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LEATHER GLOVES – SPECIFICATION

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Leather — Gloves — Specification



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This African Standard was prepared by the ARSO Technical Harmonization Committee Number 7 on Leather and Textile Products (ARSO/THC 07).

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Leather — Gloves — Specification

1 Scope

This African Standard covers requirements for the materials, construction for five types of men's and ladies' lined or unlined gloves made from leather.

NOTE The standard excludes industrial and safety gloves.

2 Normative references

The following referenced documents are indispensable for the application 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.

ASTM D4465, *Standard performance specification for zippers for dungarees, jeans and work trousers*

ISO 4915, *Textiles — Stitch types — Classification and terminology*

ISO 4916, *Textiles — Seam types — Classification and terminology*

EN 12590, *Textiles — Industrial sewing threads made wholly or partly from synthetic fibres*

ISO 2419, *Leather — Physical and mechanical tests — Sample preparation and conditioning*

ISO 2859-4, *Sampling procedures for inspection by attributes — Part 4: Procedures for assessment of declared quality levels*

ISO 2589, *Leather — Physical and mechanical tests — Determination of thickness*

ISO 3376, *Leather — Physical and mechanical tests — Determination of tensile strength and percentage extension*

ISO 3380, *Leather — Physical and mechanical tests — Determination of shrinkage temperature up to 100 °C*

ISO 4044, *Leather — Chemical tests — Preparation of chemical test samples*

ISO 4045, *Leather — Chemical tests — Determination of pH*

ISO 5398-1, *Leather — Chemical determination of chromic oxide content — Part 1: Quantification by titration*

ISO 5398-2, *Leather — Chemical determination of chromic oxide content — Part 2: Quantification by colorimetric determination*

ISO 5398-3, *Leather — Chemical determination of chromic oxide content — Part 3: Quantification by atomic absorption spectrometry*

ISO 5398-4, *Leather — Chemical determination of chromic oxide content — Part 4: Quantification by inductively coupled plasma - optical emission spectrometer (ICP-OES)*

ISO 11640, *Leather — Tests for colour fastness — Colour fastness to cycles of to-and-fro rubbing*

ISO 11641, *Leather — Tests for colour fastness — Colour fastness to perspiration*

ISO 15700, *Leather — Tests for colour fastness — Colour fastness to water spotting*

ISO 17070, *Leather — Chemical tests — Determination of tetrachlorophenol-, trichlorophenol-, dichlorophenol-, monochlorophenol-isomers and pentachlorophenol content*

3 Terms and definitions

For the purpose of this standard the following definitions apply.

3.1

bovine hide:

a general term for the depilated hide from a bovine animal, male or female, of any breed but usually mature

3.2

calfskin

a depilated skin, of area not exceeding 150 dm², from a young bovine animal, male or female

3.3

chamois

a sheep skin or goat skin from which the grain layer has been removed and that has been tanned with fish oil and may have been given an aldehyde pre-tannage

3.4

game skin

a skin from any species of buck, deer, or antelope

3.5

glove size

the open hand girth, in units of length 27 mm, of the intended wearer and measured at knuckle level excluding the thumb

3.6

goat skin

a depilated skin from a mature goat

3.7

hair sheep skin

a depilated skin from a sheep of a species whose wool is a hair-like nature, including species such as Cabretta, Cape, Metis, Blackhead, but excluding Iranian and Iraqi

3.8

kid skin

a depilated skin, of area not exceeding 45 dm², from a young goat (kid)

3.9

nominal:

subject to the tolerances normal to good manufacturing practice

3.10

pigskin

a depilated skin from a pig

3.11

shearling

tanned and dressed wool sheep skin, bearing short wool and made from skin of sheep sheared before slaughter

3.12

sheepskin

a depilated skin from a mature sheep other than a merino sheep

4 Types

4.1 Type

Glove shall be of one of the following types:

- a) **Type A:** ladies gloves of the five-finger type, lined or unlined, and with outer material(s) of leather (see Figures 1 and 2)
- b) **Type B:** Men's gloves of the five-finger type, lined or unlined, and with outer material(s) of leather (see Figures 3 and 4)
- c) **Type C:** golf gloves with outer material of leather (see Figure 5)
- d) **Type D:** Motorcycle gloves of the five-finger type or the five-finger gauntlet type, lined or unlined, lightweight or heavyweight, and with outer materials of leather (see Figure 6)
- e) **Type E:** other special purpose leather gloves (see Figure 7)

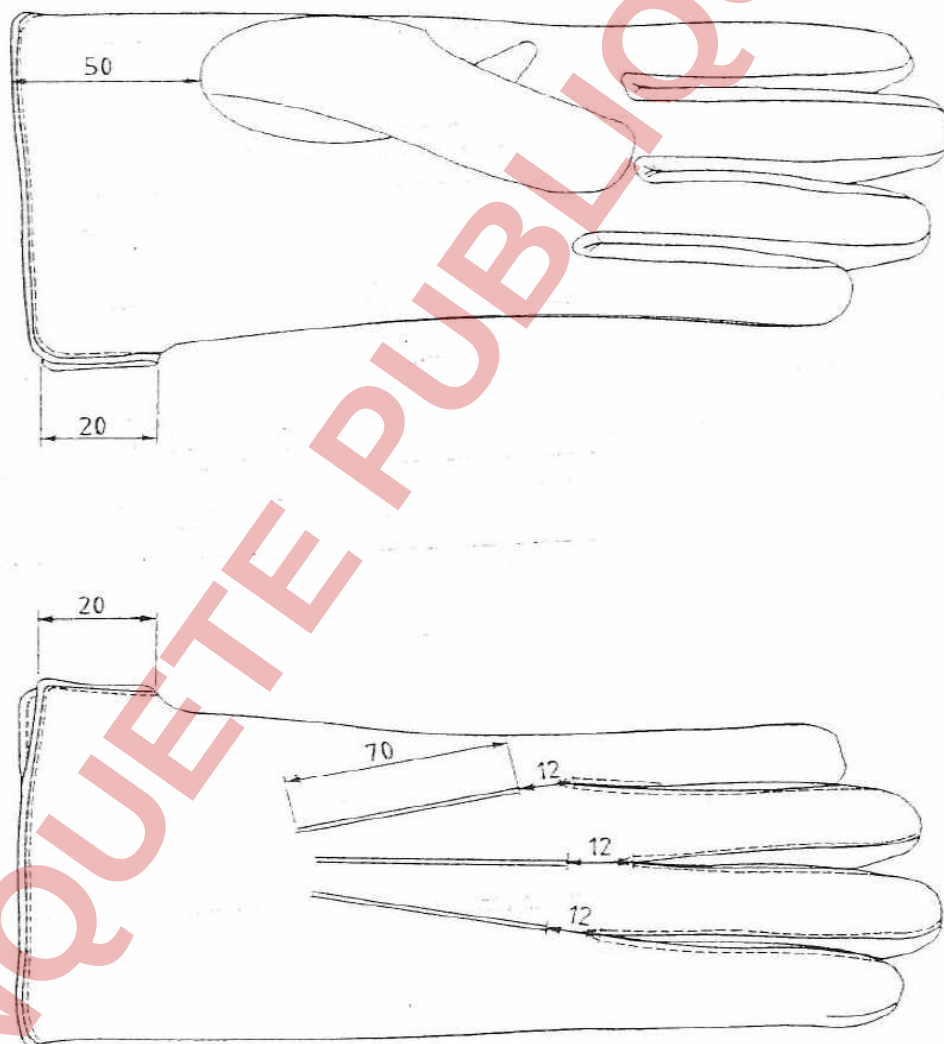


Figure 1 — Type A: ladies gloves of the five-finger type, lined or unlined, and with outer material(s) of leather

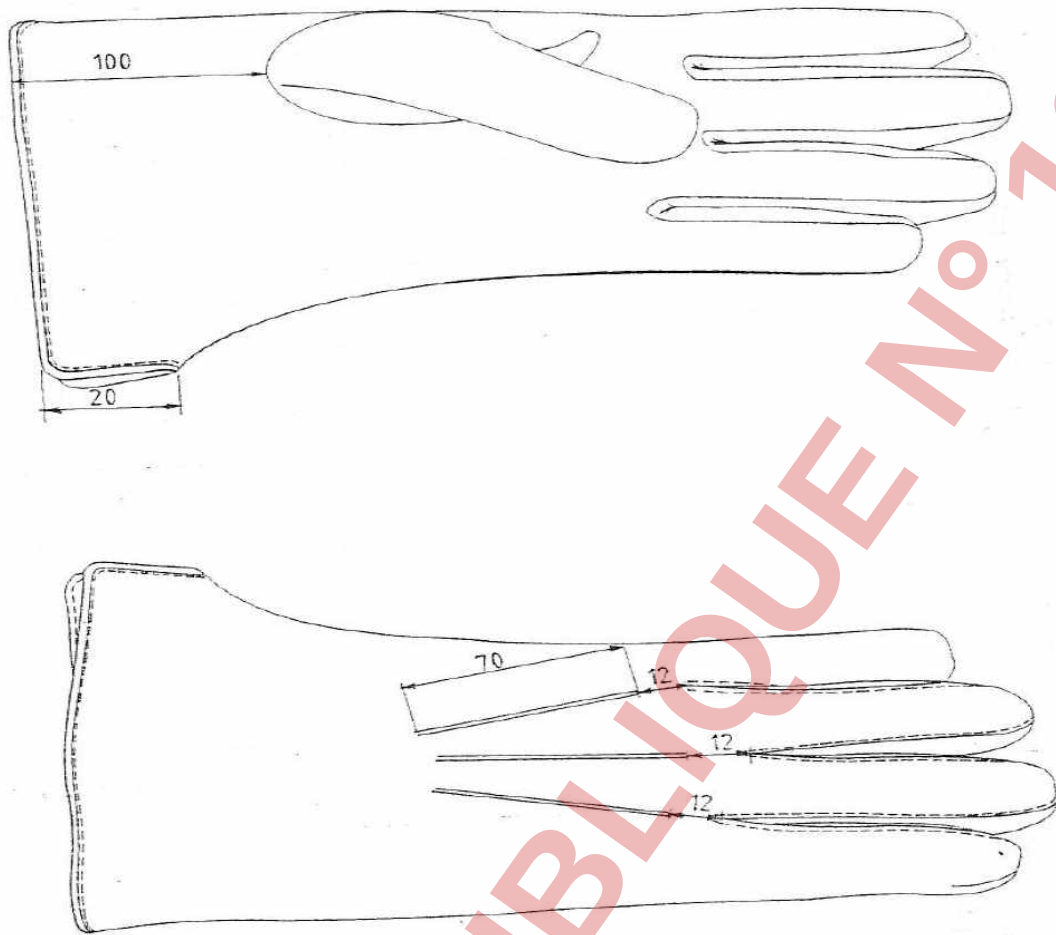


Figure 2 — Type A: ladies gloves of the five-finger type, lined or unlined, and with outer material(s) of leather

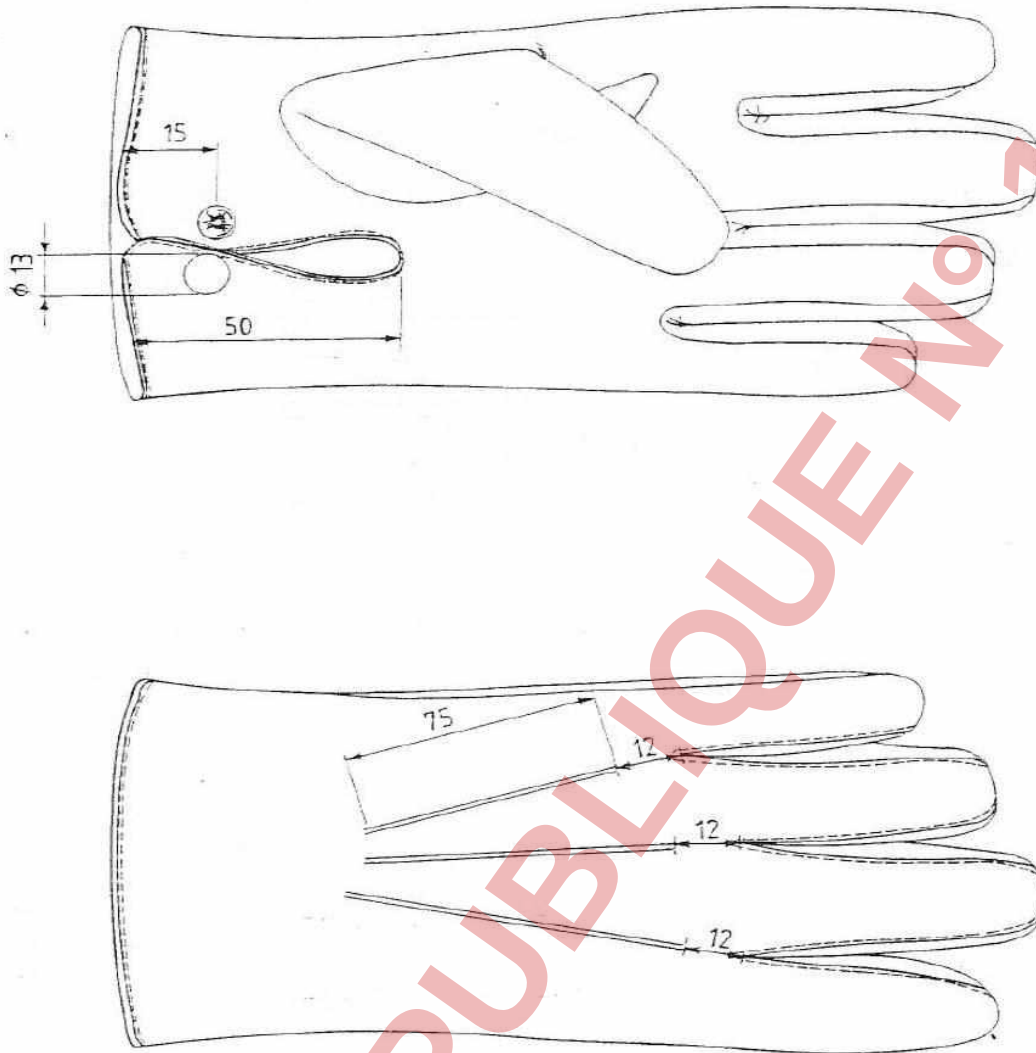


Figure 3 — Type B: Men's gloves of the five-finger type, lined or unlined, and with outer material(s) of leather

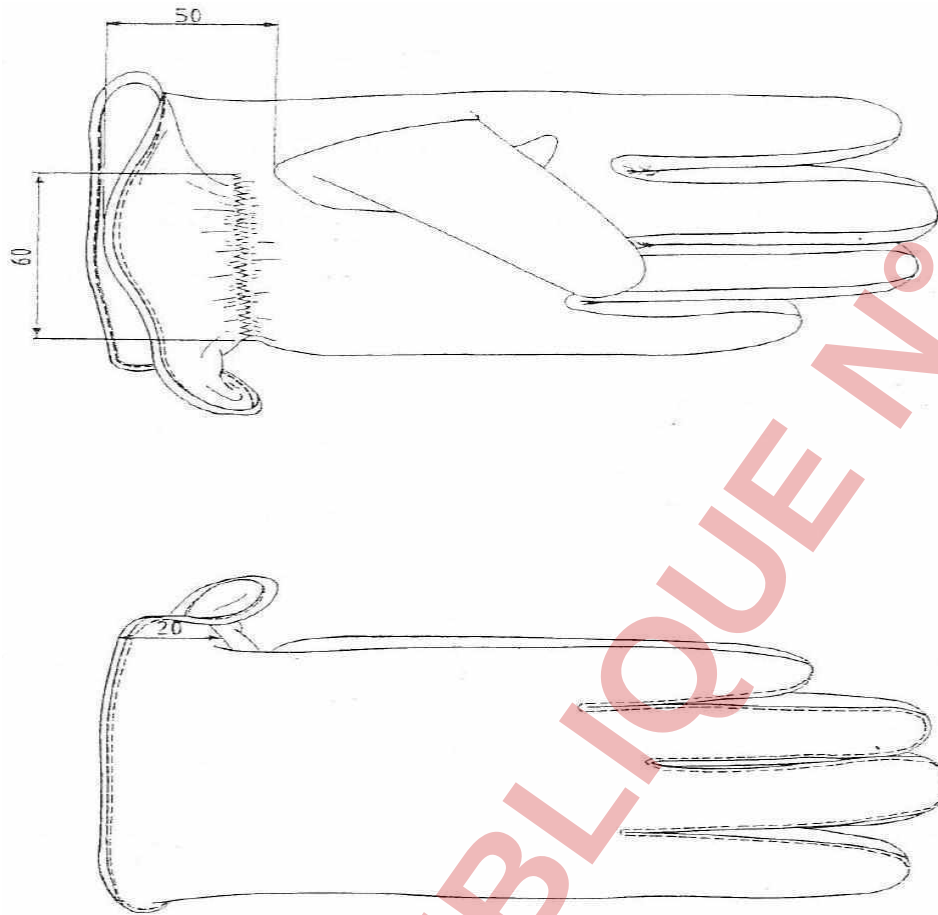


Figure 4 — Type B: Men's gloves of the five-finger type, lined or unlined, and with outer material(s) of leather

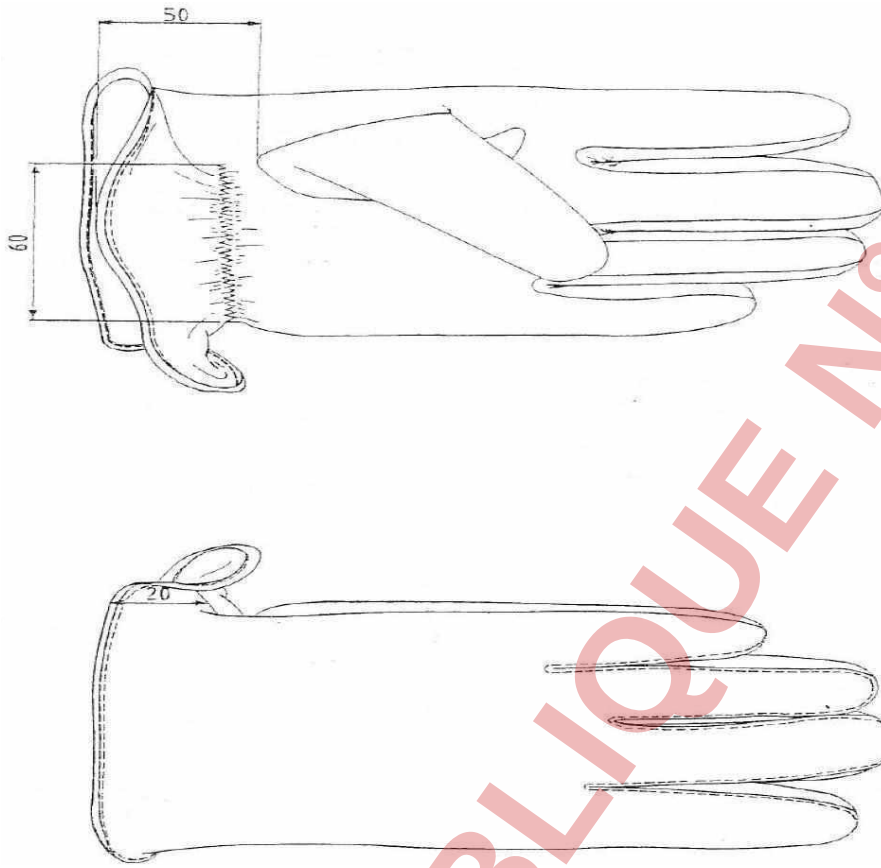


Figure 5 — Type C: Golf gloves with outer material of leather

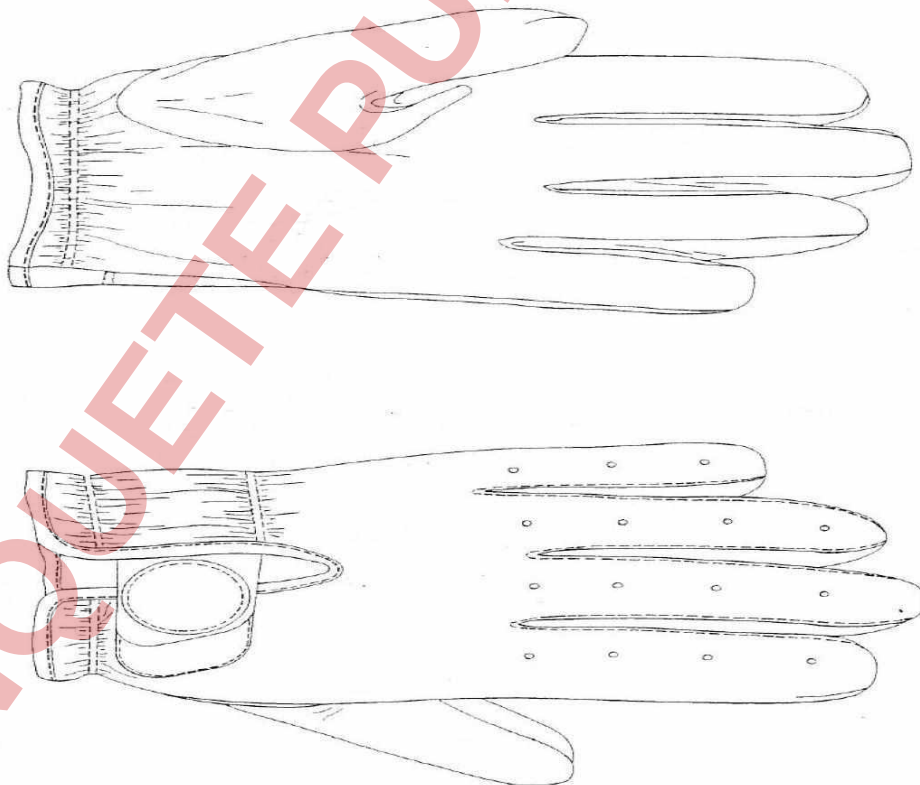


Figure 6 — Type D: Motorcycle gloves of the five-finger type or the five-finger gauntlet type, lined or unlined, lightweight or heavyweight, and with outer materials of leather

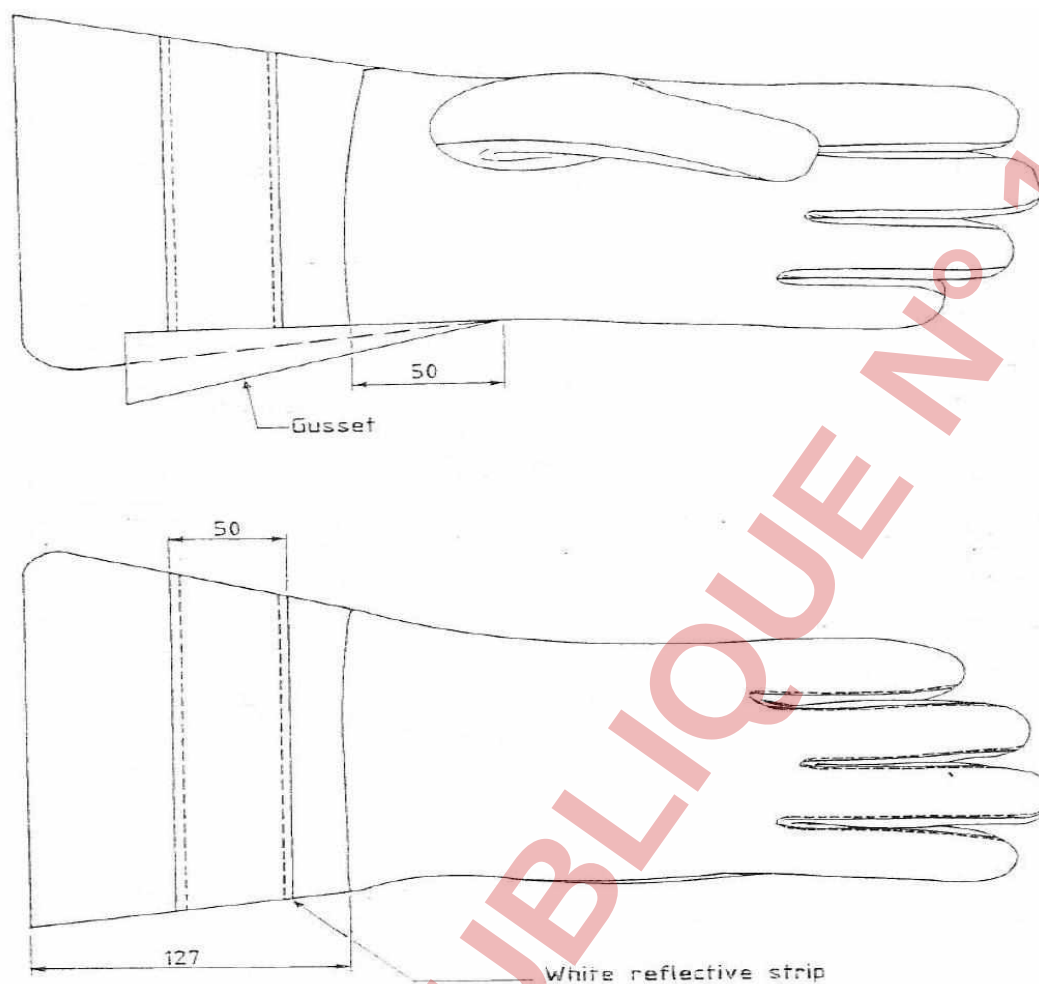


Figure 7 — Type E: Other special purpose leather gloves

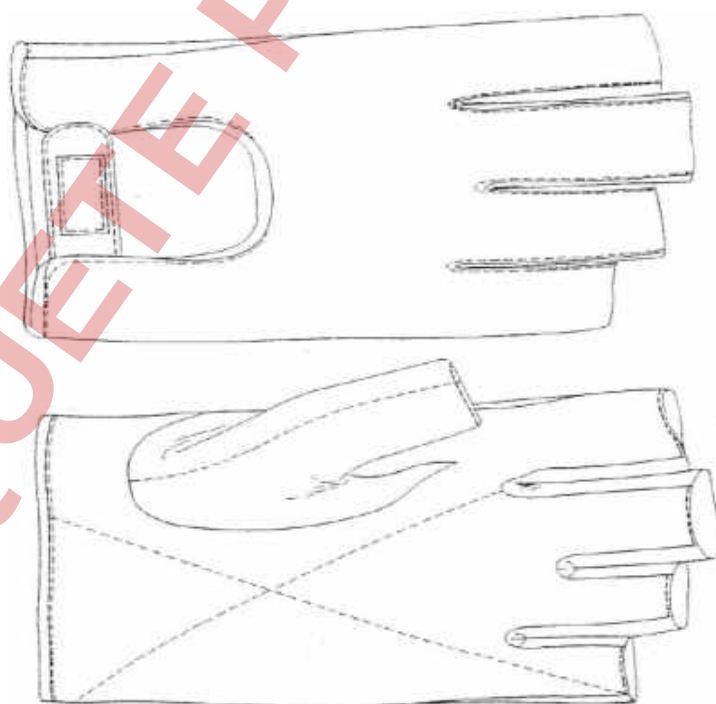


Figure 7 b) — Type E: Other special purpose leather gloves

5 Materials and components

5.1 Outer materials

5.1.1 General

Outer materials shall be of leather that complies with the requirements given in 5.1.2-5.1.7 (inclusive) or of a chamois-leather that complies with the requirements given in 5.1.7.

Leather shall be soft and pliable, of uniform texture, and shall not be pipy, loose grained, hard or bony. It shall be free from flaws and defects that affect its appearance or may affect its serviceability, or both.

5.1.2 Tannage

Leather (other than chamois-leather) shall have been tanned with an inorganic tanning agent, and may have been pre-tanned or re-tanned with an organic or inorganic tanning agent.

5.1.3 Class of leather

Leather shall be derived from the hides or skins of one of the following classes:

Class 1

- a) Bovine hides
- b) Calf skins

Class 2

- a) Sheep skins
- b) Kid skin
- c) Goat skin
- d) Hair sheep skin

Class 3

- a) Pig skins

Class 4

- a) Game skins

Class 5

- a) Chamois

5.1.4 Colour

The colour of the outer surface shall be an acceptable match to the required colour. Dyed leathers shall have been drum-dyed. In the case of leather with a full-grain or printed/embossed surface, the dye shall have penetrated to at least the depth of the grain layer, and the leather may, in addition, have been brush- or pad-dyed to produce the final colour.

5.1.5 Type of finish and nature of the finished surface

5.1.5.1 General

The type of finish and the nature of the finished surface shall be a combination of the one of the three alternatives given in (a) below and one of the four alternatives given in (b) below.

- a) Finish
 - 1) Aniline
 - 2) Semi-aniline
 - 3) Pigmented

- b) Nature of the finished surface
- 1) Full grain
 - 2) Printed grain
 - 3) Suede
 - 4) Snuffed on the grain side (unbuckle)

5.1.5.2 Pigment finish

The quantity of pigment used to produce a pigmented finish on a full-grain leather shall be such that the natural grain pattern of the leather is not obscured.

5.1.6 Physical and chemical requirements

The physical and chemical properties shall comply with the requirements given in column 2 or 3 (as relevant) of Table 1

Table 1 – Physical and chemical requirements for leather

Parameter	Requirement		Test method subsection
	Chrome tannage	Other mineral tannages	
pH value, Min	3.3	3.3	8.5
Chrome oxide content (on a grease and moisture-free basis, %, Min.	3.5	-	8.6
Grease content (on a moisture-free basis), g/kg.	50-100	50-100	8.7
Shrinkage temperature, °C, Min.	100	80	8.8
Resistance to perspiration.	Shall show no sign of brittleness or grain cracking		8.9
Colour fastness to water spotting (after 16 h recovery), rating, Min.	4	4	8.10
Resistance to rubbing (wet and dry), rating, Min.			
a) Grain side	4	4	8.11
b) Flesh side	4	4	
Extension, %, min.	15	15	8.12
Strength at right angles to stitch perforations, N/cm of width, min.	40	40	8.13
Tensile strength and elongation at break			
a) Tensile strength, MPa, Min.	15	15	8.14
b) Elongation at break, %, Min.	65	65	

5.1.7 Thickness

The thickness of leather components, determined in accordance with 8.4, shall be in the relevant range given in columns 2-6 of Table 2

Table 2 — Leather thickness

Glove type	Thickness range, mm				
	Class of leather				
	1	2	3	4	5
Type A	—	0.5-1.1	0.5-1.0	0.6-1.0	0.7-1.0
Type B	0.9-1.4	0.6-1.2	0.6-1.2	0.6-1.2	0.7-1.1
Type C	—	0.45-0.7	0.45-0.7	—	0.7-1.0
Type D					
a) Heavyweight	1.0-1.5	1.0-1.5	—	—	—
b) Lightweight	0.8-1.1	0.7-1.5	—	—	—
Type E	0.8-1.5	0.5-1.5	0.5-1.2	0.6-1.2	0.7-1.1

5.2 Lining materials

5.2.1 General

The material used as a lining for gloves shall be a fabric or a rabbit skin or a shearling that complies with the requirements of 5.2.2 or 5.2.3, as relevant.

5.2.2 Fabric lining material

A fabric lining shall be appropriate to the type of glove (see 4.1), shall be of an acceptable knitted construction and, unless otherwise required, shall be of the plain interlock, two-thread or three-thread fleecy (that has, in both cases, been acceptably raised on one side), slive high pile, satin/tricot or velour type, each of which may have been bonded to a thin sheet of suitable polyurethane foam.

5.2.3 Rabbit skin and sherling

Rabbit skin and sherling shall not have been depilated and shall be well tanned and of an acceptable quality and shall have a pH value, determined in accordance with 8.5, of at least 4.3.

5.3 Sewing threads

The thread(s) used shall be mercerized cotton, continuous-filament untextured polyester or polyamide, or a polyester-and-cotton core spun thread and shall comply with the relevant requirements of EN 12590. The breaking strength, determined in accordance with 8.16, of the threads used shall be at least 13 N in the case of men's gloves, and 8 N in the case of ladies' gloves. The colour shall be uniform and, unless a contrasting seam is an intended feature, shall be an acceptable match to that of the component(s) with which the threads are used.

5.4 Accessories

5.4.1 General

All metal accessories shall be of an intrinsically corrosion-resistant metal or shall have been so coated as to render them resistant to corrosion. When plastics accessories have been coated, they shall, when tested in accordance with 8.15, show no sign of cracks or pit marks. All accessories shall be of an adequate size and strength of their intended function.

5.4.2 Buckles

Buckles may have one or more prongs, be of the plain or rolled type, or be slide buckles. The width of a buckle shall be such as to ensure that the buckle neatly accommodates the strap to which it is attached.

5.4.3 Press-studs

Press-studs shall be of the male and female type and shall have a tenacious grip.

5.4.4 Slide fasteners

Interlocking slide fasteners shall be of the one-way closed-end type with either metal or plastics chains. The fasteners shall comply with the relevant requirements of ASTM D4465, and the performance class shall be suitable for the type of glove. The colour of the taps shall be either an acceptable match to that of the surrounding material or an acceptable contrast to it.

5.4.5 Buttons

Buttons shall be of a plastics material and the colour shall be either an acceptable match to that of the surrounding material or an acceptable contrast to it.

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5.4.6 Touch-and-close fasteners

Touch-and-close fasteners shall be of tape that consists of two polyamide parts, one with tiny hooks and the other with tiny loops. When pressed together, the hooks shall so grip the loops as to give a tight, secure closure. To open, the two parts shall peel apart easily. The tapes shall be of acceptable width and length, and the colour shall be either an acceptable match to that of the surrounding material or an acceptable contrast to it.

5.4.7 Elastic braid and webbing

Elastic braid and webbing shall be of an acceptable width, stretch and quality and shall be composed of cotton and rubber.

5.4.8 Other components

Any other component that forms a design feature shall be agreed upon by the purchaser and supplier.

6 Constructional requirements

6.1 General

The gloves shall be constructed in accordance with sound manufacturing practice.

6.2 Size

Gloves (other than of type C which shall be supplied in either left hand or right hand only) shall be supplied in pairs in one of the sizes given in column 1 of Table 3. The actual size of a glove, determined in accordance with 8.2, shall not differ from the marked size (see 7.2.1(b)).

NOTE The corresponding maximum hand girth, in centimeters, is given in column 2 of Table 3.

Table 3 – Hand measurement corresponding to glove size

Glove size	Hand girth, cm
4.0	10.8
4.5	12.1
5.0	13.5
5.5	14.8
6.0	16.2
6.5	17.5
7.0	18.9
7.5	20.2
8.0	21.6
8.5	22.9
9.0	24.3
9.5	25.6
10.0	27.0
10.5	28.3
11.0	29.7

6.3 Grading

Patterns shall be properly graded for finger length and in the case of lined gloves, adequate allowances shall have been to accommodate the bulk of the lining material without creasing.

6.4 Cutting

The front, back and thumb of each pair of glove shall be cut from the same skin or from suitably matched skins. Skins shall be dampened and excess stretch in the lengthwise direction of the glove pulled out before cutting.

6.5 Stitches and seams

Stitches and seams shall be in accordance with ISO 4915 and ISO 4916. The number of stitches per 25 mm shall be in the range of 10-16 for men's gloves and in the range of 14-20 for ladies' gloves. The ends of all seams shall be backstitched or knotted and shall be free from loose thread ends. Seams shall be free from twists, pleats and puckers. The seam allowances shall be those normal to good manufacturing practice.

6.6 Linings

When gloves are lined, the lining at the tips of the fingers and thumbs shall be permanently secured to the leather outer material of the glove, by stitching or with a suitable adhesive that will produce a bond between the lining and the leather outer material of the glove that will remain intact during normal use of the gloves.

6.7 Forming

The gloves shall, after being dampened (when necessary), be placed on heated forms of the appropriate size, pulled down and so worked that the side seams of all fingers are straight and parallel to the side seam of the gloves.

6.8 Edge-staining

Unless the leather outer material has been dyed through, all raw edges visible on the outside of a glove shall be stained to match the colour of the exposed side of the leather.

6.9 Workmanship and finish

Workmanship and finish shall be in accordance with sound trade practice. Gloves shall be clean, well made and free from any defects that affects their appearance or may affect their serviceability, or both.

7 Packaging and labelling

7.1 Packaging

Each glove of type C, and each pair of gloves of other types shall be packed in suitable transparent bag and then so packed in suitable bulk containers that they are protected from damage during transportation and storage. Only gloves of the same design, size, type, material(s), colour and construction shall be packed together in the same bulk container (unless the quantities ordered are such that packing together of the same size only is not justified).

7.2 Labeling

7.2.1 Gloves

The following information shall appear in neat, legible and indelible marking on the inside of the cuff of the glove, or on a label secured to the inside of the cuff:

- a) the manufacturer's name or trade mark or any combination of these;
- b) the size designation;

- c) the batch identification;
- d) the type;
- e) When so required, additional marking.

7.2.2 Bulk containers

The following information shall appear in neat, legible and indelible marking on the outside of each bulk container:

- a) the manufacturer's name or trade mark or any combination of these;
- b) the size(s);
- c) the quantity;
- d) a description of the contents;
- e) When so required by the purchaser, additional marking.

8 Sampling, Inspection and methods of test

8.1 Sampling

Sampling shall be in accordance with 2859-4.

8.2 Inspection

Visually examine each glove in the sample for compliance with all the relevant requirements of clauses 4.5.6 and 7 for which tests to assess compliance are not given in 8.2-8.16 (inclusive).

8.2 Size

So flatten the glove under test as to eliminate any wrinkles and that the palm and back are brought together. Just below knuckle level, grasp the side edges of the glove between the thumb and index finger of each hand and stretch the glove as far as is possible without causing any damage to it. While so stretched, and making allowance for the thickness of the leather and, when applicable, of the lining, measure, to the nearest 5 mm and on the back of the glove, its width at knuckle level.

Multiply the result by 2, divide by 27 and record, to the nearest half glove size, the actual size of the glove.

8.3 Preparation of test specimens

Use ISO 2419 and ISO 4044 as appropriate.

8.4 Thickness of leather

Use the method given in ISO 2589.

8.5 pH Value

Use ISO 4045.

8.6 Chromic oxide content

Use relevant part of ISO 5398.

8.7 Grease content

Use ISO 17070.

8.8 Shrinkage temperature

Use ISO 3380.

8.9 Resistance to perspiration

Use the apparatus and one cycle of the procedure given in ISO 11641, and examine the dry specimen for signs of brittles; then test it as in 8.12 and examine for signs of grain cracking.

8.10 Colour fastness to water spotting

Use method ISO 15700.

8.11 Resistance to wet and dry rubbing

Use ISO 11640.

8.12 Extension

Use IUP 13, but use a pressure of 200 kPa and record the percentage extension.

8.13 Strength at right angles to stitch perforations

Use the method given in ISO 23910.

8.14 Tensile strength and elongation at break

Use ISO 3376.

8.15 Adequacy of plating of plated plastics components

8.15.1 Apparatus

A microscope or other device capable of providing 8 x magnification.

8.15.2 Procedure

Heat the plastic component under test in boiling water for 5 ± 1 min. Remove and allow it to dry and cool for 1-2 h.

Using the magnifying apparatus, examine it for signs of cracks or pit marks, or both.

8.16 Breaking strength of sewing threads

Use ISO 2062.

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