

Foreword

SAC/TC 209/SC 6 is in charge of this English translation. In case of any doubt about the contents of English translation, the Chinese original shall be considered authoritative.

This standard is drafted in accordance with the rules given in the GB/T 1.1—2009.

This standard was proposed by China National Textile and Apparel Council.

This standard was prepared by Subcommittee 6 on Knitting Products of National Technical Committee 209 on Textiles of Standardization Administration of China (SAC/TC 209/SC 6).

Knitted civil gloves

1 Scope

This standard specifies the size, requirements, test methods, judgement rules, instructions for use, packaging, transportation and storage for knitted civil gloves.

This standard is applicable to knitted civil gloves mainly made of various textile fibers by knitting or sewing.

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.

GB/T 250, *Textiles—Tests for colour fastness—Grey scale for assessing change in colour*

GB/T 2910 (all parts), *Textiles —Quantitative chemical analysis*

GB/T 2912.1, *Textiles —Determination of formaldehyde — Part 1: Free and hydrolyzed formaldehyde (water extraction method)*

GB/T 3920, *Textiles —Tests for colour fastness—Colour fastness to rubbing*

GB/T 3921—2008, *Textiles — Tests for colour fastness —Colour fastness to washing with soap or soap and soda*

GB/T 3922, *Textiles — Tests for colour fastness —Colour fastness to perspiration*

GB/T 4856, *Package of cotton goods and knitwear*

GB 5296.4, *Instructions for use of products of consumer interest—Part 4: Textiles and apparel*

GB/T 5713, *Textiles —Tests for colour fastness —Colour fastness to water*

GB/T 6529, *Textiles—Standard atmospheres for conditioning and testing*

GB/T 7573, *Textiles —Determination of pH of aqueous extract*

GB 9994, *Conventional moisture regains of textile materials*

GB/T 17592, *Textiles —Determination of the banned azo colourants*

GB 18401, *National general safety technical code for textile products*

FZ/T 01026, *Textiles — Quantitative chemical analysis —Multinary fibre mixtures*

FZ/T 01053, *Textiles — Identification of fiber content*

FZ/T 01057 (all parts) *Test method for identification of textile fibers*

FZ/T 01095, *Textiles — Test method of elastane fibre content*

GSB16-2159, *Colour cards of standard depths for knitted products (1/12)*

GSB 16-2610, *Defect appearance replicas of hosiery*

3 Glove size

3.1

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size

The length of palm in millimeters, which is the basis of design of the glove length.

3.2

type

The width of palm in millimeters, which is the basis of design of the glove width.

3.3

size and type specification

The size and type can be expressed by palm length and palm width in millimeters, and mark the "man", "woman" or "children". Take an example for man, the palm length is 160mm, the palm width is 80mm, which can be expressed 160/80 man as the glove size and type. And another example for woman, 150mm is palm length, 75mm is palm width, which can be expressed 150/75 woman as the glove size and type. For the gloves with elastic, the applicable palm length and palm width in millimeters can be expressed as the size and type. Gradation for size is 10mm, gradation for type is 5mm, increase or decrease in terms of 10mm or 5mm, see Annex A.

4 Requirements

4.1 Contents

Requirements include internal quality and appearance quality. Appearance quality includes the specification tolerance, appearance defects, sewing requirement. Internal quality includes the formaldehyde content, pH value, decomposable carcinogenic aromatic amine dyes, odor, colour fastness to water, colour fastness to perspiration, colour fastness to rubbing, colour fastness to washing, fiber content, etc.

4.2 Grading criteria

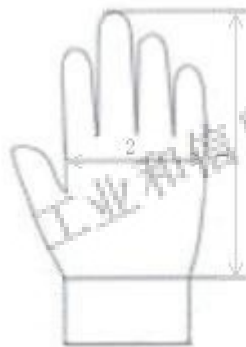
4.2.1 The quality of knitted civil gloves is classified by pairs, and the quality grade is divided into first grade and qualified grade.

4.2.2 Classification of internal quality is based on batch, and classification of appearance quality is based on pairs, assessed by the lower grade for combination of both.

4.3 Appearance quality requirements

4.3.1 When the different grades of defects are found on the same pair of product, it shall be graded according to the lower grade.

4.3.2 The measuring positions are shown in figure 1 and the measuring methods are given in table 1 for the specification.



Description:

1-Hand length of glove;

2-Hand width of glove.

Figure 1 The measuring positions of specification

Table 1 The measuring method of specification

No.	Position	Measuring method
1	Hand length of glove	Straightline distance from the midpoint connecting the lateral line of the radial styloid point to the ulnar styloid point to the tip of the middle finger.
2	Hand width of glove	Straight line distance from lateral metacarpal point to ulnar metacarpal point.

4.3.3 Specification tolerance, see table 2.

Table 2 The specification tolerance

Item	First grade	Qualified grade
Hand length of glove	±1.0	±1.5
Hand width of glove	±0.5	±1.0

4.3.4 Appearance defects requirements, see table 3.

Table 3 Appearance defects requirements

No.	Defects name	First grade	Qualified grade
1	Skipped stitching	Not allowed	One stitching is allowed for one glove
2	Broken hole, mending scar, missed stitching, broken elastic	Not allowed	
3	Colour difference	Grade 4-5 is allowed for the same pair	Grade 4 is allowed for the same pair
4	Dyeing defect, oil stain, colour spot, staining, mending mark, inconsistent of tightness of rib cuff, inconsistent sewing tightness of glove mouth, the height and low of glove hem	Allowed if slight	Allowed if obvious
5	The deformation pattern	Allowed if slightly affect appearance	Allowed if obviously affect appearance, but a pair of similar
6	Inconsistent length and width	Within 5mm is allowed for the same pair	Within 5mm ~10mm is allowed for the same pair
7	Thread end	Allowed within 5mm	Allowed within 10mm
8	Elastic yarn exposed	Not allowed	Allowed if slight
9	Elastane exposed	5mm cumulative 1 turn, slightly allowed	5mm cumulative 3 turn, obviously allowed
10	Tuck stitching	The two slight tuck stitching is allowed for one glove	The three obvious tuck stitching is allowed for one glove
11	Unsmooth fingers	Allowed if slight	Obvious is allowed, significant is not allowed
12	Surplus thread residue of inside of fingertip	Allowed within 5mm	Allowed within 10mm

Note 1: It shall be measured by the longest length when measure the length of appearance defect.

Note 2: The surface defect shall be classified according to GSB 16-2610.

Note 3: The description of defect degree:

- Slight: Not obvious but it can be noticed with careful observation.
- Obvious: Easy to be noticed, but not affecting the overall appearance.
- Severe: Easy to be noticed, destructive defect or affecting the overall appearance.

4.3.5 Sewing requirement: The stitching part of the glove is round and smooth, and the seam part shall not ladder when stretched.

4.4 Internal quality requirements

4.4.1 Internal quality requirements see table 4.

Table 4 Internal quality requirements

Items	First grade	Qualified grade
Formaldehyde content/ (mg/kg)	Meet the requirements of GB 18401	
pH value		
Decomposable carcinogenic aromatic amine dyes/ (mg/kg)		
Odors		
Colour fastness to water/ (grade)≥	Change in colour	3
	Staining	
Colour fastness to perspiration/ (grade)≥	Change in colour	3
	Staining	
Colour fastness to rubbing/ (grade)≥	Dry	3
	Wet	3 (dark 2-3)
Colour fastness to washing/ (grade)≥	Change in colour	3
	Staining	
Fiber content/%	Meet the requirements of FZ/T 01053	
Note: Colour depth classification is according to GSB 16-2159: The colour darker than 1/12 standard depth is regarded as dark colour, and the other colour is regarded as light colour.		

4.4.2 The lowest test result shall be taken as the basis for the evaluation of this batch of products for internal quality index.

5 Test methods

5.1 Sampling quantity

5.1.1 The appearance quality shall be randomly sampled at 1%~3% according to category, colour and size of batch, with no less than 20 pairs. If the quantity is less than 20 pairs, the whole quantities shall be inspected.

5.1.2 Internal quality shall be randomly sampled 10 pairs according to category, colour and size of batch. In case of shortage, the quantities of samples can be increased.

5.2 Appearance quality inspection condition

5.2.1 Generally, it is inspected by light with a daylight lamp of 40W blue light or white light, put a lampshade on it. The vertical distance between the lampshade and the center of the inspection table is 50cm±5cm. Or it is inspected under the D65 light source.

5.2.2 If indoor natural light is used, the direction of light is north to the left or right corner, the light should not reach the product directly.

5.2.3 The specification should be measured without external tension.

5.2.4 The product shall be placed evenly on the inspection table with a layer of white cloth on the surface when inspected. The sight of inspectors shall face the surface of the product with a visual distance of more than 35cm.

5.3 Preparation and condition for testing

5.3.1 The sample for internal quality shall not have defects that affect the accuracy of the test.

5.3.2 The sample shall be humidified according to the standard atmosphere GB/T 6529, and the test

shall be conducted after the conditioning.

5.4 Test items

5.4.1 Specification test

5.4.1.1 Test tool: the length of measuring scale should be larger than the test length, accurate to 0.1cm.

5.4.1.2 Test operation, the measuring position is specified as shown in figure 1.

5.4.2 Formaldehyde content

Formaldehyde content shall be tested according to GB/T 2912.1.

5.4.3 pH value

pH value shall be tested according to GB/T 7573.

5.4.4 Decomposable carcinogenic aromatic amine dyes

Decomposable carcinogenic aromatic amine dyes shall be tested according to GB/T 17592.

5.4.5 Odors

Odors shall be tested according to GB 18401.

5.4.6 Colour fastness tests

5.4.6.1 Colour fastness to water

Colour fastness to water shall be tested according to GB/T 5713.

5.4.6.2 Colour fastness to perspiration

Colour fastness to perspiration shall be tested according to GB/T 3922.

5.4.6.3 Colour fastness to rubbing

Colour fastness to rubbing shall be tested according to GB/T 3920. Only test on the length direction.

5.4.6.4 Colour fastness to washing

Colour fastness to washing shall be tested according to method A(1) of GB/T 3921—2008.

5.4.7 Rating of colour difference

Rating of colour difference shall be tested according to GB/T 250.

5.4.8 Fiber content

Fiber content shall be tested according to GB/T 2910, FZ/T 01057, FZ/T 01026 and FZ/T 01095. The result is calculated according to convention moisture regain in GB 9994. Palm part is recommended to test.

6 Judgment rules

6.1 Appearance quality

The rate of product non-conformity of appearance quality shall be calculated according to category, colour and size, in pairs of unit. If the rate of product non-conformity is more than 5.0%, or broken hole and missed stitching is more than 3.0%, the batch of products shall be judged as unqualified.

6.2 Internal quality

6.2.1 The result of the fiber content, formaldehyde content, pH value, odors and decomposable carcinogenic aromatic amine dyes are qualified, the batch of products shall be judged as qualified. Otherwise, they shall be judged as unqualified.

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6.2.2 The result of the colour fastness to water, colour fastness to perspiration, colour fastness to rubbing and colour fastness to washing are qualified, the batch of products shall be judged as qualified. Otherwise, the batch of products shall be judged as unqualified by colour separation.

6.3 Re-inspection rules

6.3.1 If there is dispute on the result from any party, the re-inspection can be carried out.

6.3.2 The result of re-inspection shall be conducted according to 6.1 and 6.2, which shall prevail in the judgement.

7 Instructions for use, packaging, transportation and storage

7.1 The instructions for use shall conform to GB 18401 and GB 5296.4. For the size, marking the palm length and palm width in millimeters with the "man", "woman" or "children".

7.2 The product packaging should be carried out in accordance with GB/T 4856 or agreement.

7.3 Products shall be fireproof, moisture-proof and anti-pollution when packed and transported.

7.4 Products shall be stored in a cool, ventilated, dry and clean warehouse, and prevent from mildew and moth.

Annex A
(Normative)
Glove size and type

A.1 The glove size and type for man, see table A.1.

Table A.1 The glove size and type for man

Unit: mm

Size	Type					
160	70	75	80			
170	70	75	80	85	90	
180	70	75	80	85	90	
190	70	75	80	85	90	95
200		75	80	85	90	95
210			80	85	90	95

A.2 The glove size and type for woman, see table A.2.

Table A.2 The glove size and type for woman

Unit: mm

Size	Type					
150	65	70	75			
160	65	70	75	80		
170	65	70	75	80	85	
180	65	70	75	80	85	
190		70	75	80	85	

A.3 The glove size and type for children, see table A.3

Table A.3 The glove size and type for children

Unit: mm

Size	Type					
130	55	60				
140	55	60	65			
150		60	65	70		
160		60	65	70	75	
170		60	65	70	75	80

A.4 The size of elastic glove shall be marked the applicable palm length and palm width corresponding to this annex.