

INTERNATIONAL ISO
STANDARDS

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Fourth edition
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Paper, board and pulps — Determination of residue (ash) on ignition at 900 °C

Papiers, cartons et pâtes — Détermination du résidu (cendres) après incinération à 900 °C



Reference number
ISO 2144:1997(E)

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.

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.

International Standard ISO 2144 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 fourth edition cancels and replaces the third edition (ISO 2144:1987), of which it constitutes a technical revision.

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Introduction

This International Standard, the fourth edition of ISO 2144, differs from the third edition (ISO 2144:1987) in several respects. The title has been changed from "Paper and board — Determination of ash" to "Paper, board and pulps — Determination of residue (ash) on ignition at 900 °C". The scope has been widened from "paper and board" to include pulp as well. Although the wording has been revised, the principle of determination has not been changed.

The magnitude of the residue on ignition is related to, but not equal to, the content of mineral constituents in the sample. For coated and filled products, the amount of added mineral constituents can only be calculated from the result if the loss on ignition of the particular pigment used is known. This value varies from one pigment to another, and also between different batches of the same pigment. For china clay the residue on ignition at 900 °C varies from 89 % to 86 % and for calcium carbonate it is about 56 %. If lower ignition temperatures are used, the corresponding figures will increase but there is no guarantee that they will become exactly 100 % at any temperature.

For pulps and other materials without any added minerals, the residue on ignition is a measure of the amount of unwanted mineral constituents, such as silica, silicates, particles of minerals, etc. Some soluble inorganic constituents, such as sodium chloride, will escape the determination whereas sulfates normally will be retained.

The determination is mainly used as a screening test for checking the overall quality of a product, in many cases against specifications. The ignition procedure described can be used as a preliminary step when determining particular mineral constituents.

NOTE — Determination of residue on ignition at 575 °C of pulps is described in ISO 1762:1974, *Pulps — Determination of ash*.