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

GB/T 13763-2010

Replacing GB/T 13763-1992

Geosynthetics - Determination of trapezoid tearing force

土工合成材料 梯形法撕破强力的测定

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Foreword

This standard replaces GB/T 13763-1992 "geotextile trapezoid tearing strength of the experimental method." This standard and GB/T 13763- 1992 The main difference is as follows:

- Standard name changed to "Geosynthetics trapezoid tearing strength of determination";
- Scope from "all kinds of geotextile" to "all kinds of geotextiles and geotextile impermeable membrane";
- Remove the Normative references cited in standard GB/T 8170;
- Added "geosynthetics", "geotextile" and "geomembrane impermeable" terms and definitions;
- Test instrument added clip and clamp trapezoid model;
- Increasing the sample under wet tear strength test method;
- Chapter 7 adds two typical tear sample graph;

1 Scope

China's national method for the trapezoid tear force of geosynthetics - the geotextiles, geomembranes and related products used in road and railway construction, in landfill lining, in drainage, in erosion control and in embankment reinforcement. It specifies the determination of the trapezoid tearing force of geosynthetics. Tear resistance is not the same property as tensile strength, and for a geosynthetic it is often the more important of the two. A geotextile in the ground is not loaded uniformly in tension: it is punctured by a stone, cut by a piece of plant, or nicked during installation, and what then decides whether the sheet survives is whether that small damage propagates. A material with a high tensile strength and a low tear resistance fails from a single flaw and takes the function of the layer with it, which in a landfill liner or a reinforced embankment is a serious matter. The trapezoid method is designed to measure exactly that. A trapezoidal shape is marked on

the specimen, a small cut is made in the short edge, and the specimen is gripped along the non-parallel sides and pulled: the geometry concentrates the stress at the cut and forces the tear to propagate across the specimen, so the force required is a measure of resistance to propagation rather than of strength. The standard sets the specimen dimensions and how they are cut, the position and depth of the initial cut, the gripping and the jaw separation rate, the conditioning atmosphere, the number of specimens in each direction - since geosynthetics are anisotropic and a machine direction result says nothing about the cross direction - and how the result is expressed. Issued on 10 January 2011 and in force since 1 June 2011, it replaces GB/T 13763-1992.

This standard specifies the determination of geosynthetics trapezoidal tearing strength approach. This standard applies to all types of geotextile Geomembrane.

2 Normative references

The following documents contain provisions which, through reference in this standard and become the standard terms. For dated references, subsequent Amendments (not including errata content) or revisions do not apply to this standard, however, encourage the parties to the agreement according to study Whether the latest versions of these documents. For undated reference documents, the latest versions apply to this standard.

GB/T 6529 Textiles conditioning and testing using standard atmosphere (GB/T 6529-2008, ISO 139.2005, MOD)

GB/T 13760 Geosynthetics sampling and sample preparation (GB/T 13760-2009, ISO 9862.2005, IDT)

3 Terms and Definitions

The following terms and definitions apply to this standard.

3.1 Geosynthetic geosynthetic In civil engineering and geotechnical engineering for contact with the soil and (or) a product other general material, at least one synthetic or A natural polymer, which may be a sheet, strip or the three-dimensional structure.

3.2 Geotextile geotextile In civil engineering and geotechnical engineering for contact with the soil and (or) a planar shape other materials, permeable, made of a polymer (natural Or synthetic) consisting of textile materials, which can be woven, knitted or non-woven.

3.3 Geomembrane geosynthetic barrier For geotechnical and civil engineering, to reduce or prevent fluid flow through the A building and the low permeability of geosynthetics.

3.4 Tear strength tear force Under specified conditions, to make the initial cut from the sample begin to tear and continue to expand the force required to tear. Principle

4 Painted on a rectangular sample a trapezoid, and cut a slit in the center of the short side

of the trapezoid, with a strong clip tester clamp to live on two ladder Non-parallel sides, at a constant rate tensile test, the sample in the width direction of the slit tear progressively until all broken. Determination of the maximum tear Force, in Newtons (N) as a unit.

5 Test Instruments

5.1 constant elongation tensile tester (CRE), the force with automatic recording devices.

5.2 clip pliers, its width should be sufficient gripping the entire width of the specimen, and the specimen during the test shall ensure that no slippage or breakage.

7.5

Note. The standard proposed by China Textile Industry Association. This standard by the National Standardization Technical Committee based textile branch (SAC/TC209/SC1) centralized. This standard was drafted. Textile Standard (Beijing) Co., Ltd. Inspection and Certification Center, National Textile Products Quality Supervision and Inspection Center. The main drafters. Zhang. This standard supersedes the previous editions are.

--- GB/T 13763-1992. Geosynthetics Determination trapezoid tearing strength