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TEXTILE INDUSTRY STANDARD OF
THE PEOPLE'S REPUBLIC OF CHINA

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FZ/T 01093-2008

Replacing FZ/T 01093-1999

**Textiles - Woven fabrics - Construction - Methods of
analysis - Determination of linear density of yarn
removed from fabric**

(ISO 7211-5:1984, MOD)

机织物结构分析方法 织物中拆下纱线线密度的测定

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Foreword

The revision of this Standard uses ISO 7211-5:1984 “Textiles - Woven fabrics - Construction - Methods of analysis - Part 5: Determination of linear density of yarn removed from fabric”.

This Standard was redrafted based on ISO 7211-5:1984. The main differences between this Standard and ISO 7211-5:1984 are as follows:

1. Deleted the introduction;
2. Replaced the international standards by corresponding national standards or industry standards in normative references;
3. Added inapplicable content in the scope and used partial content of introduction as notes;
4. Simplified the description of sample quantity; deleted the requirements for containing different weft tubes; the warp and weft samples were unified into 2 blocks; weft group weighing was changed to weigh together;
5. Added the calculation of drying value plus official moisture regain;
6. Added the relevant sub-clauses for determination of strand line density and its representation method (7.3 and 8.3);
7. Added “Sample description” in test report.

This Standard replaces FZ/T 01093-1999 “Textiles - Woven fabrics - Construction - Methods of analysis - Determination of linear density of yarn removed from fabric”.

Compared with FZ/T 01093-1999, the main technical modifications in this Standard are as follows:

1. modified 1.3 of the scope in FZ/T 01093-1999 as the content of note;
2. simplified regulation of standard atmospheres for humidity conditioning and testing;
3. deleted the requirement that the sample preferably contains 5 weft tubes in the sample request; the warp and weft samples are unified into 2 blocks; weft group weighing is changed to weighing together;
4. added the calculation of drying value plus official moisture regain.

Textiles - Woven fabrics - Construction - Methods of analysis - Determination of linear density of yarn removed from fabric

1 Scope

This Standard specifies two methods for determining linear density of yarn removed from fabric. One method is to determine the linear density of yarn removed from fabric without removing the non-fibrous material. The other method is to determine the linear density of yarn removed from fabric after removal of non-fibrous materials. Choose one of them as needed.

This Standard applies to the determination of the linear density of yarn removed from most woven fabrics. It is not applicable to the fabrics that the curl on the yarn cannot be eliminated under a certain straightening tension, and the yarn is damaged during weaving, finishing and analysis of the method.

NOTE: The linear density of the yarn in the fabric obtained by the method of this Standard may be different from the linear density of the original yarn before weaving. If the sample is not large enough, the results may vary significantly.

2 Normative references

The provisions in following documents become the provisions of this Standard through reference in this Standard. For dated references, the subsequent amendments (excluding corrigendum) or revisions do not apply to this Standard, however, parties who reach an agreement based on this Standard are encouraged to study if the latest versions of these documents are applicable. For undated references, the latest edition of the referenced document applies.

GB/T 2543.1, *Textiles - Determination of twist in yarns - Part 1: Direct counting method* (GB/T 2543.1-2001, eqv ISO 2061:1995)

GB 6529, *Textiles - Standard atmospheres for conditioning and testing*

GB/T 8693, *Textiles - Designation of yarns*

FZ/T 01091, *Textiles - Woven fabrics – Construction - Methods of analysis - Determination of crimp of yarn in fabric* (FZ/T 01091-2008, ISO 7211-3:1984, MOD)

7.1.1 Separating yarn and measuring length

According to the provisions of FZ/T 01091, adjust the straightening tension. Remove and measure the straight length of 10 yarns (accurate to 0.5mm) from each sample. Then remove at least 40 yarns from each sample and form a group with 10 of the measured lengths in the same sample.

7.1.2 Method A -- Humidity conditioning in standard atmosphere

The sample is pre-conditioned for 4h in the standard atmosphere for pre-conditioning of humidity specified in GB 6529. Then expose it to the standard atmosphere for testing for 24h. Or the recursive variable of its mass is at least 0.1% every at least 30min. Weigh two groups of warp yarns together and weigh two groups of weft yarns together.

7.1.3 Method B -- Drying value plus commercial allowance or official moisture regain

Heat the sample to 105°C in a ventilated oven (4.3). And bake to a constant mass until the mass transfer variable is no more than 0.1% every 30min. Weigh two groups of warp yarns together and weigh two groups of weft yarns together.

7.2 Determination of linear density of yarn removed from fabric after removal of non-fibrous materials

7.2.1 Separating yarn and measuring length

Remove 10 yarns from each sample and measure their straight length as specified in 7.1.1. Then remove at least 40 yarns from each sample.

7.2.2 Removal of non-fibrous material

Remove non-fibrous material by the method for removing non-fibrous material before quantitative analysis of fiber mixture according to ISO 1833-1. Determine the mass according to Method A or Method B of 7.1.

7.3 Determination of single yarn density in strands

For the linear density value of the strand measured according to the above procedure, the result shall indicate the final linear density value. If the linear density values of the individual yarns are required (for example, strands with different single yarn densities), separate the strands first. Leave a single yarn of the component to be tested. Then measure the straightening length and mass as described above.

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