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Paper and board — Accelerated ageing — Part 5: Exposure to elevated temperature at 100 °C

Papier et carton — Vieillissement accéléré —

Partie 5: Exposition à une température élevée à 100 °C



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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.

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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 5630-5 was prepared by Technical Committee ISO/TC 6, *Paper, board and pulps*, Subcommittee SC 2, *Test methods and quality specifications for paper and board*.

ISO 5630 consists of the following parts, under the general title *Paper and board — Accelerated ageing*:

- *Part 1: Dry heat treatment at 105 °C*
- *Part 3: Moist heat treatment at 80 °C and 65 % relative humidity*
- *Part 4: Dry heat treatment at 120 or 150 °C*
- *Part 5: Exposure to elevated temperature at 100 °C*
- *Part 6: Exposure to atmospheric pollution (nitrogen dioxide)*

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Introduction

Exposure of paper or board to a hostile environment, such as some type of radiation, elevated temperature or chemical attack over a period of hours can provide information concerning the natural changes that may occur in the material over a period of years.

The test method described in this part of ISO 5630, for accelerated ageing by exposure of moist paper to an elevated temperature, is based on the method developed by ASTM^[6] following an extensive research programme. In this programme, 15 printing and writing papers were tested, representing a wide variety of paper types (acid and alkaline, lignin-containing and lignin-free, and those without an alkaline reserve such as calcium carbonate). This test method proved to give more accurate results than earlier methods regarding the effect of elevated temperature on the mechanical strength and optical stability of such papers. For a full understanding of the stability of the permanence of the paper, a combination of test methods for accelerated ageing should be used.