

**Leather - Determination of flex resistance - Part 1:
Flexometer method (ISO 5402-1:2011)**

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NATIONAL FOREWORD

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English Version

**Leather - Determination of flex resistance - Part 1: Flexometer
method (ISO 5402-1:2011)**

Cuir - Détermination de la résistance à la flexion - Partie 1:
Méthode au flexomètre (ISO 5402-1:2011)

Leder - Bestimmung der Dauerbiegefestigkeit - Teil 1:
Flexometer-Verfahren (ISO 5402-1:2011)

This European Standard was approved by CEN on 14 December 2011.

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Foreword

This document (EN ISO 5402-1:2011) has been prepared by Technical Committee CEN/TC 289 "Leather", the secretariat of which is held by UNI, in collaboration with IULTCS "International Union of Leather Technologists and Chemists Societies".

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of an identical text or by endorsement, at the latest by June 2012, and conflicting national standards shall be withdrawn at the latest by June 2012.

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

This document supersedes EN ISO 5402:2002.

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Leather — Determination of flex resistance —

Part 1: Flexometer method

1 Scope

This part of ISO 5402 specifies a method for determining the wet or dry flex resistance of leather and finishes applied to leather. It is applicable to all types of flexible leather which are less than 3,0 mm thick.

2 Normative references

The following referenced documents are indispensable for the application 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 2418, *Leather — Chemical, physical and mechanical and fastness tests — Sampling location*

ISO 2419, *Leather — Physical and mechanical tests — Sample preparation and conditioning*

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

3 Principle

A test piece is folded with the surface to be tested inwards and clamped in an upper moveable clamp, with the surface to be tested outwards in a lower fixed clamp. Movement of the upper clamp causes a fold in the test piece to run along it. The test piece is examined periodically for damage.

4 Apparatus and materials

4.1 Test machine, including the parts described in 4.1.1 to 4.1.3.

4.1.1 Upper clamp, consisting of a pivoting pair of flat plates of maximum 4 mm thickness as shown in Figure 1. One plate has the basic shape of a trapezium ABCFD but with a radius of 2 mm at F. It has a ledge EF 4 mm $\pm$ 1 mm thick to support the folded test piece. The other plate has the shape EGHCF. The clamp tightening screw draws the plates together and also acts as a stop to prevent the test piece from being positioned closer to AB than the vertical through C. A stop near the edge AB and approximately midway between A and B ensures that the plates clamp more effectively near point F. The upper clamp can be reciprocated by a motor about a horizontal axle, descending through an angle of 22° 30' $\pm$ 0° 30' at a frequency of 100 cycles/min $\pm$ 5 cycles/min.

4.1.2 Lower clamp, fixed and lying directly beneath (planar to) the upper clamp and consisting of a pair of flat plates to hold the test piece. The position of the lower clamp is such that the distance between the ledge EF and the upper edge of the fixed lower clamp, when the ledge EF is horizontal, is 25,0 mm $\pm$ 1,0 mm.

4.1.3 Counter, to indicate the number of cycles.