

Rubber- or plastics-coated fabrics - Mechanical test methods under biaxial stress states - Part 2:
Determination of the pattern compensation values

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

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English Version

**Rubber- or plastics-coated fabrics - Mechanical test
methods under biaxial stress states - Part 2: Determination
of the pattern compensation values**

Supports textiles revêtus de caoutchouc ou de
plastique - Méthodes d'essais mécaniques sous
contraintes biaxiales - Partie 2: Détermination des
valeurs de compensation du patronnage

Mit Kautschuk oder Kunststoff beschichtete Textilien -
Mechanische Prüfverfahren unter biaxialen
Spannungszuständen - Teil 2: Bestimmung der
Kompensationswerte

This European Standard was approved by CEN on 21 June 2021.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
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European foreword

This document (EN 17117-2:2021) has been prepared by Technical Committee CEN/TC 248 “Textiles and textile products”, the secretariat of which is held by BSI.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by January 2022, and conflicting national standards shall be withdrawn at the latest by January 2022.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights

EN 17117 consists of the following parts, under the general title *Rubber- or plastics-coated fabrics — Mechanical test methods under biaxial stress states*:

- *Part 1: Tensile stiffness properties*
- *Part 2: Determination of the pattern compensation values*

An additional part related to shear stiffness properties will be proposed after the publication of the previous parts.

Any feedback and questions on this document should be directed to the users’ national standards body. A complete listing of these bodies can be found on the CEN website.

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Introduction

Compensation is the process of reducing the size of cutting patterns with the objective to introduce and maintain the desired range of prestress specified in the structural design using coated fabrics such as architectural tensioned envelopes. Elastic strain correspondent to the prestress and irreversible strain of the coated fabrics induced by tensioning during installation and potential load incidents over the lifetime of an architectural tensioned envelope, should be compensated to achieve the objective. Different compensation values may be applied to different parts of the same architectural tensioned envelope. Decompensation may also be applied if required.

1 Scope

This document describes methods for the determination of compensation values for orthotropic coated fabrics (different properties along ideally perpendicular directions, such as the weft and warp yarns for woven based coated fabrics, or along the courses and wales of knitted based coated fabrics) for determining cutting patterns.

NOTE The final interpretation and the determination of the compensation values remains the responsibility of the project engineer.

Annex C describes a method to determine comparable measures of extensibility along ideally perpendicular directions of coated fabrics. The comparable measures of extensibility can be used by design engineers to assess the extensibility of a coated fabric by comparison with other coated fabrics. In this way, they can help to interpret results of compensation tests. Moreover, they can be used by material suppliers to measure the consistency of extensibility along perpendicular directions of a coated fabric from batch to batch.

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.

EN 17117-1, *Rubber or plastics-coated fabrics - Mechanical test methods under biaxial stress states - Part 1: Tensile stiffness properties*

3 Terms and definitions

For the purposes of this document, the following 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 <http://www.electropedia.org/>

3.1

biaxial

measurement or application along two axes simultaneously

[SOURCE: EN 17117-1:2018, 3.1]

3.2

compensation

reduction in size of a cutting pattern, so that during installation the panel elongates to achieve an initial nominal prestress

3.3

compensation value

amount by which the dimensions of the pattern geometry is reduced by compensation

Note 1 to entry: The compensation value is expressed as a percentage of length in the direction to be compensated.