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Paper and board — Determination of alkali reserve

Papier et carton — Détermination de la réserve alcaline

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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*.

This second edition cancels and replaces the first edition (ISO 10716:1994), of which it constitutes a minor revision. The main changes are as follows.

— Clause 2 has been updated.

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

Papers produced to be stable for long time periods normally contain some alkaline filler, such as calcium carbonate, as an alkali reserve to prevent attack from acid substances in ambient air or formed by deterioration of substances in the paper. Specifications for paper permanence can require a minimum alkali reserve.

The required alkali reserve is obtained by adding some form of calcium carbonate to the paper furnish but other substances can also be used for this purpose. By expressing the test results in moles per kilogram of alkaline substances and not as a calcium carbonate content, no confusion arises when alkaline substances other than calcium carbonate are used.

Paper and board — Determination of alkali reserve

1 Scope

This document specifies a method for the determination of the alkali reserve of papers and boards. lt is intended for products that contain alkaline pigments or other alkaline material, added to improve their resistance to acid attack (degradation).

This document is not applicable to laminated, printed or otherwise processed grades that will not disintegrate completely by the procedure described.

The result obtained will include alkaline pigments contained in the coating of a coated paper.

NOTE Such alkaline coating will protect the core of the paper from acid substances in ambient air, but its effect on acid substances generated in the base paper itself is uncertain.

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 287, *Paper and board — Determination of moisture content of a lot — Oven-drying method*

ISO 638-1, *Paper, board, pulps and cellulosic nanomaterials — Determination of dry matter content by oven-drying method — Part 1: Materials in solid form*

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
alkali reserve
compound, such as calcium carbonate, that neutralizes acid that can be generated as a result of natural aging or from atmospheric pollution

4 Principle

The sample is digested by boiling in water containing a measured amount of hydrochloric acid. The unreacted hydrochloric acid is titrated with a sodium hydroxide solution.

5 Reagents

Use only reagents of recognized analytical grade, and distilled water or water of equivalent purity.