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Second edition
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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



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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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.

ISO 5628 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 second edition cancels and replaces the first edition (ISO 5628:1990), which has been technically revised.

The main differences between this edition and the previous edition are the following:

- the equations for bending stiffness for two-point and three-point bending have been harmonized;
- geometrical conditions for test pieces have been added;
- some additional aspects of corrugated board have been added for four-point bending.

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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 International Standard 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 International Standard 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 International Standard will be used as the basis for preparing detailed methods for determining bending stiffness, using particular instruments.