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

GB/T 16988-2013

Replacing GB/T 16988-1997

**Quantitative determination for mixtures of special animal fibre
and wool**

特种动物纤维与绵羊毛混合物含量的测定

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1 Scope

GB/T 16988-2013 is the Chinese national standard on quantitative determination for mixtures of special animal fibre and wool, in the field of textile and leather technology. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 17 December 2013 by the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China; Standardization Administration of China, and has been in force since 1 November 2014. Classification: ICS 59.080.01, CCS W04. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This standard specifies the determination method, of using a projection microscope, to determine the content of each component fiber, in special fluffy animal fibers, wool, and their mixtures, such as cashmere, rabbit hair, mohair, camel wool (hair), yak wool (hair), alpaca hair. This standard applies to special animal fibers, wool and their mixtures.

2 Normative references

The following documents are essential to the application of this document. For the dated documents, only the versions with the dates indicated are applicable to this document; for the undated documents, only the latest version (including all the amendments) is applicable to this standard.

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

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

GB 9994 Conventional moisture regains of textiles

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

3 Principle

The determination of the content of special animal fiber and wool mixture is, based on the scale structure characteristics of special animal fiber and wool, to distinguish various types of fibers, on a projection microscope or a microscope imaging analyzer; respectively record the number; measure their diameters; use formula to calculate the mass percentage of special animal fiber, wool and their mixture. multiple of a complete pattern, from each piece). Cut it, from the middle along the warp direction, into two parts; one is the representative sample of the test, whilst the other is the standby sample.

7.2.5 Knitted fabric specimen: Disassemble the knitted fabric into yarns. Cut at least 150 pieces of 20 cm long yarn. Then cut the yarn, from the middle, into two parts; one is the representative sample of the test, whilst the other is the standby sample.

8 Pre-conditioning and humidity conditioning

Carry out pre-conditioning and humidity conditioning of specimen, under the conditions specified in Chapter 6. When the moisture regain of the specimen is lower than the public moisture regain, pre-conditioning may be exempted. Refer to GB 9994 for the public moisture regain of various types of fibers.

9 Preparation of specimen

A total of three test specimens are prepared in this test. The specimens prepared shall

ensure that the number of measured fibers is not less than 1500. Two of them are independently tested by two operators. If there is a difference between the two results, it shall test a third test specimen.

9.1 Loose fiber

9.1.1 Spread the test representative sample flat on the test bench. Use tweezers to take at least about 500 mg of fiber (not less than 20 points in total), equally from different parts. Mix and divide as evenly as possible into three parts. Sort it slightly, to make the fibers basically parallel.

9.1.2 Use a Hastelloy slicer or double blades, to cut fiber fragments of about

0.4 mm ~

0.6 mm long, from the middle of the fiber. Each fiber can only be cut once; it must not be cut repeatedly or lost.

9.1.3 Put all the fiber fragments on the watch glass. Add dropwise an appropriate amount of liquid paraffin. Use tweezers to stir it, to make it evenly distributed in the medium. Then take an appropriate amount of specimen. Place it on the glass slide. Cover a cover glass. When covering, remove the excess viscous medium mixture first, to ensure that no medium is squeezed out from under the cover glass, after the cover glass is covered, so as to avoid fiber loss.

9.2 Pile

9.2.1 Cut out about 1/3 of each pile, in the longitudinal direction.

9.2.2 Use a Hastelloy slicer or a double blade, to cut the fiber fragments about

0.4 mm ~

0.6 mm long, from the middle of the pile. Do not cut repeatedly or lose.

9.2.3 The remaining operations are the same as 9.1.3.

9.3 Yarn

9.3.1 Divide the test representative sample into three parts, as evenly as possible.

9.3.2 Use a Hastelloy slicer or double blades, to cut fiber fragments of about

0.4 mm ~

0.6 mm long. Each yarn can only be cut once; it must not be cut repeatedly or lost.

9.3.3 The remaining operations are the same as 9.1.3.

9.4 Woven fabrics

9.4.1 For the representative samples with significant differences in warp and weft yarns, it shall disassemble the warp and weft yarns first. Then weigh them respectively (if the fabric is circulated in a pattern, it shall disassemble at least an integer multiple of the complete pattern). Take at least 150 yarn segments in each direction. Divide them into three parts as evenly as possible. If there is no significant difference in the warp and weft yarns of the fabric, all the yarns in a complete square can be cut, as a test specimen.

9.4.2 The rest of the operations are the same as

9.3.2 and 9.3.3.

9.5 Knitted fabric After taking out the yarn, operate according to 9.3.

10 Measurement

10.1 Observe the various fibers, which enter the field of view, according to the method specified in the test procedure of GB/T 10685. Measure the diameter of each type of fiber as required. The number of each fiber, whose diameter is measured, shall not be less than 300. At the same time, according to the fiber morphology and structure characteristics, identify its type, as shown in Appendix A. Respectively record the number of various types of fibers. For each test specimen, test a total of more than 1500 fibers.

Note: If the number of fibers has reached 1500, whilst the glass slide only moves to the middle, it must continue to count to the side before stopping. If the proportion of the above-mentioned certain types of fibers, in the mixture, is low, AND the specimen