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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 21977-2022

Replacing GB/T 21977-2008

Camel hair

骆驼绒

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1 Scope

China's national standard for camel hair. It specifies the technical requirements, the test methods, the inspection rules, and the packaging, marking, storage and transport, and it applies to raw camel hair, scoured camel hair and dehaired camel hair. Camel hair is a speciality fibre and it is bought on the same basis as cashmere: fineness, length and freedom from coarse fibre. The animal grows a double coat - a fine soft undercoat and a coarse outer guard hair - and only the undercoat is a textile fibre of value. The guard hair is stiff and prickly and a single one of it in a garment is felt against the skin, so dehairing, the mechanical separation of the two, is the operation that creates the product, and the residual coarse fibre content is the property that sets the grade and the price. The standard therefore covers the three states in which the material is traded, because they are different products: raw hair as it comes off the animal, carrying grease, sand, vegetable matter and the full guard hair content; scoured hair, washed but not dehaired; and dehaired hair, which is the spinning fibre. For each it sets what can be measured and what determines the value

- the mean fibre diameter and its distribution, the coarse fibre content, the fibre length, the residual grease and ash, the moisture regain, and the vegetable matter and other impurities - together with the colour, which for camel hair is a natural characteristic rather than a defect and which limits how the fibre can be dyed. Sampling is specified carefully, because a natural animal fibre lot is not uniform. Issued on 11 July 2022 and in force since 1 February 2023, it replaces GB/T 21977-2008.

This document specifies the technical requirements, test methods, inspection rules, packaging, marking, storage and transportation of camel hair. This document applies to raw camel hair, scoured camel hair and dehaired camel hair.

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 6500 Test method for moisture regain of hair fibers - Oven method

GB/T 6529 Textiles - Standard atmospheres for conditioning and testing

GB/T 6977 Test method for ethanol extractives, ash, vegetable matter, total alkali- insoluble impurities in scoured wool

GB/T 8170 Rules of rounding off for numerical values & expression and judgement of limiting values

GB/T 10685 Wool - Determination of fiber diameter - Projection microscope method

GB/T 21030 Test method for the mean and distribution of fibre diameter of wool and other animal fibre - Optical fibre diameter analyser (OFDA)

GB/T 35935 Measurement of the mean and distribution of animal fibre diameter - Laser scan fibre diameter analysis method

GB/T 40826 Test method for hand-arranging staple length of dehaired cashmere - Flatbed scanner method

3 Terms and definitions

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

3.1 camel hair Fluff fibers produced from camels. NOTE. It includes raw camel hair, scoured camel hair and dehaired camel hair, of which the fibers with a diameter of 40 μm or less are considered to be down fibers.

3.2 raw camel hair Unprocessed camel hair fibers that naturally fall off from camels and are collected.

3.3 scoured camel hair Camel hair obtained from raw camel hair after being scoured to meet certain quality requirements.

3.4 dehaired camel hair Camel hair that has been scoured and industrially dehaired to remove a large amount of coarse hair and foreign matters.

3.5 coarse camel hair Fibers with a diameter of more than 40 μm in camel hair.

3.6 heterotypical camel hair Fibers with a diameter of 40 μm or less at one end and a diameter of more than 40 μm at the other end in camel hair fibers. NOTE. Fibers with a diameter of 40 μm or less at one end and a length exceeding half of the total length of the fiber are regarded as down hair (fiber).

3.7 mane on upper legs, neck-to-chin and shoulders Coarse and long hair fibers collected from the upper legs, upper and lower edges of the neck and the peak of camels.

3.8 coarse camel hair content Percentage of the mass of fibers with a diameter greater than 40 μm (including heterotypical camel hair with a diameter greater than 40 μm at one end and a length greater than half of the total fiber length) in dehaired camel hair to the total mass.

3.9 foreign content Percentage of the mass of dandruff, soil, sand, plant matter and other foreign matters picked out by physical methods to the total mass of camel hair samples.

3.10 short camel hair content Percentage of the mass of fibers with a length of 20 mm in scoured camel hair to the total number of fibers.

3.11 yield Percentage of the conditioned weight of raw camel hair after scouring to the mass of raw camel hair.

3.12 pure camel hair content Percentage of the mass of raw camel hair after scouring, drying and removing coarse hair and foreign matters, or the mass of scoured camel hair after removing coarse hair and foreign matters and corrected by the conventional moisture regains and conventional oil content, to the mass of raw camel hair/scoured camel hair.

4.1 Raw camel hair

4.1.1 See Table 1 for the requirements for technical indicators of raw camel hair. my - the specimen after opening, in grams (g). The average value of the 2 portions of specimens is taken as the test result. When the absolute difference between the 2 portions of specimens exceeds 3 %, a third portion of specimen shall be tested, and the average value of the 3 portions of specimens is taken as the final result. The calculated result is rounded off to two decimal places.

5.1.5 Pure camel hair content of raw camel hair

5.1.5.1 From the sample that have dried to absolute dry mass after the yield test, quickly

and randomly select 3 portions of pure camel hair content specimens at multiple points, each weighing about 5 g, recorded as mw, to the nearest

0.01 g, of which 2 portions are used for parallel tests and 1 portion is a reserve specimen. Use tweezers to pick out coarse camel hair (including heterotypical camel hair) and foreign matters in the specimens to obtain pure camel hair, dry the pure camel hair to absolute dryness, weigh the absolute dry mass of the pure camel hair, recorded as mp, to the nearest 0.0001 g.

5.1.5.2 The pure camel hair content of raw camel hair is calculated according to formula (4). where. B - the pure camel hair content of raw camel hair, %; mp - the absolute dry mass of pure camel hair, in grams (g); Je - the measured oil content of pure camel hair, %; JP - the conventional oil content of dehaired camel cashmere (JP = 1.0), %; mw - the mass of the specimen of scoured camel hair, in grams (g); Y - the yield of raw camel hair, %

5.1.5.3 The average value of the pure camel hair contents of the 2 portions of specimens is taken as the test result. When the absolute difference between the 2 portions of specimens exceeds 3 %, a third portion of specimen shall be tested, and the average value of the 3 portions of specimens is taken as the final result. The calculated result is rounded off to two decimal places.

5.2.1 Test method for pure camel hair content of scoured camel hair

5.2.1.1 Randomly take 3 portions of scoured camel hair samples at multiple points, about 5 g per portion, to the nearest

0.01 g, of which 2 portions are used for parallel tests and 1 portion is a reserve specimen. Use tweezers to pick out coarse camel hair (including heterotypical camel hair) and foreign matters in the specimens to obtain pure camel hair, dry the pure camel hair to absolute dryness, weigh the absolute dry mass of the pure camel hair, to the nearest 0.0001 g.

5.2.1.2 The pure camel hair content of scoured camel hair is calculated according to formula (5). where. A - the pure camel hair content of scoured camel hair, %; mp - the absolute dry mass of pure camel hair, in grams (g); Je - the measured oil content of pure camel hair, %; RP - the conventional moisture regains of dehaired camel hair (RP = 15), %; JP - the conventional oil content of dehaired camel hair (JP = 1.0), %; mw - the mass of the specimen of scoured camel hair, in grams (g).

5.2.1.3 The average value of the 2 portions of specimens is taken as the test result. When the absolute difference between the 2 portions of specimens exceeds 3 %, a third portion of specimen shall be tested, and the average value of the 3 portions of specimens is taken as the final result. The calculation result is rounded off to two decimal places.

5.2.2 Average length and short camel hair content