



# PROCEDURAL LEAFLET

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## GETTING STARTED WITH MICROFILM

Reformatting records by creating microfilm copies can be an effective records management tool for government agencies. There are many advantages to microfilming long-term and permanent records:

- The Code of Alabama 1975, Section 41-13-40, permits microfilm records that are “duly authenticated by the records’ legal custodian” to be substituted for paper records.
- There is a set of clearly defined, accepted standards for microfilm. The American National Standards Institute (ANSI) and the Association for Image and Information Management (AIIM) have produced standards for both its creation and for its long-term preservation. Silver-halide microfilm that meets these standards has a life expectancy rating of 500 years (LE-500).
- Converting paper records to microfilm can reduce storage requirements to 2% of the space required for the paper records.
- Microfilm is a familiar, stable technology that has existed long enough for its procedures and requirements to be well-understood.
- Microfilm on rolls maintains the integrity of the information recorded on it. Records remain complete and in original order.
- Microfilm provides security against the loss of archival paper or electronic records.

The purpose of this leaflet is to make government agency officials aware of the basic issues and requirements of microfilm, so that they can make informed decisions about converting agency records to this medium.

### **Why Microfilm Agency Records?**

Most agencies do not begin to consider microfilming records until they have used up all available storage space for paper records. It is best, however, to consider microfilming as one tool in an overall agency records management plan. Space savings is only one consideration when making

a decision about microfilming records. Another is the protection of valuable records that must be kept for many years or permanently. Security microfilm copies stored off-site guarantee that if fire, flood, or other disaster strikes an agency's offices, its records information will not be lost. Preservation of historic records is also an important consideration.

### **Which Records Should be Microfilmed?**

Studies have shown that microfilming is not cost-effective for records that must be kept less than 15 to 20 years. Therefore, microfilming should be reserved for an agency's long-term or permanent records. In rare cases, a very large volume of records created and a critical need for rapid accessibility or accessibility at multiple locations might justify microfilming short-term records, but agencies are now turning more to digital imaging systems to provide storage of and access to short-term records. Before any agency record is microfilmed, it should have an assigned retention period authorized by an approved records disposition authority (RDA).

Agency staff should carry out a careful inventory and assessment of an agency's records prior to making a decision to microfilm. Such an assessment will determine the volume of records needing to be filmed, the frequency of their use, and the condition of the records. In cases where the volume of long-term or permanent records is low, and they are used infrequently and are well-preserved, there may be no need to microfilm.

### **What Are the Different Types and Formats of Microfilm?**

Microfilm consists of a layer of emulsion coating embedded in a base of either cellulose (usually acetate or triacetate) or polyester. Polyester-based film is stronger and more stable than cellulose, absorbing less water and drying more quickly after processing. It is the only base acceptable for preservation microfilm and has a life-expectancy rating of 500 years.

There are several common types of microfilm, each with a different purpose. An agency may employ more than one type in its microfilm program. Silver-halide film produces images of high quality and is used universally for original camera negative (first generation) microfilm. Its potential life-expectancy rating of 500 years makes it the only film suitable for archival records. Silver-halide film has rigid environmental requirements, however, and deteriorates rapidly if exposed to high temperature or humidity, chemical agents or pollutants, or frequent handling. Its primary use is as a security copy of the records, from which other copies can be made in case of emergency. It is frequently stored off-site from the agency. The Alabama Department of Archives and History maintains a microfilm storage vault and will store silver-halide film for state and local agencies if the film meets appropriate national standards (for more information on this service, please refer to ADAH procedural leaflet "Storing Microforms in the Department of Archives and History's Preservation Storage Vault," which is available on our website at [www.archives.state.al.us](http://www.archives.state.al.us)).

Agencies often store second-generation rolls of silver-halide film in their offices. This film is a copy made from an original roll of silver-halide film. It, too, must be stored under strict environmental conditions. Second-generation silver-halide film is used to make additional user copies of the film as the old ones break or are lost.

Diazo film is a polyester-based film coated with an emulsion of diazonium salts. Its storage requirements are somewhat less demanding than those of silver-halide film, and it can normally be stored in a filing cabinet in a climate-controlled office environment. Diazo is used mainly for reference purposes, as it can sustain heavy use without scratching. It is not archival quality microfilm, however, and should not be relied on for records preservation purposes.

Other less common types of film include vesicular film and dry silver film. Neither of these is recommended for archival microfilming. Dry silver film is primarily used in producing computer output microfilm (COM). Agencies reformatting archival records with COM should use conventional silver-halide film.

Microfilm comes in a variety of formats, the most common of which are 16 or 35mm rolls, 16mm cartridges, microfilm jackets, microfiche, and aperture cards. The number of images on a roll of microfilm depends on the size of the documents that were filmed and the chosen reduction. A 16mm cartridge is a roll of film housed in a plastic magazine to make handling, threading, retrieving, and rewinding the film easier. Strips of 16mm or 35mm film may be inserted into a plastic sheet to form a microfilm jacket. A microfiche is a single sheet of data; each one must be inserted separately into a reader. An aperture card is a data-processing punch card with an aperture holding one or more 35mm images.

Serialized formats such as 16mm or 35mm rolls maintain the order and completeness of the original records and are therefore the only formats suitable for microfilming archival records. They should not be cut into units such as jackets or microfiche after filming, as doing this can destroy the original arrangement of the records and undermine their authenticity and reliability.

### **Should the Agency Out-Source Its Microfilming or Set Up an In-House Operation?**

Once an agency has decided to microfilm its records, the next decision is whether to film in-house or to hire an outside service bureau to do the filming. Microfilming involves a number of activities, including selecting and preparing records for filming, filming the documents, processing and inspecting the film, shooting and splicing re-takes, making service copies, and transporting and storing film. An agency may decide to perform some of these activities and out-source the others. This decision will depend on the money, time, and expertise the agency has available. Small agencies or agencies without a large number of records to microfilm will probably find it more cost-effective to hire a qualified commercial vendor. Some agencies do their own filming but out-source the processing and duplication. Although ADAH no longer certifies microfilm vendors, we can provide a list of commercial vendors that offer microfilming services for government agencies in Alabama. There is also a technical leaflet, "Preparing a Contract for Archival-Quality Microfilming Services," which is available on the ADAH website. It provides a model contract that incorporates the appropriate ANSI/AIIM standards. A vendor must agree to follow ANSI/AIIM standards and procedures when microfilming archival records.

There are a number of factors an agency needs to consider in making a decision about whether to microfilm in-house or to out-source its microfilming:

**Access to Records.** Records are obviously more accessible if they remain in the agency. Many records chosen for microfilming are no longer used frequently, however. Timely pick-up, filming, and return of records by the vendor can be stipulated in the contract, or the contract may require on-site filming.

**Control over the Process.** When an agency out-sources its microfilming, it loses direct control over the process. The best guarantee that proper procedures are carried out and appropriate standards are met is a well-written contract that clearly states penalties for non-compliance. Microfilming in-house allows an agency to maintain control at every step of the process and to monitor and correct problems more quickly.

**Expertise.** Learning to microfilm skillfully and efficiently takes time; film processing and quality testing also require special expertise. A good microfilm vendor can immediately begin producing film that meets ANSI/AIIM standards. An in-house operation will need time to set up and perfect its procedures.

**Flexibility.** Different records may require different cameras and film for microfilming. Archival records, for example, require silver-halide film. Oversize documents need 35mm film to achieve a legible reduction ratio. Fragile records may be damaged by a rotary camera. A vendor can usually offer a wider variety of equipment and supplies than an in-house operation.

**Security.** If an agency carries out microfilming in-house, the records remain on the premises and are handled only by its staff. Records sent to a service bureau are at greater risk of loss or damage. Many vendors will, however, film on-site at an agency, although usually at additional expense. Some agencies may handle confidential records that should not be seen by non-employees. In such a case, a vendor's camera operator may be requested to sign an agreement not to reveal the contents of the records.

**Space, Staff, and Technical Requirements.** For many agencies setting up an in-house microfilming operation can mean an expensive renovation of limited office space. Current employees must be trained or new staff hired. Special electrical and plumbing arrangements may be required. An agency must be prepared to budget not just for film and cameras, but for the additional costs of renovations, repairs, staff training, and re-filming.

The best way for an agency to make a decision about how its records will be microfilmed is to become informed about its choices. If using a vendor is more practical, as it is for most agencies, an agency representative should talk to several vendors before choosing one, ask for a list of customers, and then talk to some of them about the vendor. The agency should make sure the vendor is accustomed to meeting ANSI/AIIM standards and is willing to comply with the terms of the agency's contract.

### **How Should Records Be Prepared for Microfilming?**

Whether or not their records are to be microfilmed in-house or by a vendor, most agencies will manage for themselves the process of preparing the records to be filmed. The preparation process involves simple activities, and the agency can save money by performing them in-house. These

activities include selecting records for filming, ensuring that they are arranged in proper order, removing paper clips and other fasteners from the records, and flattening any folded-up records. All preparation work should be closely monitored for accuracy and timely completion.

### **What Are the Agency's Responsibilities for Ensuring Quality Microfilm?**

An agency has the final responsibility for the quality of its microfilm, whether the film is produced in-house or by a microfilm service bureau. It cannot be stressed strongly enough that a vendor cannot be relied upon to produce quality microfilm unless the agency plays its part in drawing up the contract, preparing the records appropriately, and performing final quality control procedures. Once the microfilming is completed, the agency must decide on the number and type of duplicates that need to be made and ensure that the microfilm is stored under appropriate environmental and security conditions.

Even though a contract with a vendor specifies that quality control be performed by the vendor, the agency must still re-check the first-generation silver microfilm for readability and scratches and for verification that all pages of the records were properly filmed and are still in their original order. Agency quality control satisfies the requirement of the Code of Alabama 1975, Section 41-13-40, for microfilm to be "duly authenticated" by its custodian before the original paper records may be destroyed.

ADAH offers technical assistance and training to agency employees who need to learn correct procedures for inspecting microfilm. A manual microfilm reader may be used to inspect the master copy of the film, as long as it is turned slowly. The employee performing quality control should always wear lint-free cotton or nylon gloves when inspecting and handling microfilm. The agency should keep in mind that it is protecting a significant financial investment by inspecting and handling microfilm with care.

### **How Should the Agency's Microfilm Be Stored?**

The same care in protecting the agency's financial investment in its microfilm should be exercised when storing the film. Different types of microfilm have different storage requirements. Silver-halide polyester microfilm has the most demanding storage requirements. It is recommended that the first generation silver-halide copy be stored off-site, preferably in a climate-controlled vault. The ideal storage temperature for microfilm is a constant 65 degrees; relative humidity should remain between 30% and 40%, with fluctuations in temperature and humidity not exceeding five degrees or five percent during a 24-hour period. As has already been mentioned, ADAH will store silver-halide film of long-term or archival records in its vault. Some microfilm vendors have storage vaults and will maintain an agency's microfilm for a fee. If the agency decides to keep second generation silver-halide microfilm on-site, it also needs to be stored in a controlled environment. Any acetate film should be stored in a freezer.

The best container for rolls of microfilm is one that is airtight and protects the film from dust, humidity, and impurities from the air. The silver-halide first generation roll should be kept in the inert plastic container in which it was originally placed when created. Rubber bands should not be wrapped around a roll of microfilm; a button and string tie can be used instead. The rolls should be stored on metal shelves or racks or in metal storage cabinets. They should be kept in a storage room

that is isolated from work space and other storage areas and separated from other types of microfilm and from paper records, which emit fumes that are damaging to silver microfilm.

### **How Should Microfilm Be Handled?**

Silver-halide polyester microfilm is intended as a preservation copy or a copy from which user copies can be made. It should not be handled unnecessarily or used by researchers. Because it scratches easily, it should never be placed in an automatic microfilm reader. When handling silver-halide microfilm, agency staff or other users should always wear lint-free cotton or nylon gloves, as oils from the skin can damage film. Microfilm should never be exposed to heat or sunlight, and it should be kept away from chemicals, fumes, dust, food, and liquids.

### **What Equipment Is Necessary for Making Microfilm Records Accessible?**

In planning a microfilming program, the agency should budget for appropriate equipment to read and copy the film once it is created. Equipment choices will depend on the frequency of use and the need to make copies of the film, as well as on the money the agency has available. Some agencies may need to have machines that read both 16mm and 35mm film. Basic microfilm readers will allow users to view a roll of microfilm; reader/printers allow users to make copies of any image on a roll. There are also microfilm reader/printers that will scan images from the film into a computer. ADAH staff can assist government agencies by providing information about the various types of equipment available.

### **Conclusion**

to acquaint government officials with the basic issues involved in starting a microfilming program. Microfilm can be a cost-effective solution to the management and preservation of long-term and permanent records; however, a microfilming program must be carefully planned to ensure that the final product meets both national standards and the agency's needs. Before beginning any type of microfilming program, agency staff should become thoroughly familiar with the standards and procedures outlined in ANSI/AIIM publications.

Microfilming long-term or permanent records is just one component in an effective records management program. For additional information on microfilming issues or developing and maintaining an effective records management program, please contact the Government Records Division at (334) 242-4452. Current copies of ADAH publications, RDAs, training opportunities, and other information are available on the department's web site at <http://www.archives.alabama.gov>.

**For further assistance, please contact:**

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