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**Geotextiles — Wide-width tensile test**

*Géotextiles — Essai de traction des bandes larges*



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## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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# Geotextiles — Wide-width tensile test

## 1 Scope

This International Standard describes an index test method for determination of the tensile properties of geotextiles and related products, using a wide-width strip. The method is applicable to most geotextiles, including woven fabrics, nonwovens, geocomposites, knitted fabrics and felts. The method is also applicable to geogrids, but specimen dimensions may need to be altered.

This tensile test method covers the measurement of load elongation characteristics and includes procedures for the calculation of secant stiffness, maximum load per unit width and strain at maximum load. Singular points on the load-extension curve are also indicated.

Procedures for measuring the tensile properties of both conditioned and wet specimens are included.

## 2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 554:1976, *Standard atmospheres for conditioning and/or testing — Specifications.*

ISO 3301:1975, *Statistical interpretation of data — Comparison of two means in the case of paired observations.*

ISO 3696:1987, *Water for analytical laboratory use — Specification and test methods.*

ISO 7500-1:1986, *Metallic materials — Verification of static uniaxial testing machines — Part 1: Tensile testing machines.*

ISO 9862:1990, *Geotextiles — Sampling and preparation of test specimens.*

## 3 Definitions

### 3.1 nominal gauge length

(1) For measurement with an extensometer, the initial distance, normally 60 mm (30 mm on either side of the specimen's symmetrical centre), between two reference points located on the specimen parallel to the applied load.

(2) For measurement by jaw displacement, the initial jaw separation distance, normally 100 mm.

**3.2 extension at preload:** Measured increase in gauge length, expressed in millimetres, corresponding to an applied load of 1 % of the maximum load (SA in figure 1).

**3.3 true gauge length:** Nominal gauge length plus the extension at preload.

**3.4 maximum load:** Maximum tensile force, expressed in kilonewtons, obtained during a test (see point D in figure 1).

**3.5 strain:** Increase in true gauge length of a specimen during a test, expressed as a percentage of the true gauge length.

**3.6 strain at maximum load:** Strain, expressed in percentage, exhibited by the specimen under maximum load.

**3.7 secant stiffness:** Ratio of load per unit width, in kilonewtons per metre, to a given value of strain. For example, at point B in figure 1, secant stiffness =  $BC/CA$ .

**3.8 tensile strength:** Maximum strength per unit width, in kilonewtons per metre, observed during a test in which the specimen is stretched until it breaks.