International Standard

ISO 11108

Information and documentation — Archival paper — Requirements for permanence and durability

Information et documentation — Papier pour documents d'archives — Prescriptions pour la permanence et la durabilité

Second edition
2025-05

Reference number
ISO 11108:2025(en)

© ISO 2025



COPYRIGHT PROTECTED DOCUMENT

© ISO 2025
All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

Contents

Page

Foreword ... **iv**

Introduction ... **v**

1 Scope ... **1**

2 Normative references ... **1**

3 Terms and definitions ... **1**

4 Required characteristics ... **2**
4.1 General ... 2
4.2 Fibre composition ... 2
4.3 Grammage ... 2
4.4 Tearing resistance ... 2
4.5 Folding endurance ... 3
4.6 pH value of aqueous extract ... 3
4.7 Alkali reserve ... 3
4.8 Resistance to oxidation ... 3

5 Report ... **3**

Annex A (normative) **Relationship between archival paper and permanent paper as defined in ISO 9706** ... **4**

Annex B (informative) **Relationship between paper permanence (ISO 9706), archival paper permanence and durability (ISO 11108), and paper stability for general graphic applications (ISO 20494)** ... **5**

Bibliography ... **7**

© ISO 2025 – All rights reserved

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).

ISO draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). ISO takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, ISO had not received notice of (a) patent(s) which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at www.iso.org/patents. ISO shall not be held responsible for identifying any or all such patent rights.

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 *46*, *Information and documentation,* Subcommittee SC 10, *Requirements for document storage and conditions for preservation.*

This second edition cancels and replaces the first edition (ISO 11108:1996), which has been technically revised.

The main changes are as follows:

— an introduction and a new Annex B have been added to emphasize the relationship and differences between existing standards on permanence, durability and stability of papers;

— the normative references have been updated;

— the term "document" has been modified to be replaced with an existing definition in the terminology database of ISO.

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.

© ISO 2025 – All rights reserved

Introduction

This document intends to define a permanent and durable paper that is most suitable for indefinite storage, e.g. in archives, libraries, and museums, and that will show no or only slight changes in optical and mechanical properties when stored and handled for a long period. Such papers can be used for books as well as for files, documents and other records that are to be stored and used permanently for legal, cultural policy or other reasons. For this purpose, this document provides a method for specifying paper, which, according to the present state of knowledge, has a high degree of permanence and durability.

As research indicates that the deterioration of paper is due to the presence of cellulose-degrading compounds in the paper furnish and materials incorporated in the paper during manufacture, papers eligible for permanent use are required to be free of any type of acid sizing or other acid-producing substances, and of oxidizable matter that causes undesirable discolouration, e.g. lignin or recycled material of uncertain composition.

To ensure durability over time, well-defined fibre sources are important. This document requires a specified fibre composition in order to ascertain a low degree of oxidizable or acid-producing substances and to ensure durable strength. In addition, strength is tested through both tearing resistance and folding endurance.

This document is based on a small number of quantitative tests for which limiting values have been specified. Paper classified in accordance with this document shall show measurement results within the specified limits for all prescribed tests.

There are two other International Standards, apart from this document, regarding different applications of paper:

— ISO 9706, which describes permanent paper with the same permanence requirements as for this document but not including durability (ability to withstand the effects of wear and tear during use).

— ISO 20494, which describes paper for general graphic applications, not intended for permanent storage, including newspapers, magazines, catalogues, books, office printouts and copies where changes in optical properties over time can be tolerated.

This document and ISO 9706 differ from ISO 20494; they are not comparable either in approach or in method. In ISO 20494, the decrease in mechanical-physical strength that a paper suffers when subjected to moist heat treatment for up to 12 days is the basis for defining service life.

Conversely, this document and ISO 9706 are based on the fact that acid-catalysed hydrolysis is the major cause of the degradation of cellulose, the substance that provides strength to paper, and that this acid hydrolysis is strongly inhibited if an alkaline buffer and no or little acid-forming substances are present in the paper. Furthermore, this document and ISO 9706 define a resistance to oxidation, which requires the paper to have a Kappa number of less than 5, corresponding to about 10 g of lignin per kg of paper. This document and ISO 9706 therefore specify a paper that is expected to remain substantially unchanged over time in long-term storage.

Both ISO 9706 and this document evaluate the permanence properties of the paper. For a document to be permanent, however, it must be noted that both a permanent paper substrate and a permanent recording method (i.e. writing, printing or copying) must be used in combination. Permanence and durability of recording materials are tested according to ISO 11798.

This document may be used as a stand-alone specification. It may also be incorporated as a component in other specifications used in trade or as national or international standards for more specific purposes.

© ISO 2025 – All rights reserved

Information and documentation — Archival paper — Requirements for permanence and durability

1 Scope

This document specifies the requirements for archival paper. It is applicable to unprinted papers intended for documents and publications required for permanent retention and frequent use. For these documents and publications, paper of high permanence and high durability is required.

NOTE 1 Archival paper is primarily required for documents and publications intended to be kept permanently because of their high historical, legal or other significant value. Archival paper is for special purposes, not for common use. The use of the term "archival paper" does not imply that all papers kept in archives are "archival papers".

NOTE 2 For relationships between International Standards on paper permanence (ISO 9706), on archival paper permanence and durability (ISO 11108), and on paper stability for general graphic applications (ISO 20494), refer to Annex B.

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*

ISO 302, *Pulps — Determination of Kappa number*

ISO 536, *Paper and board — Determination of grammage*

ISO 1974, *Paper — Determination of tearing resistance — Elmendorf method*

ISO 4046-3, *Paper, board, pulps and related terms — Vocabulary — Part 3: Paper-making terminology*

ISO 5626, *Paper — Determination of folding endurance*

ISO 6588-1, *Paper, board and pulps — Determination of pH of aqueous extracts — Part 1: Cold extraction*

ISO 9706:2025, *Information and documentation — Paper for documents — Requirements for permanence*

ISO 10716, *Paper and board — Determination of alkali reserve*

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/

© ISO 2025 – All rights reserved