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Paper and board — Cut-size office paper — Measurement of curl in a pack of sheets

Papier et carton — Papier en format à usage de bureau — Mesurage du tuilage dans un paquet de feuilles

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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).

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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 second edition cancels and replaces the first edition (ISO 14968:1999), of which it constitutes a minor revision.

The main changes are as follows:

— the normative references in Clause 2 have been updated;

— editorial corrections have been applied.

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Introduction

Curl in cut-size office papers plays an important part in the performance of these papers in copying processes. Frequently, cut-size papers are used on copier and other printing devices, operating at high speeds. Curl which exists in the ream before the paper enters the imaging process, and curl developed during the imaging process, can affect office paper performance, especially if two-sided printing or collating is involved. Common problems experienced include jamming and misregistration.

The experience used in developing this test method was limited to uncoated papers in the commonly used cut sizes. The technique is basic and can be used with coated papers as well as paperboard to identify the type and magnitude of curl.

The test method identifies the type and degree of curl in a pack of sheets but does not address variations that might be present in individual sheets. The method of ISO 11556 can be used to measure curl in individual sheets.

It should be recognized that the curl occurring after processing in a copier or a printing device may bear no relation to the curl of the paper as received.

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Paper and board — Cut-size office paper — Measurement of curl in a pack of sheets

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1 Scope

This document specifies a method for the measurement of curl in cut-size office papers. The test method is typically used in evaluating papers of the type described in ISO 216.

This method is limited to papers with a maximum dimension of 300 mm in both directions.

The measurement can be made on papers as received, after conditioning, or after processing in a copier or printing device.

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 186:2002, *Paper and board — Sampling to determine average quality*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

3.1
curl
deviation from a flat surface which has three major components: magnitude, direction of curl axis and the side towards which the paper curls

3.1.1
curl magnitude
quantitative measure of the deviation of a paper test piece from a flat surface

Note 1 to entry: It is expressed as the reciprocal of the radius of curvature, R, of the curled test piece with units of reciprocal metres (m^{-1}).

Note 2 to entry: The radius of curvature for the curled test piece is the distance from the arc to the centre of a circle, of which the arc forms a part. The reciprocal radius (R^{-1}) has a value of zero for a flat sheet.

Note 3 to entry: Curl characteristics of paper and board are time-dependent and the magnitude of any curl may be transient.

3.1.2
curl axis direction
direction of the curl axis of paper and board, characterized as follows:

— curl axis which is perpendicular to the paper's machine direction;

— curl axis which is parallel to the paper's machine direction;

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