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

GB/T 12703.3-2009

**Textiles - Evaluation of electrostatic properties - Part 3: Electric
charge**

纺织品 静电性能的评定 第3部分：电荷量

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Foreword

GB/T 12703 "Evaluation of electrostatic properties of textiles" includes the following seven sections.

- Part 1. electrostatic voltage half-life;
- Part 2. surface charge density;
- Part 3. charge amount;
- Part 4. resistivity;
- Part 5. friction charging voltage;
- Part 6. fiber leakage resistance;
- Part 7. dynamic static voltage. This section GB/T 12703 Part 3. This Part replaces GB/T 12703-1991 "textile static test methods" in the E method, this part of the GB/T 12703-1991 of The main differences are as follows: 1. Original overalls triboelectrification (E Act) adjust the amount of charge in the series of standards, standard names are also revised accordingly. This section is only GB/T 12703-1991 in overalls triboelectrification (E Act) related to the content; 2. Increasing the sample pre-treatment wash program (see Chapter 7); 3.

5.2.2 adds the note "when necessary or the parties concerned after the consensus, the friction material can be other materials"; 4. An increase of Chapter 10, "the amount of charge the technical requirements." This part is proposed by the China Textile Industry Association. This part of the National Standardization Technical Committee on Basic Standards Subcommittee Textiles (SAC/TC209/SC1) centralized. This section drafted by: National Textile Products Quality Supervision and Inspection Center. The main drafters of this section. Renhe Ning, Wang Baojun. This part of the standard replaces the previous editions are.

- GB/T 12703-1991. Evaluation of electrostatic properties of textiles Part 3. charge amount

1 Scope

Part 3 of China's series on the evaluation of the electrostatic properties of textiles, covering the quantity of charge. It specifies the test method for the triboelectric charge quantity of garments and other textile products, and it applies to garments and other textile products generally, with other products able to apply it by reference. Static in a textile is a nuisance in a shirt and a hazard in the wrong place. A synthetic garment rubbing against itself and against the body generates and holds charge, because the fibres are good insulators and there is nowhere for it to go; the wearer then discharges to the first earthed thing they touch. In ordinary life that is an irritation. In a flammable atmosphere, in an operating theatre, near an explosive or in a plant handling solvent or dust, it is an ignition source; in electronics manufacture it destroys components without anyone seeing it happen. That is why textile static is measured rather than merely deprecated. The method here charges the specimen by friction under controlled conditions and then measures the charge it holds, in a Faraday cage, expressed per unit area or per garment. The conditions are the whole difficulty: charge generation and, more importantly, charge decay depend very strongly on the relative humidity - the same garment that holds a large charge at twenty per cent humidity may hold almost none at sixty - so the standard prescribes the atmosphere for conditioning and testing, the friction cloth and the way the rubbing is done, the time between charging and measurement, and the earthing of everything except the specimen. Without those, two results cannot be compared at all. Issued on 19 June 2009 and in force since 1 February 2010.

GB/T 12703 provisions of this part of the test method for garments and other textile products triboelectric charge amount. This section applies to all types of clothing and other textile products, the use of other products can refer.

2 Normative references

The following documents contain provisions which, through

GB/T 12703 in this part of the reference in terms of this section. For dated reference documents Member, all subsequent amendments (not including errata content) or revisions do not apply to this section, however, encouraged to reach under this section Parties to research agreement to use the latest versions of these documents. For undated reference documents, the latest versions apply to this section.

GB/T 8629-2001 Textiles - Domestic washing and drying test procedures (eqv ISO 6330.2000)

3 Terms and Definitions

The following terms and definitions apply GB/T 12703 in this section.

3.1 Cloth samples and standards frictional charge on after a certain time.

Principle

4 Sample triboelectrically charged by the friction device simulations, then the sample is put into Faraday cup, measuring the amount of charge.

5 devices and appliances

5.1 Test Faraday cup system See Figure 1. 1

--- outer cylinder; 2

--- inner tube; 3

--- capacitor; 4

--- electrostatic voltmeter; 5

--- insulated bracket. Figure