SRI LANKA STANDARD 404 PART 1: 2018
(ISO 2589: 2016)
UDC 675.017

METHODS FOR PHYSICAL AND MECHANICAL TEST OF LEATHER
PART 1: DETERMINATION OF THICKNESS
(Second Revision)

SRI LANKA STANDARDS INSTITUTION

Sri Lanka Standard
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PART 1: DETERMINATION OF THICKNESS
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SLS 404 PART 1: 2018
(ISO 2589: 2016)

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Sri Lanka.

Sri Lanka Standards are subject to periodical revision in order to accommodate the progress made by industry. Suggestions for improvement will be recorded and brought to the notice of the Committees to which the revisions are entrusted.

This Standard does not purport to include all the necessary provisions of a contract

Sri Lanka Standard
METHODS FOR PHYSICAL AND MECHANICAL TEST OF LEATHER
PART 1: DETERMINATION OF THICKNESS
(Second Revision)

NATIONAL FOREWORD

This Sri Lanka Standard was approved by the Sectoral Committee on Leather and Leather products, and was authorized for adoption and publication as a Sri Lanka Standard by the Council of the Sri Lanka Standards Institution on 2018-11-16

This Sri Lanka Standard is the second revision of SLS **404: Part 1: 2011** Method for physical and mechanical test of leather - Determination of thickness. The International Standard **ISO 2589: 2016** which specifies a method of determination of thickness of leather, has been accepted for adoption as **SLS 404 Part 1: 2018** considering the importance of this parameter in leather industry.

This Sri Lanka Standard is identical with **ISO 2589**, Leather – Physical and Mechanical tests - Determination of thickness, published by the International Organization for Standardization (ISO)

TERMINOLOGY AND CONVENTIONS

The text of the International Standard has been accepted as suitable for publication without deviation, as a Sri Lanka Standard. However certain terminology and conventions are not identical with those used in Sri Lanka Standards. Attention is therefore drawn to the following:

a) Wherever the words “International Standard” appear referring to this standard they should be interpreted as “Sri Lanka Standard”.

b) The comma has been used throughout as a decimal marker. In Sri Lanka Standards it is the current practice to use the full point at the base as the decimal marker.

c) Whenever page numbers are quoted, they are ISO page numbers.

CROSS REFERENCES

International Standard	Corresponding Sri Lanka Standard
ISO 2418, Leather – Chemical, physical and mechanical and fastness tests – Sampling location	SLS 403, Sampling location for chemical, physical, mechanical and fastness test of leather
ISO 2419, Leather – Physical and mechanical tests – Sample preparation and conditioning	SLS 404-9, Methods for physical and mechanical test of leather – Sample preparation and conditioning

SLS 404 Part 1: 2018

INTERNATIONAL STANDARD

ISO 2589

IULTCS/IUP 4

Third edition
2016-02-15

Leather — Physical and mechanical tests — Determination of thickness

Cuir — Essais physiques et mécaniques — Détermination de l'épaisseur

Reference numbers
ISO 2589:2016(E)
IULTCS/IUP 4:2016(E)

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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

ISO 2589 was prepared by the Physical Test Commission of the International Union of Leather Technologists and Chemists Societies (IUP Commission, IULTCS) in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 289, *Leather*, the secretariat of which is held by UNI, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

It is based on IUP 4 originally published in *J. Soc. Leather Trades Chemists* **42**, p. 387, (1958) and declared an official method of the IULTCS in 1959. An updated version was published in *J. Soc. Leather Tech. Chem*. **82**, p. 225, (1998) and a further revision published in *J. Soc. Leather Tech. Chem*. **84**, p. 311, (2000) and reconfirmed as an official method in March 2001. This latest revision now includes the number of test measurements to be taken.

IULTCS, originally formed in 1897, is a world-wide organization of professional leather societies to further the advancement of leather science and technology. IULTCS has three Commissions, which are responsible for establishing international methods for the sampling and testing of leather. ISO recognizes IULTCS as an international standardizing body for the preparation of test methods for leather.

This third edition cancels and replaces the second edition (ISO 2589:2002), of which it constitutes a minor revision to align item c) of Clause 8 with ISO 2419:2012.

INTERNATIONAL STANDARD

ISO 2589:2016(E)
IULTCS/IUP 4:2016(E)

Leather — Physical and mechanical tests — Determination of thickness

1 Scope

This International Standard specifies a method for determining the thickness of leather. The method is applicable to all types of leather of any tannage. The measurement is valid for both the whole leather and a test sample.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. 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*

3 Principle

The leather is placed in a gauge under a specified load for a specified time and the thickness read directly.

4 Apparatus

4.1 Test machine, including the following:

4.1.1 Gauge, graduated to read to 0,01 mm directly with an accuracy of ± 0,02 mm over the whole scale length.

4.1.2 Anvil, comprising the flat horizontal surface of a cylinder of diameter 10,00 mm ± 0,05 mm projecting 3,0 mm ± 0,1 mm above the surface of a concentric flat circular platform of diameter 50,0 mm ± 0,2 mm.

NOTE The circular platform of 50 mm diameter helps to support medium weight leathers which otherwise presents a convex surface to the presser foot. The anvil is raised 3 mm above the platform so that errors are avoided in measurements on heavy leathers which are not flat.

4.1.3 Presser foot, having a flat circular surface of diameter 10,0 mm ± 0,05 mm, coaxial with the anvil and capable of movement normal to the face of the anvil. The contacting surfaces of the anvil and presser foot shall be dead weight loaded with 393 g ± 10 g. Movements of the presser foot shall give a direct reading of the movement on the gauge (4.1.1).

NOTE The loads and dimensions quoted in 4.1.3 give a pressure of 49,1 kPa (500 g/cm^2).

4.1.4 Rigid stand, to hold the gauge (4.1.1), anvil (4.1.2) and presser foot (4.1.3).

5 Sampling and sample preparation

5.1 Official sample in accordance with ISO 2418. Five measurements to be taken, distributed across the sample.

5.2 Sample prepared for other tests. Three measurements to be taken, distributed across the sample.

5.3 Sample of unknown origin. Five measurements to be taken, distributed across the sample.

5.4 For very heavy, firm leathers, a smaller sample is recommended to avoid curvature. Three measurements to be taken, distributed across the sample.

5.5 For whole hides, five measurements for each location should be taken. Condition all samples in accordance with ISO 2419.

6 Procedure

Place the apparatus on a flat, horizontal surface. Place the sample in the gauge grain side up if this can be identified. If the grain cannot be identified place the sample in the gauge with either surface upwards. Apply the load gently and record the thickness 5 s ± 1 s after full loading is reached.

7 Expression of results

The results shall be expressed as the arithmetic mean and range to the nearest 0,01 mm.

8 Test report

The test report shall include the following:

a) a reference to this International Standard, i.e. ISO 2589;

b) the results obtained expressed to the nearest 0,01 mm;

c) the standard atmosphere used for conditioning and testing as given in ISO 2419;

d) any deviations from the method specified in this International Standard;

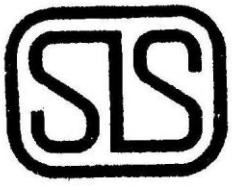
e) full details for identification of the sample.

ICS 59.140.30
Price based on 2 pages

SLS CERTIFICATION MARK

The Sri Lanka Standards Institution is the owner of the registered certification mark shown below. Beneath the mark, the number of the Sri Lanka Standard relevant to the product is indicated. This mark may be used only by those who have obtained permits under the SLS certification marks scheme. The presence of this mark on or in relation to a product conveys the assurance that they have been produced to comply with the requirements of the relevant Sri Lanka Standard under a well designed system of quality control inspection and testing operated by the manufacturer and supervised by the SLSI *which includes surveillance inspection of the factory, testing of both factory and market samples.*

Further particulars of the terms and conditions of the permit may be obtained from the Sri *Lanka Standards Institution, 17, Victoria Place, Elvitigala Mawatha, Colombo 08.*



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SRI LANKA STANDARDS INSTITUTION

The Sri Lanka Standards Institution (SLSI) is the National Standards Organization of Sri Lanka established under the Sri Lanka Standards Institution Act No. 6 of 1984 which repealed and replaced the Bureau of Ceylon Standards Act No. 38 of 1964. The Institution functions under the Ministry of Science & Technology.

The principal objects of the Institution as set out in the Act are to prepare standards and promote their adoption, to provide facilities for examination and testing of products, to operate a Certification Marks Scheme, to certify the quality of products meant for local consumption or exports and to promote standardization and quality control by educational, consultancy and research activity.

The Institution is financed by Government grants, and by the income from the sale of its publications and other services offered for Industry and Business Sector. Financial and administrative control is vested in a Council appointed in accordance with the provisions of the Act.

The development and formulation of National Standards is carried out by Technical Experts and representatives of other interest groups, assisted by the permanent officers of the Institution. These Technical Committees are appointed under the purview of the Sectoral Committees which in turn are appointed by the Council. The Sectoral Committees give the final Technical approval for the Draft National Standards prior to the approval by the Council of the SLSI.

All members of the Technical and Sectoral Committees render their services in an honorary capacity. In this process the Institution endeavours to ensure adequate representation of all view points.

In the International field the Institution represents Sri Lanka in the International Organization for Standardization (ISO), and participates in such fields of standardization as are of special interest to Sri Lanka.

Printed at the Sri Lanka Standards Institution, 17, Victoria Place, Elvitigala Mawatha, Colombo 08.