
**Paper — Cut-size office paper —
Measurement of edge quality**

*Papier — Format de coupe du papier de bureau — Mesurage de la
qualité des bords*

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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 22414 was prepared by Technical Committee ISO/TC 6, *Paper, board and pulps*, Subcommittee SC 2, *Test methods and quality specifications for paper and board*.

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Paper — Cut-size office paper — Measurement of edge quality

1 Scope

This International Standard specifies a test method for assessing the quality of the cut edge of cut-size office paper. It is applicable to papers of the type described in ISO 216, as well as other cut-size office papers used for printing and copying.

The measurement may be made on papers as received, with or without conditioning.

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 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 216, *Writing paper and certain classes of printed matter — Trimmed sizes — A and B series*

3 Terms and definitions

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

3.1

edge quality

a measure of the degree of raggedness of cut or slit paper edges

NOTE The degree of raggedness is expressed as a numeric value.

3.2

cut-size office papers

papers in the range 60 g/m² to 150 g/m² which are used for writing and/or in various printing and copying devices

[ISO 14968:1999]

3.3

ream

a pack of 500 identical sheets of paper

NOTE In many countries it is common practice to use the term “ream” for other quantities, for example 480 sheets, thus affecting the quire. For quantities other than 500 sheets, a different term, such as “pack”, should be used.

[ISO 4046-3:2002].

4 Principle

Estimate the edge quality by comparison of the sheet edge with a series of standard gaps on a quality-measurement template (see Annex A). Each gap is defined by the distance between two parallel lines. Examination of the sheet edge is done optically at a magnification of 42 times. Over 200 mm of the magnified edge, an estimate is made of the distance between the highest peak and the lowest valley exhibited by the edge under examination.

5 Apparatus

5.1 Viewing device

Any device capable of casting an image of the sheet edge, at a magnification of 42 times, upon a measuring table for comparison with a series of standard gaps (see Annex A).

NOTE For example, microfilm readers have been found to be suitable for this purpose.

5.2 Quality-measurement template

The quality-measurement template displays six sets of parallel lines, each 200 mm long. Draw or print these lines on a transparency or on paper using a pen with an extra fine point. The lines shall have straight outlines and shall not be fuzzy. Particular care should be taken that templates reproduced using xerography or any other technique shall be identical in scale to the original. The distance between the parallel lines for the six sets shall be as follows.

First set: Gap of 1 mm between lines. This set is defined as value 1.

Second set: Gap of 2 mm between lines. This set is defined as value 2.

Third set: Gap of 3 mm between lines. This set is defined as value 3.

Fourth set: Gap of 4 mm between lines. This set is defined as value 4.

Fifth set: Gap of 5 mm between lines. This set is defined as value 5.

Sixth set: Gap of 6 mm between lines. This set is defined as value 6.

NOTE Drawing six sets is sufficient, as in general less than 5 % of the cut edges are worse than value 5.

6 Sampling and preparation of test pieces

6.1 If tests are being made to evaluate a lot, the samples shall be selected in accordance with ISO 186, but with the following method of selection:

A lot is either to be defined as

- the number of reams for a certain order, or
- the number of reams produced within a certain time frame.

Lot size 1 \leq 500 reams: select 1 ream to inspect.

Lot size 501 \leq 1 000 reams: select 2 reams to inspect.

Lot size 1 001 \leq 10 000 reams: select 4 reams to inspect.

Lot size 10 001 \leq 20 000 reams: select 8 reams to inspect.

Lot size 20 001 \leq 30 000 reams: select 12 reams to inspect.

Lot size > 30 000 reams: select an additional 4 reams for each lot increase of 10 000 reams.