

CONSERVATION TERMS

Definitions:

Acid – in conservation, having a **pH** under 7. Acid substances can weaken the cellulose in paper materials, often causing discoloration and embrittlement.

Acid-free – implies that a material has a **pH** of 7 or higher. However, this may only have been true at the time of manufacture. Substances found in some papers such as **lignin** and certain harmful additives may still lead to the formation of acid over time.

Acid Migration – the ability of acid to move from an acidic material to a material of lesser or no acidity. A good example is the brown marks often seen on the pages of a book from a newspaper clipping placed within.

Alkaline – in conservation, having a **pH** over 7. Alkaline substances such as magnesium carbonate and calcium carbonate may be added to a material to neutralize the **acids** contained within or as an **alkaline reserve** or **buffer**.

Alkaline Reserve – an alkaline substance often added to paper storage materials to counteract the **acids** that may form in the future and to help absorb acids from artifacts. Alkaline buffered storage materials usually have a **pH** of between 7.5 and 9.

Archival – a term often used to describe various materials, it is meant to imply that the materials in question are of a quality that is appropriate for artifact storage or treatment. This may or may not be true. The word archival is not strictly defined or regulated, and therefore may be used at will by manufacturers.

Buffer – *see alkaline reserve*

Conservation – the treatment of artifactual materials to help extend their survival and usefulness while at the same time maintaining their original integrity as much as is possible.

Lignin – a component of the cell walls of plants. Lignin breaks down into **acid** compounds as it ages. Its presence in paper items contributes to their degradation over time. Lignin is found in large amounts in wood, the plant fiber most often used to make paper since the middle of the 19th century. Lignin can, to a large extent, be removed during the papermaking process, resulting in a higher quality paper.

Mil – a unit of thickness often used when describing plastics used for housing and treatment of artifacts. One mil (.001) equals one thousandth of an inch.

Neutral – in conservation, having a **pH** of 7. In other words, neither **alkaline** nor **acidic**.

pH – a measure of **acidity** or **alkalinity**. The pH scale runs from 0 to 14. Each number increment indicates an increase of tenfold. Neutral pH is 7. Any number below 7 is acidic, with 1 being the most acid. Any number above 7 is alkaline, to a maximum alkalinity of 14.

Permanent – usually refers to durable alkaline paper that is manufactured in accordance with ANSI Standard Z39,48-1984 Permanence of Paper for Printed Library Materials.

Photo Activity Test (P.A.T.) – an accelerated aging test, approved by the American National Standards Institute (ANSI) and the National Association of Photographic Manufacturers, to evaluate the safety of materials made for photographic storage.

Point – a unit of thickness often used when describing paper or board. One point equals one thousandth of an inch. For example, .040” is a 40 point paper.

Polyester – one of the plastics that is recognized as being safe for storage of paper artifacts because of its chemical stability. Frequently used for sleeves, folders and encapsulations.

Polyethylene – another chemically stable plastic often used for storage of paper artifacts.

Polypropylene – the third chemically stable plastic often used in the manufacture of enclosures for storing paper artifacts.

Polyvinyl Chloride (PVC) – a chemically *unstable* plastic sometimes used in the manufacture of photo album pages, sleeves, and other enclosures. PVC can degrade as it ages, emitting hydrochloric **acid** which can be very damaging to paper-based collections.

Reversibility – one of the most important tenets of conservation. Reversibility is the ability to undo a treatment without incurring any damage or alteration in the original object.

Sizings – chemicals added to paper to make it less absorbent and more easily written upon. Some sizings can be **acidic**, and can therefore contribute to the deterioration of paper as it ages.

Enclosure Formats:

Clamshell/Drop-spine box – a box with a lid that is hinged along one side like a clam shell. These boxes are often used to store rare or special books.

Drop-front box – a shallow box with a detached lid, it has three solid sides plus a fourth side which flips down to allow easier removal of contents. This is a good housing choice for oversized or fragile items.

Encapsulation – involves placing a document between two sheets of transparent polyester film, then sealing all four edges of the film. This provides the document with support and helps protect it from possible damages incurred through handling. Encapsulation differs from **lamination** in that the document is not adhered to the polyester, but instead may be removed at any time by cutting along the edges of the polyester.

Flip-top box – an upright box designed to store files, pamphlets and small books. The attached lid flips back to open. When combined with folders, this is a good and convenient way to store standard letter and legal sized documents.

Folder – an enclosure that is folded or hinged along one side. Folders can be made of either paper or plastic materials, and provide the contents with support and protection.

Lamination – a process, not often used anymore by conservation professionals, by which a document was reinforced with transparent sheets of plastic. The high heat and pressure used during lamination, together with the instability of the materials used and the difficulty of removing the item from the laminate has made this method a generally unacceptable practice for items of any enduring value or importance.

Phase box – a protective wrap-around cover made of paper board, it is usually held together with cloth ties or Velcro tabs. This type of box is a good choice for small to medium size books and pamphlets.

Sleeve – an enclosure, usually made of polyester film, that is sealed along two adjacent sides. Also called an “L-Sleeve” or “L-velope”.

Sources:

- ◆ *Glossary*, University Products, Holyoke, MA

For further information

The conservation staff of the Local Records Preservation Program is available to provide additional guidance and support. Contact them at: P.O Box 1747, Jefferson City, MO 65102, (573) 751-9047, or local.records@sos.mo.gov.

The Local Records staff has compiled a list of preservation-related vendors, particularly those that provide supplies and services to Missouri citizens and government officials. It is available from the Local Records office or at https://www.sos.mo.gov/CMSImages/LocalRecords/Vendors_Information.pdf.

Published by the Local Records Preservation Program, Missouri State Archives, Office of the Secretary of State. The full set of Conservation Notes on this and other topics is available at

<https://www.sos.mo.gov/archives/localrecs/conservation>.

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