



CONSERVATION LEAFLET

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THE DANGERS OF HEAT-SEAL LAMINATION

Lamination is the process of sealing paper records between sheets of plastic, using heat and pressure. A document or book page is sandwiched between sheets of low-temperature plastic which has been impregnated with an adhesive. When heat and pressure are applied, the adhesive softens, allowing the plastic to adhere and encase the document.

Plastics are made from petroleum products and they “off gas,” causing a chemical reaction with the material sealed inside. Most often the adhesives used in lamination are also acidic. These factors, combined with the heat used in this process, speed up the acid reaction of the document or book page, causing progressive deterioration and eventual embrittlement. Therefore, heat-seal lamination is ultimately extremely harmful to records. It is only appropriate for material with a short life expectancy and should never be applied to documents of historical or intrinsic value.

One principle of document preservation is that processes used to treat or mend items should always be reversible. Heat-seal lamination is not reversible: it is impossible to remove. Although it appears to offer physical support for fragile paper records, it does not extend their life or protect them from further deterioration. Eventually, it may be necessary to encase the laminated pages in inert polyester film to offer additional support.

Acceptable Methods of Preservation. Good storage conditions and proper environmental controls slow the acid deterioration of paper records, and proper handling techniques add further to their useful life. For individual documents or book pages of intrinsic value, use document enclosures made from “acceptable plastics” such as polyester, polyethylene, and polypropylene. These enclosures can be purchased (as sleeves or folders) or created through encapsulation. An encapsulated document is covered by two sheets of plastic that are held together with double-stick tape; the tape is applied around the edges of the document, rather than adhering to the item itself. Information in fragile or deteriorating records can also be preserved on microfilm or through digitization. However, there are additional long-term preservation issues that need to be addressed with electronic information.

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