

ICS 59.080.01
CCS W 04



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

GB/T 12703.1-2008

**Textile -- Evaluation for electrostatic properties -- Part 1: Static
half period**

(English Translation)

Issued on: June 18, 2008

Implemented on: March 1, 2009

**Issued by: General Administration of Quality Supervision, Inspection and
Quarantine**

Table of Contents

Foreword...	3
1 Scope...	5
2 Normative references...	5
3 Terms and definitions...	5
4 Principle...	6
5 Equipment and utensils...	6
6 Atmospheric conditions for humidifying and testing...	7
7 Sample preparation...	7
8 Test procedure...	8
9 Test results...	8
10 Technical requirements and evaluation of the half period...	8
11 Test report...	9

1 Scope

This Part of GB/T 12703 specifies the test methods and evaluation indexes for static half period of textiles.

This Part applies to all types of textiles, but to floor fabrics.

2 Normative references

The terms in the following documents become the terms of this Part by reference to this Part of GB/T 12703. For dated references, all subsequent amendments (not including errata content) or revisions do not apply to this Part.

However, parties to agreements that are based on this Part are encouraged to study whether the latest versions of these documents can be used. For undated references, the latest edition applies to this Part.

GB/T 8629-2001, Textiles - Domestic washing and drying procedures for textile testing

3 Terms and definitions

The following terms and definitions are applicable to this Part of GB/T 12703.

3.1

Electrostatic voltage

The potential to ground that is generated by the relatively stable charges which are accumulated on the sample.

3.2

Static half period

The time that is required for the electrostatic voltage on the sample to decay to half of the original value.

5.2 A pair of stainless-steel tweezers.

5.3 A pair of cotton gloves.

5.4 Cutting tool.

6 Atmospheric conditions for humidifying and testing

The environmental conditions of the atmosphere for humidifying and testing are.

the temperature is $(20 \pm 2) ^\circ\text{C}$; the relative humidity is $(35 \pm 5) \%$; the ambient wind speed shall be below 0.1 m/s.

7.1.1 If necessary, wash in accordance with the 7A procedure in GB/T 8629-

2001; the parties concerned can choose to wash 5, 10, 30, 50 times through consultation; for multiple washings, the time can be accumulated for continuous washing. Or wash according to the method and frequency approved by the relevant parties.

Note: When the time is accumulated, the time of washing, flushing 1, flushing

2, and flushing 3 in the 7A procedure shall be accumulated respectively.

7.1.2 Pre-bake the sample or the washed sample at $50 ^\circ\text{C}$ for a certain period of time.

7.1.3 Place the pre-baked sample in the environment of Chapter 6 for more

than 24 hours; the sample shall not be stained.

7.2 Sample

7.2.1

Take 3 groups of samples at random; the size of each sample is 4.5 cm x

4.5 cm or a suitable size. The number of samples in each group depends on the number of sample tables in the instrument. The sample shall be representative and free of defects that would affect the test results.

7.2.2

Slivers, filaments and yarns shall be evenly and densely wound on a flat plate of the same size as the sample of 7.2.1.

7.2.3 During operation, avoid touching the sample with hands or other objects

that may stain the sample.

8 Test procedure

8.1

Calibrate the instrument before the test.

8.2

Discharge the surface of the sample.

8.3

Clamp the sample in the test clamp so that the pin electrode and the upper surface of the sample are separated by (20 ± 1) mm, and the sensing electrode and the upper surface of the sample are separated by (15 ± 1) mm.

Note: When changing the sample, the distance between the pin electrode and the sensing electrode and the upper surface of the sample shall be re-adjusted, so as to meet the specified requirements.

8.4

Drive the test bench; apply a high voltage of 10 kV to the pin electrode after the rotation is stable.

8.5 After applying pressure for 30 seconds, disconnect the high voltage; the test

bench continues to rotate, until the electrostatic voltage decays below 1/2; then, stop the test; record the sample electrostatic voltage (V) at the moment of high voltage disconnection and the time required to decay to 1/2 [i.e., half period (s)].

Note: When the half period is greater than 180 s, stop the test, and record the residual electrostatic voltage value at the decay time of 180 s, or record the residual electrostatic voltage value at 60 s, 120 s or other decay times if necessary.

9.1 Perform two tests on the same sample (group); calculate the average value

as the measured value of the sample (group).

9.2 Perform the same test on 3 samples (groups); calculate the average value

as the measured value of the sample. Round the final result of electrostatic voltage to 1 V, and of half period to 0.1 s.

10 Technical requirements and evaluation of the half

period

The technical requirements of the half period are shown in Table 1. For non-durable antistatic textiles, they shall meet the requirements of Table 1 before washing; for durable antistatic textiles (products that maintain antistatic

.....