

STN	Papier a lepenka Stanovenie tuhosti v ohybe Všeobecné princípy pre dvojbodové, trojbodové a štvorbodové metódy	STN ISO 5628 50 0434
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Paper and board
Determination of bending stiffness
General principles for two-point, three-point and four-point methods

Papier et carton
Détermination de la rigidité à la flexion
Principes généraux pour les méthodes à deux points, à trois points et à quatre points

Táto slovenská technická norma obsahuje anglickú verziu medzinárodnej normy ISO 5628: 2019 a má postavenie oficiálnej verzie.

This Slovak standard includes the English version of the International standard ISO 5628: 2019 and has the status of the official version.

Nahradenie predchádzajúcich slovenských technických noriem

Táto slovenská technická norma nahrádza STN ISO 5628 z augusta 1996 v celom rozsahu.

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Anotácia

Tento dokument špecifikuje tri skúšobné metódy na určenie tuhosti papiera a lepenky v ohybe. Skúšobné metódy sa líšia typom spôsobu zaťaženia, čo vedie k dvojbodovým, trojbodovým a štvorbodovým skúšobným metódam ohybu.

Pre papier a lepenku v rozsahu nízkej hrúbky sú vhodné dvojbodová metóda ohýbania a trojbodová metóda ohýbania.

Pre vlnitú lepenku a lepenku s vyššou hrúbkou sa odporúča štvorbodová metóda ohýbania.

Podmienky merania sú definované tak, že skúšobná vzorka nie je počas skúšky vystavená žiadnej významnej trvalej deformácii, ani nie je prekročený rozsah platnosti vzorcov na výpočet tuhosti v ohybe.

V týchto skúškach ohýbania sa skúšobné vzorky papiera a lepenky považujú za „nosníky“, ako ich definuje náuka o pevnosti materiálov, pozri odkaz [2].

Národný predhovor

Normatívne referenčné dokumenty

Nasledujúce dokumenty, celé alebo ich časti, sú v tomto dokumente normatívnymi odkazmi a sú nevyhnutné pri jeho používaní. Pri datovaných odkazoch sa použije len citované vydanie. Pri nedatovaných odkazoch sa použije najnovšie vydanie citovaného dokumentu (vrátane všetkých zmien).

POZNÁMKA 1. – Ak bola medzinárodná publikácia zmenená spoločnými modifikáciami, čo je indikované označením (mod), použije sa príslušná EN/HD.

POZNÁMKA 2. – Aktuálne informácie o platných a zrušených STN a TNI možno získať na webovom sídle www.unms.sk.

ISO 186 prijatá ako STN EN ISO 186 Papier a lepenka. Odber vzoriek na stanovenie priemernej kvality (ISO 186) (50 0302)

ISO 187 prijatá ako STN EN 20187 Papier, lepenka a vlákničky. Štandardná atmosféra pre klimatizáciu a skúšanie. Metóda riadenia atmosféry a klimatizácie vzoriek (50 0303)

ISO 534 prijatá ako STN EN ISO 534 Papier a lepenka. Stanovenie hrúbky, hustoty a merného objemu (ISO 534) (50 0311)

ISO 3034 prijatá ako STN ISO 3034 Vlnitá lepenka. Stanovenie hrúbky jedného listu (50 0312)

Vypracovanie slovenskej technickej normy

Spracovateľ: Úrad pre normalizáciu, metrológiu a skúšobníctvo SR, Bratislava

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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 of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 6, *Paper, board and pulps*, Subcommittee SC 2, *Test methods and quality specifications for paper and board*.

This third edition cancels and replaces the second edition (ISO 5628:2012), of which it constitutes a minor revision. The changes compared to the previous edition are as follows:

- in [6.4.2](#), a Note has been added to clarify the measurement of *F*.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

Bending stiffness is regarded as an important property of paper and board, and a large number of test methods have been used for its determination. This is a result, in part at least, of the wide range in the bending stiffness of paper and board. For paper and board in the grammage range 50 g/m² to 500 g/m², bending stiffness might vary by a factor of over 1 000. This wide variation is reflected in the design of instruments intended for the measurement of this property.

A second factor to be taken into account is that, in general terms, bending stiffness (as defined here) can only be determined with accuracy within certain limits with regard to the degree of deformation imposed upon the test piece. These limits depend on the dimensions of the test piece and on the test method used.

This document is intended to enable the bending stiffness (as defined here) to be measured and described in a consistent way, despite the variations in material type and instrument design. It will be found that many commercially available instruments can be regarded as giving results in accordance with this document for only part of the range of bending stiffness, or for only some of the materials for which they were originally designed. It is intended, therefore, that this document will be used as the basis for preparing detailed methods for determining bending stiffness, using particular instruments.

Paper and board — Determination of bending stiffness — General principles for two-point, three-point and four-point methods

1 Scope

This document specifies three test methods for determining the bending stiffness of paper and paperboard. The test methods differ in the type of loading mode, thus giving rise to the two-point, three-point and four-point bending test methods.

For paper and paperboard in a low thickness range, the two-point bending method and the three-point bending method are suitable.

For corrugated fibreboard and board with a higher thickness, the four-point bending method is recommended.

The measurement conditions are defined in such a way that the test piece is not subjected to any significant permanent deformation during the test, nor is the range of validity of the formulae for calculating the bending stiffness exceeded.

In these bending tests, the test pieces of paper and board are regarded as “beams” as defined by the science of the strength of materials, see Reference [2].

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 186, *Paper and board — Sampling to determine average quality*

ISO 187, *Paper, board and pulps — Standard atmosphere for conditioning and testing and procedure for monitoring the atmosphere and conditioning of samples*

ISO 534, *Paper and board — Determination of thickness, density and specific volume*

ISO 3034, *Corrugated fibreboard — Determination of single sheet thickness*

koniec náhľadu – text ďalej pokračuje v platenej verzii STN