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Paper and board — Stylus contact method —

Part 1: Determination of surface roughness

Papiers et cartons — Méthode par contact avec stylet —

Partie 1: Détermination de la rugosité de surface

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Foreword

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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*.

A list of all parts in the ISO 24118 series can be found on the ISO website.

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.

Paper and board — Stylus contact method —

Part 1: Determination of surface roughness

1 Scope

This document specifies a test method for the determination of the surface roughness of paper and board using a stylus contact method. It is applicable to all papers and boards except tissue paper.

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*

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
surface roughness
R
value indicating a deviation of height from the mean line

3.2
average surface roughness
R_a
arithmetic average of the absolute values of the *surface roughness* (3.1)

4 Principle

For surface roughness measurement, the specimen with the stylus under the contact force is scanned horizontally at a constant speed and surface height is measured. Precision data are available in Annex B. Annex A provides further information.

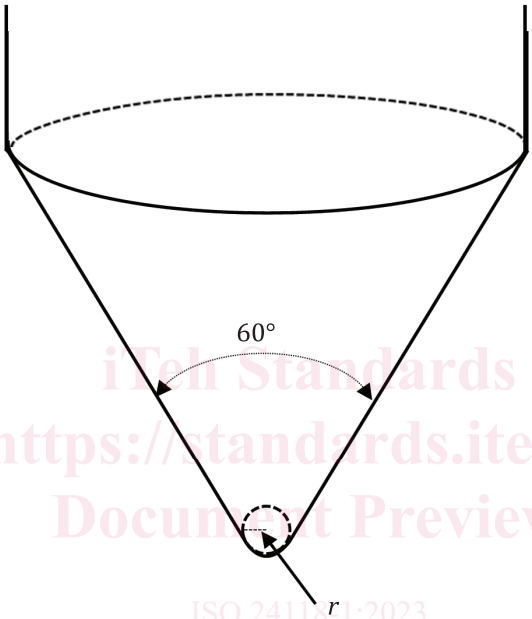
5 Apparatus

5.1 Surface roughness - Testing apparatus

The surface roughness measurement should have an accuracy of ±1 % or less of the full scale of 0,4 m within a surface measurement travel distance of 30 mm, and an overall accuracy of ±1 % or less of the full scale.

5.2 Stylus

A conical shape whose radius of the curvature of the tip is 0,5 mm ± 0,025 mm. The material made of stainless steel specified in ASTM A681-08:2015 (P21 or equivalent) is recommended.



Key

r (0,5 ± 0,025) mm

Figure 1 — Geometry of a stylus tip

5.3 Drive unit

Drive unit for advancing the test piece beneath the stylus with constant traversing speed of 1,0 mm/s ± 0,05 mm/s.

5.4 Specimen holder

Used to place and fix the test piece on the horizontal metallic plate during the testing.

6 Sampling

If the tests are being made to evaluate a lot, the sample shall be selected in accordance with ISO 186. If the tests are performed on another type of sample, verify that the test pieces taken are representative of the sample received.