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Textile — Biaxial tensile properties of woven fabric — Determination of elasticity properties using a cruciform test piece

Textiles — Propriétés biaxiales des tissus — Détermination des propriétés d'élasticité au moyen d'éprouvette cruciforme

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Foreword

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This document was prepared by Technical Committee ISO/TC 38, *Textiles*, Subcommittee SC 24, *Conditioning atmospheres and physical tests for textile fabrics*.

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Textile — Biaxial tensile properties of woven fabric — Determination of elasticity properties using a cruciform test piece

1 Scope

This document specifies a test method for determination of the elasticity and related properties of woven textile fabrics, using biaxial stress states, which exhibit stretch characteristics imparted by the presence of an elastomeric fibre, mechanical, or chemical treatment.

This biaxial elasticity test is restricted to the use of constant rate of extension (CRE) testing machine.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

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

ISO 7500-1, *Metallic materials — Calibration and verification of static uniaxial testing machines — Part 1: Tension/compression testing machines — Calibration and verification of the force-measuring system*

3 Terms and definitions

For the purposes of this document, the terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

3.1
biaxial elasticity test
method for measuring the stress-strain curves of test specimens subject to biaxial tension using a cruciform test piece

3.2
CRE biaxial tensile testing machine
testing machine for applying biaxial tensile stress with a constant speed to a test specimen in the orthogonal directions parallel to the arms of the cruciform test piece

3.3
grip separation length
distance between the two gripping points of the testing device

3.4
gauge length
distance between the two effective gauge mark points of the test specimen in each direction

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