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GB/T 3820-1997

Replacing GB 3820-1983

Determination of thickness of textiles and textile products

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Foreword

This Standard is the revision of GB 3820-83 *Determination of thickness of woven and knitted fabrics*. The revision of this Standard is equivalent to the latest edition of the International Standard ISO 5084:1996 *Textiles - Determination of thickness of textiles and textile products*. The technical contents and parameters are consistent with ISO 9073.2:1995 *Textiles - Test methods for nonwovens - Part 2: Determination of thickness* and ISO 9863:1990 *Geotextiles - Determination of thickness at specified pressures*. The revised standard is the general standard for the determination of thickness of textiles and textile products.

Compared with the 1983 version of the standard, this Standard is mainly modified as follows:

1. CHANGE the standard title into *Determination of thickness of textiles and textile products*.
2. EXPAND the scope of application to various types of textiles and textile products.
3. ADD the classification and definition of textiles to facilitate the preparation and application.
4. MAKE major modifications on presser foot area, pressure and number of tests, and SPECIFY the specific parameters of several categories of products.
5. ADD the contents of coefficient of variation CV (%) and confidence interval for calculated thickness.

Annex A of this Standard is a normative annex.

This Standard was first released in March 1983, and was first revised in 1997.

This Standard substitutes GB 3820-83 from the date of entry into force.

This Standard was proposed by the China Textile General Association.

This Standard shall be under the jurisdiction of the Basic Standard Subcommittee of the National Technical Committee for Standardization of Textiles.

The Standardization Research Institute of China Textile General Association is responsible for drafting this Standard.

Main drafters of this Standard: Wang Baojun and Guo Yue.

Determination of thickness of textiles and textile products

1 Scope

This Standard specifies the method for determination of thickness of textiles under specified pressure.

This Standard **is applicable to** all types of textiles and textile products.

2 Normative references

The provisions in the following standards become the provisions of this Standard through reference in this Standard. At the time of publication of this Standard, the editions shown are valid. All standards will be revised and the parties using this Standard shall explore the possibility of using the latest editions of the following standards.

GB 6529-86 *Standard atmospheres for textiles conditioning and testing*

GB 8170-87 *Rules for rounding off of numerical values*

GB/T 19022.1-1994 *Quality assurance requirements for measuring equipment - Part 1: Metrological confirmation system for measuring equipment (idt ISO 10012.1:1992)*

3 Definitions

The following definitions are applicable to this Standard.

3.1 Thickness of a textile

It refers to the vertical distance between the two reference plates that apply the specified pressure to the textiles.

3.2 Bulky textiles

It refers to the textiles with a thickness variation (compression ratio) of greater than or equal to 20% when the pressure applied to the textiles increases from 0.1kPa to 0.5kPa, such as artificial furs, plush, velvet, nonwoven interlinings, etc.

are in accordance with product standards. If they fail to be specified in detail in the product standards, the method agreed by the parties concerned that is of interest to the test results shall apply.

7.2 Test pieces

7.2.1 The samples collected according to Subclause 7.1 can be directly used as the test pieces. During the test, the measuring parts shall be arranged in a ladder evenly in the area above 150mm from the selvedge. The measuring points are not in the same longitudinal and transverse positions, and shall avoid the flaws and wrinkles that affect the test results.

7.2.2 For samples that are susceptible to deformation or may affect the test operations, such as certain knitted fabrics, nonwovens or wide fabrics and textile products, etc., a sufficient number of test pieces shall be cut in accordance with Table 1. The requirements for sample cutting shall be in accordance with Subclause 7.2.1. The dimensions of the test pieces shall not be less than the presser foot dimensions.

7.3 Conditioning

Before the test, the samples or test pieces shall realize conditioning equilibrium in a relaxed state in the atmosphere specified in Chapter 6. The conditioning method and requirements shall be in accordance with GB 6529. It is generally necessary to perform conditioning for more than 16h. Synthetic fiber samples shall be equilibrated for at least 2h. The samples with a conventional moisture regain of zero can be determined directly.

8 Test procedures

8.1 SELECT the presser foot (5.1.1) according to the sample type in Table 1. For the samples whose surfaces are of uneven pattern structure, the diameter of the presser foot shall not be less than the length of the pattern cycle. The smaller presser foot can be used to respectively determine and report the thickness of the concave and convex parts, if necessary.

8.2 CLEAN the presser foot (5.1.1) and reference plate (5.1.2) to check the movement flexibility of the presser foot shaft. SET the pressure according to Table 1. Then DRIVE the presser foot against the reference plate, and SET the thickness meter (5.1.4) to zero.

8.3 RAISE the presser foot to place the test piece without tension and deformation on a reference plate.

8.4 PRESS the presser foot gently on the test piece, and MAINTAIN a

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