INTERNATIONAL STANDARD 5081

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Textiles — Woven fabrics — Determination of breaking strength and elongation (Strip method)

Textiles — Tissus — Détermination de la force de rupture et de l'allongement de rupture (Méthode sur bande)

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FOREWORD

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Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 5081 was developed by Technical Committee ISO/TC 38, *Textiles*, and was circulated to the member bodies in February 1976.

It has been approved by the member bodies of the following countries :

Australia	France	Poland
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Brazil	India	Spain
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Italy
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Textiles — Woven fabrics — Determination of breaking strength and elongation (Strip method)

1 SCOPE AND FIELD OF APPLICATION

1.1 This International Standard specifies a method, known as the "strip" method, for the determination of the breaking strength and elongation at break of woven textile fabrics (except woven elastic fabrics).

NOTE — The determination of breaking strength using the "grab" method is given in ISO 5082[1]. There is no simple relationship between results given by strip tests and those given by grab tests because the amount of assistance provided by the adjacent yarns depends on the type of weave, construction, mobility of yarns, and other factors.

1.2 The method is applicable to unimpregnated fabrics and to fabrics that have been impregnated with sizing or stiffening materials but not to fabrics coated with rubber or plastics.[2]

1.3 The method provides for the determination of the breaking strength and elongation at break of specimens in equilibrium with the standard atmosphere for testing, and of specimens in the wet state.

1.4 The method authorizes the use of the following types of testing machine in common use for measuring breaking strength and elongation of fabrics :

a) constant-rate-of-specimen-extension (CRE) (see clause 5 and annex A, clause A.1);

b) constant-rate-of-traverse (CRT) (see clause 5 and annex A, clause A.2);

c) constant-rate-of-load (CRL) (see clause 5 and annex A, clause A.3).

The three types of testing machine do not necessarily give the same results for the same fabric. The type of tester to be used must, therefore, be agreed upon by all parties interested in the test results, and must be reported. As it has been found that the breaking strengths obtained on different types of tester agree best when the time-to-break is the same, the method provides for testing at specific times-to-break (see 4.2), and rates of extension, traverse, or loading are not specified.

NOTE — When the time-to-break has been the same, excellent experimental agreement has been reported between results obtained with CRE and CRT testers, but results given by CRL testers have in some cases been reported to differ somewhat from the other results.

2 REFERENCES

ISO 139, *Textiles — Standard atmospheres for conditioning and testing.*

ISO 2602, *Statistical interpretation of test results — Estimation of the mean — Confidence interval.*

3 DEFINITIONS

For the purpose of this International Standard the following definitions apply.

3.1 breaking strength : The maximum tensile force observed during a test in which the specimen is stretched until it breaks.

3.2 elongation (extension) : The increase in length of a specimen during a tensile test, expressed in units of length, for example centimetres, millimetres, etc.

1) ISO 5082, *Textiles — Woven fabrics — Determination of breaking strength (Grab method).* (At present at the stage of draft.)

2) The determination of breaking strength and elongation at break of fabrics coated with rubber or plastics is dealt with in ISO 1421, *Rubber-coated and plastics-coated fabrics — Determination of breaking strength and elongation at break.*