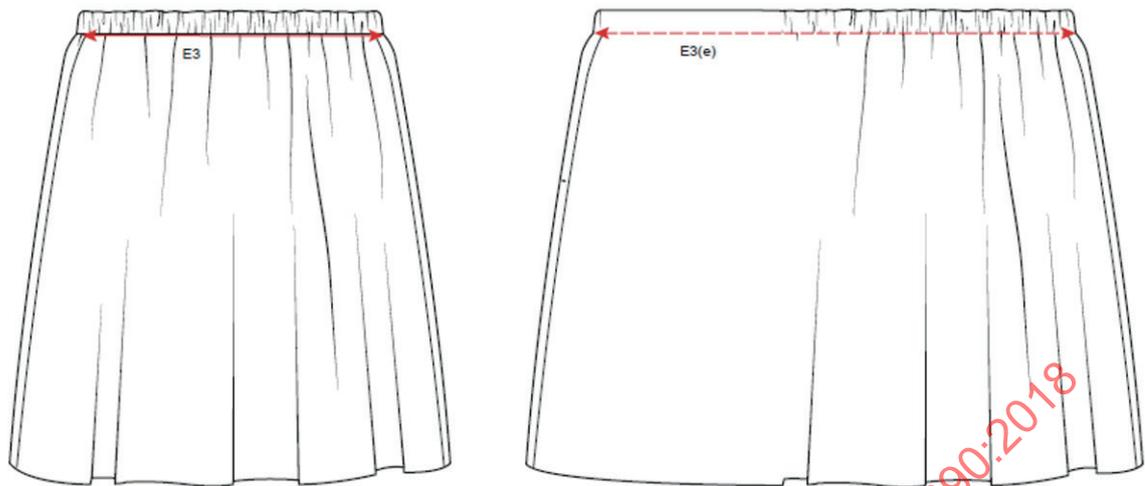


b) Ribbed cuff

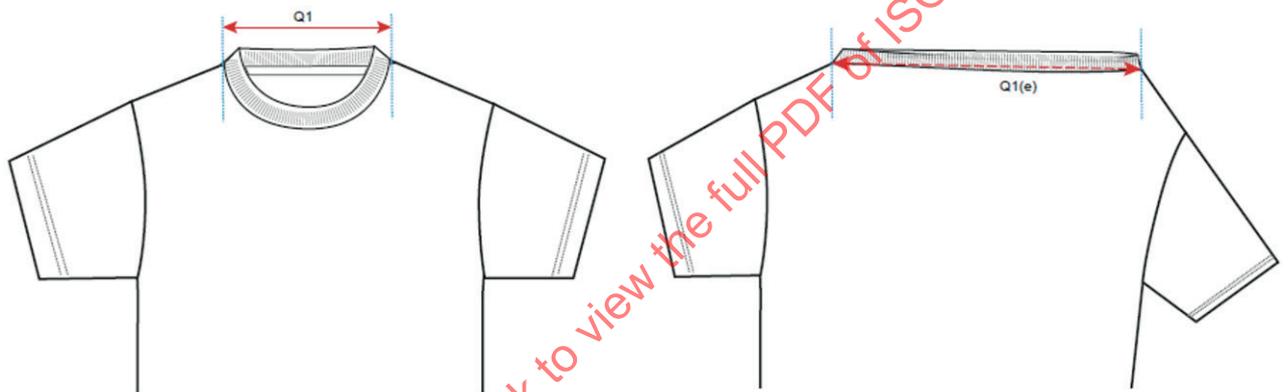


c) Short with elasticised waist

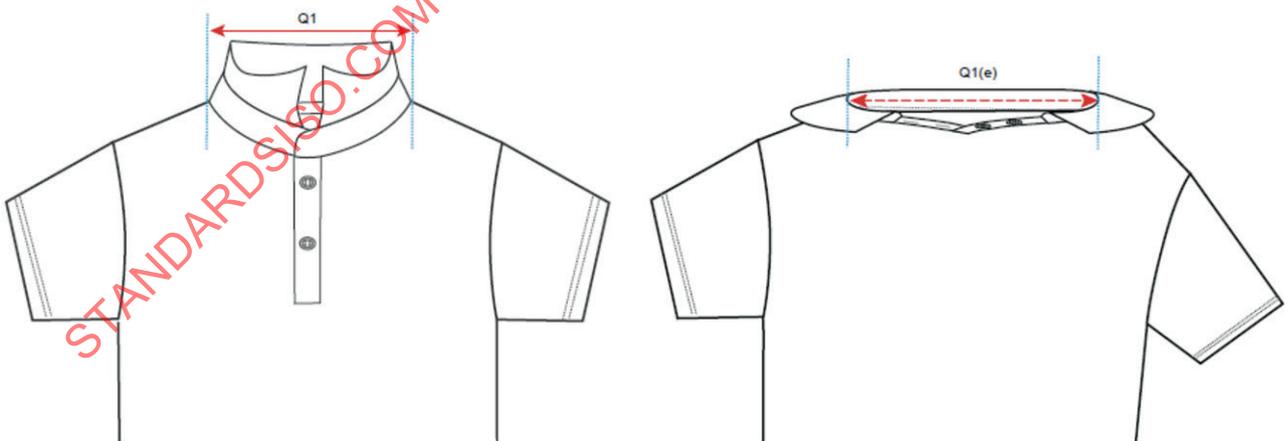
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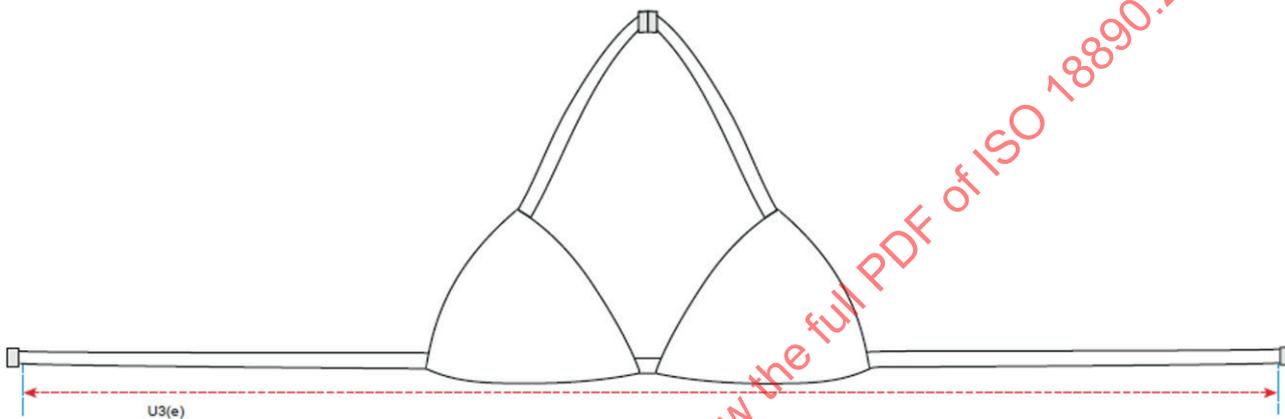
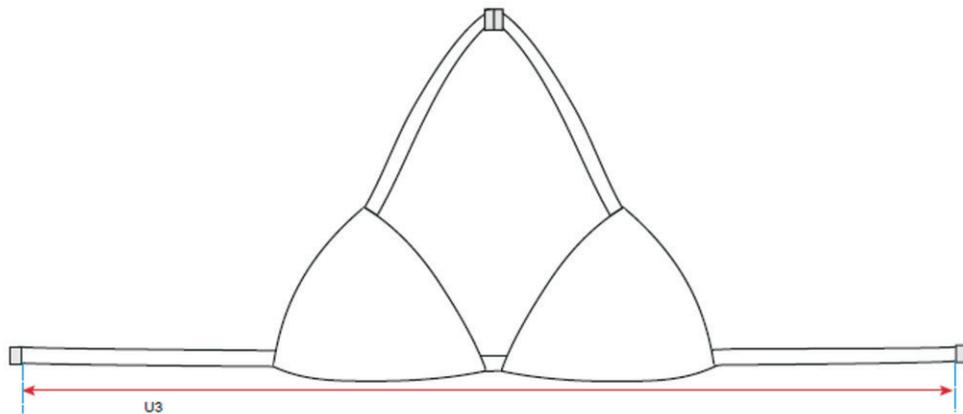
d) Skirt with elasticised waist



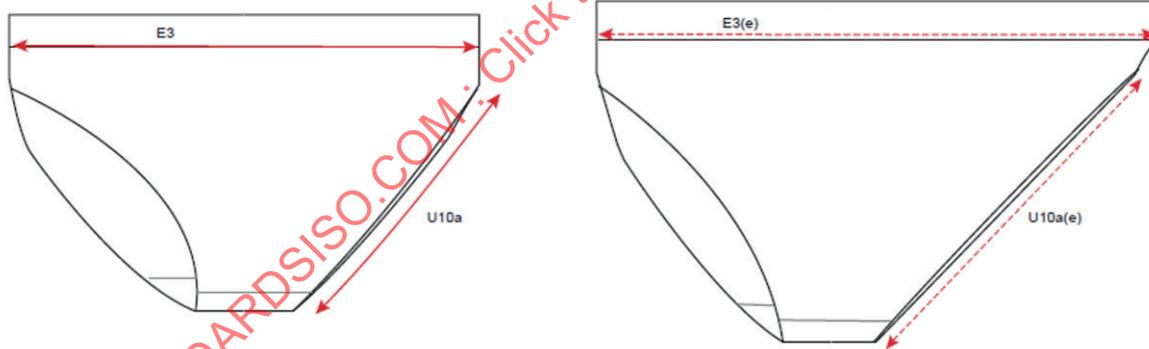
e) T-shirt with rib collar



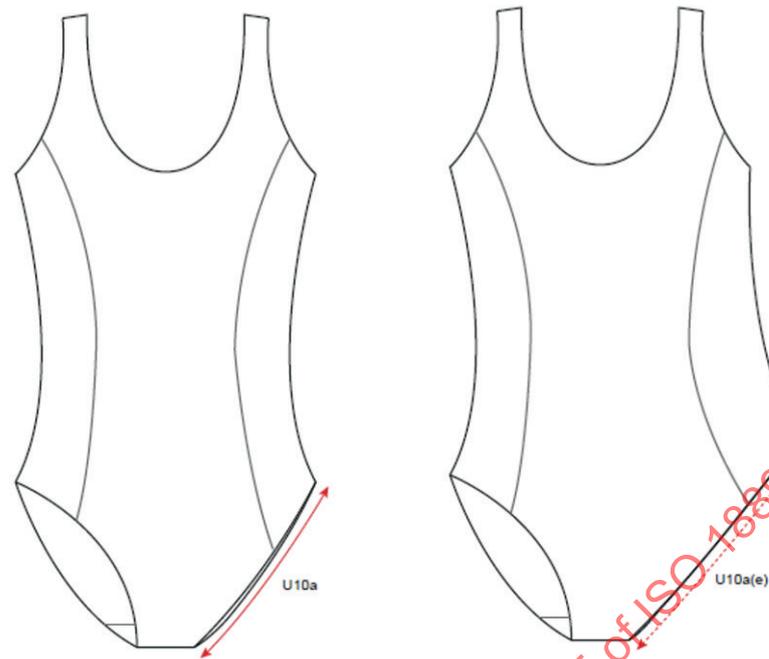
f) T-shirt with point collar



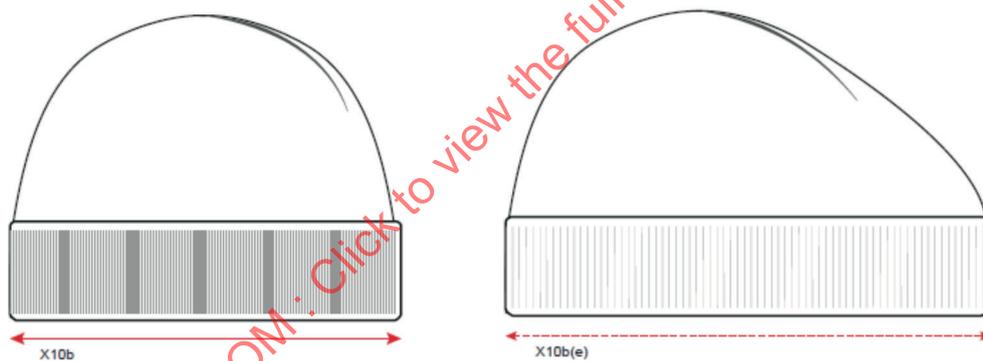
g) Bra with under band



h) Pants with elasticised waist and leg opening



i) Swimsuit leg opening



j) Beanie hat

Figure A.1 — Garment openings

Table A.1 — Key to measurement points indicated in Figures A.1 a) to j)

Ref.	Area of measurement	Description of measurement
E3	Waist relaxed at seam	With waist edges placed together measure along waist seam
E3(e)	Waist extended	Stretch waist. Measure along waist seam
I3	Hem width at seam	Measure along hem seam from edge to edge
I3(e)	Hem extended at seam	Stretch hem. Measure along hem seam
P3	Cuff width at seam	Measure along cuff seam from edge to edge
P3(e)	Cuff extended	Stretch cuff. Measure along cuff seam
Q1	Back neck width	Measure SNP to SNP seam to seam (excluding any neck trims) or SNP to SNP edge to edge if there is no neck trim or as agreed by interested parties
Q1(e)	Neck extended/minimum neck stretch	Ensure any fastenings are open. Stretch neck. Measure along neck seam/neck and opening seams

Table A.1 (continued)

Ref.	Area of measurement	Description of measurement
U3	Body width (under band)	With garment placed flat, measure in a straight line from end to end (excluding fastening)
U3(e)	Body width extended (under band)	Stretch bra under band. Measure along the bottom edge from end of strap to end of strap, under band (excluding fastening)
U10a	Half leg relaxed	With edges placed together measure along edge
U10a(e)	Half leg extended	Stretch leg opening. Do not over extend. With edges placed together measure along edge
X10b	Width at opening	Measure along the opening edge of the beanie hat
X10b(e)	Width at opening extended	Stretch opening. Measure along the opening edge of the beanie hat

A.2.2 Alternative methods

There are various apparatus that can help to determine minimum neck stretch.

A.2.2.1 Cone

A cone with various circumference measurements can be used to determine different minimum neck stretch requirements.

In order to determine minimum neck stretch, the garment is placed over a cone (with any fastening opened) and lightly pulled down to the required circumference marking. There shall be no breakage of seams or stitching or tearing of the fabric (4.3.2).

IMPORTANT — The required circumference should be determined between interested parties. There are many different models available (different shapes or material surfaces) which may lead to differences in results. The identification of the used cone shall be reported.

Figure A.2 a) shows an example of a cone and a cone used with a T-shirt with rib collar and b) shows an example of a cone and a cone used with a T-shirt with point collar.



a) T-shirt with rib collar