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

GB/T 24218.3-2010

**Textiles -- Test methods for nonwovens -- Part 3: Determination
of tensile strength and elongation (strip method)**

(English Translation)

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Foreword

GB/T 24218 Textiles - Test Methods for Nonwovens can be divided into the following parts.

- Part 1. Determination of Mass per Unit Area;
- Part 2. Determination of Thickness;
- Part 3. Determination of Tensile Strength and Elongation (Strip Method);
- Part 5. Determination of Resistance to Mechanical Penetration (Ball Burst Method);
- Part 6. Absorption;
- Part 8. Determination of Liquid Strike-Through Time (Simulated Urine);
- Part 10. Lint and Other Particles Generation in the Dry State;
- Part 11. Run-off;
- Part 12. Demand Absorbency;
- Part 13. Repeated Liquid Strike-through Time;
- Part 14. Coverstock Wetback;
- Part 15. Determination of Permeability;
- Part 16. Determination of Resistance to Water Penetration (Hydrostatic Pressure);
- Part 17. Determination of Water Penetration (Spray Shock Method);

--- Part 18. Determination of Tensile Strength and Elongation (Grab Method);

--- Part 101. Saline Repellency (Mason Jar Method).

The Part 1 ~ Part 18 of GB/T 24218 Textiles - Test Methods for Nonwovens are corresponding to the ISO 9073 serial standards; in addition to the above standards, the corresponding relationship between other parts and ISO 9073 is as follows.

--- GB/T 3917.3 Textiles - Tear Properties Fabrics - Part 3. Determination of Tear Force of Trapezoidal Shaped Test Specimens (GB/T 3917.3-1997, eqv ISO 9073-4. 1989);

--- GB/T 18318.1 Textiles - Determination of Bending Behavior - Part 1. Incline Method (GB/T 18318.1-2009, ISO 9073-7.1995, MOD);

--- GB/T 23329 Textiles- Determination of Drapability of Fabrics (GB/T 23329-2009, Textiles - Test Methods for

Nonwovens - Part 3. Determination of

Tensile Strength and Elongation (Strip Method)

1 Scope

This Part of GB/T 24218 specifies the test methods of adopting strip method to measure the tensile properties of the nonwovens.

NOTE: When determining certain filature or laid nonwovens and glass fiber nonwovens, it may appear abnormality; in this case, the determination procedures can be modified.

2 Normative References

The provisions in following documents become the provisions of this Part of GB/T

24218 through reference in this Part. For dated references, the subsequent

amendments (excluding corrigendum) or revisions do not apply to this Part, however, parties who reach an agreement based on this Part 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 3923.1 Textiles - Tensile Properties of Fabrics - Part 1. Determination of

Breaking Force and Elongation at breaking force - Strip Method

GB/T 6529 Textiles - Standard Atmospheres for Conditioning and Testing (GB/T 6529-2008, ISO 139.2005, MOD)

3 Principle

For the specimen with specified dimension, exert a force that generates constant rate of elongation along the length direction, and measure its breaking force and elongation at break.

7.2 Set the nominal holding distance of the tensile tester to be 200mm±1mm; clamp

the specimen in the middle of the clasper. Pre-tension can be subject to the provisions of GB/T 3923.1, and indicate in the test report.

NOTE: if the nominal holding distance of 200mm is not appropriate; shorter specimen can be adopted through the agreement of relevant parties, and indicate in the test report.

7.3 Start the machine, stretch the specimen at a constant elongation rate of 100mm/min till it breaks. If necessary, record the strength-elongation curve of each sample.

NOTE: Other tensile speed can be adopted through the agreement of relevant two parties, and indicate in the test report.

8.1 Record the maximum force during the stretching process of the specimen, unit is

Newton (N). If there are multiple strong peaks during the test process, take the highest value as the breaking strength, and indicate such phenomenon in the test report.

8.2 Record the specimen's elongation at the breaking strength, which is the elongation at break.

8.3 If the break appears on the jaw position or specimen is slipping off at the jaw, the

test data is invalid; take another specimen to perform to the test and replace the invalid

specimen.

8.4 Record the average breaking strength of the 5 specimens in the longitudinal and

horizontal directions, respectively, unit is Newton (N); the result shall be accurate to 0.1N; average elongation at break is accurate to 0.5%, and calculate its coefficient of variation.

NOTE: the break work can be calculated by the total area under the curve.

9 Test Report

The test report shall contain the following contents.

- a) Test is carried out as per this Part;
- b) Sample description;
- c) Test results on longitudinal and horizontal specimens (see 8.4);
- d) Humidifying the atmospheric conditions;

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