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**TEXTILE INDUSTRY STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

FZ/T 01095-2002

**Textile - Test method of elastane fibre content
(English Translation)**

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Table of Contents

Foreword...	3
1 Scope...	4
2 Normative References...	4
3 Principle...	4
4 General Test Principle...	4
5 Method A - Separation Method...	5
6 Method B - Chemical Analysis Method...	5
7 Test Result...	11
8 Test Report...	11

Foreword

The chemical analysis method in this standard makes reference to Japanese standard "Testing Methods for Quantitative Analysis of Fibre Mixtures of Textiles - Part

2 Testing Methods for Quantitative Analysis of Fibre Mixtures" (JIS L 1030-2-1998).

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

This standard shall be under the jurisdiction of the Basic Standard Technical Subcommittee of the National Technical Committee on Textiles of the Standardization Administration of China.

Drafting organizations of this standard. Standardization Research Institute of Textile Industry and China General Chamber of Commerce Cotton Goods and Knitwear Quality Supervision Testing Center.

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Textile - Test Method of Elastane Fibre Content

1 Scope

This standard specifies two methods - Method A (separation method) and Method B (chemical analysis method), for determining the fibre content in products containing

elastane.

Method A in this standard is applicable to products which allow to manually separate elastane from other fibres.

Method B in this standard is applicable to binary products containing elastane.

2 Normative References

The following standards contain the provisions which, through reference in this text, constitute the provisions of this standard. For dated references, the subsequent amendments (excluding correction) or revisions of these publications does not apply. However, the parties who reach an agreement based on this standard are encouraged to investigate the possibility of applying the latest editions of the standards. For undated references, the latest edition of the normative document referred to applies.

GB/T 2910-1997 Textile - Binary Fibre Mixtures - Quantitative Chemical Analysis (eqv ISO 1833. 1997)

3 Principle

The following methods shall be selected according to the types of the products.

3.1 Method A. manually separate the elastane from other fibres; dry, cool and weigh

the elastane; calculate its percentage content.

3.2 Method B. as for binary products, after the components are qualitatively identified, select proper reagent to dissolve and remove one component; wash, dry, cool and weigh the insoluble fibre; then calculate the percentage content of each component.

4 General Test Principle

Requirements for reagents and instruments used in test, specimen preparation, test 2910-1997.

6.1.1.3.2 Put the prepared specimen in a conical flask, add 100mL of 20%

hydrochloric acid solution for each gram of specimen; continuously shake it for 15 min at normal temperature so that the chinlon or the vinylon can be fully dissolved. Filter it with a glass core crucible whose mass is known; wash the remaining fibre for 3 times with a small amount of hydrochloric acid that has the same temperature and same concentration; wash it with distilled water at room temperature for 4~5 times; neutralize it for twice with weak ammonia water; then wash it with water until it acts neutrality during the inspection with indicator; the liquor must be sucked and drained by a vacuum pump after each washing.

6.1.1.3.3 Drying, cooling and weighing of specimen and insoluble fibre shall be

carried out according to Section 4.4 of GB/T 2910-1997. Value d. 1.00 for elastane.

6.1.2.1 Principle

Dissolve and remove the chinlon or vinylon with 40% sulphuric acid solution under the specified conditions; wash, dry and weigh the remaining elastane fibre. Calculate the percentage content of each component.

6.1.2.2 Reagent

6.1.2.2.1 40% (mass fraction) sulphuric acid

Take 500mL of concentrated sulfuric acid (20°C, with density of 1.84 g/mL); slowly add into 1,330mL of distilled water; cool it to room temperature and correct its density to 1.294 g/mL~1.312 g/mL. The concentration shall be controlled between 39% and 41%.

6.1.2.2.2 Diluted ammonia solution

Take 80mL of strong ammonia solution (with density of 0.880 g/mL); dilute it to 1,000mL with distilled water.

6.1.2.3.1 Specimen preparation shall be carried out according to Section 4.3 of GB/T

2910-1997.

6.1.2.3.2 Put the prepared specimen into a conical flask; add 100mL of 40%

sulphuric acid solution for per gram of specimen; and continuously stir it for 15min at normal temperature so that the chinlon or the vinylon can be fully dissolved. Filter it with a glass core crucible whose mass is known; wash the remaining fibre for 3 times with a small amount of sulphuric acid that has the same temperature and same 65% (mass fraction) potassium thiocyanate (20°C, with density of 1.3913 g/mL).

Warning. this reagent will cause harm to the human body, thus, the user shall take sound protection measures.

6.4.3.1 Specimen preparation shall be carried out according to Section 4.3 of GB/T

2910-1997.

6.4.3.2 Put the prepared specimen into a conical flask with 72°C±3°C 65%

potassium thiocyanate solution; add 100mL of test solution for each gram of specimen; stir for 10 min to dissolve the acrylic fibre. Filter it with a glass core crucible whose mass is known; wash the remaining fibre with the potassium thiocyanate that has the same temperature for 3 times; wash it with water having same temperature for about

10 times; wash it with water until it does not act red during the inspection with ferric

trichloride. After each washing, the liquor must be sucked and drained by a vacuum pump.

6.4.3.3 Drying, cooling and weighing of specimen and insoluble fibre shall be carried

out according to Section 4.4 of GB/T 2910-1997. Value d. 1.00 for elastane.

6.5.1.1 Principle

Dissolve and remove the acetate or triacetate with 75% formic acid solution under the specified conditions; wash, dry and weigh the remaining elastane fibre. Calculate the percentage content of each component.