

(b) Manage the microform records as part of other records and information resources management programs of the agency.

(c) Include microform records management objectives, responsibilities, and authorities in pertinent agency directives and disseminate them to appropriate officials.

(d) Address records management issues, including disposition, before approving new microform records systems or enhancements to existing systems.

(e) Train the managers and users of microform records.

(f) Develop records schedules covering microform records and finding aids, secure NARA approval, and apply the disposition instructions.

(g) Schedule computerized indexes associated with microform records, such as in a computer-assisted retrieval (CAR) system, in accordance with part 1234 of this chapter.

(h) Review practices used to create and manage microform records periodically to ensure compliance with NARA standards in this part.

Subpart C—Microfilming Standards

§ 1230.10 Do agencies need to request NARA approval for the disposition of all microform and source records?

(a) *Permanent or unscheduled records.* Agencies must schedule both source documents (originals) and microforms. NARA must approve the schedule, Standard Form (SF) 115, Request for Records Disposition Authority, in accordance with part 1228 of this chapter before any records, including source documents, can be destroyed. NARA will not approve the destruction of original records that have intrinsic value, or security classified or otherwise restricted original records that are scheduled as permanent, or original records that are scheduled as permanent and that have other characteristics that would limit the usefulness of microform copies for public reference.

(1) Agencies that comply with the standards in § 1230.14 must include on the SF 115 the following certification: “This certifies that the records de-

scribed on this form were (or will be) microfilmed in accordance with the standards set forth in 36 CFR part 1230.”

(2) Agencies using microfilming methods, materials, and procedures that do not meet the standards in § 1230.14(a) must include on the SF 115 a description of the system and standards used.

(3) When an agency intends to retain the silver original microforms of permanent records and destroy the original records, the agency must certify in writing on the SF 115 that the microform will be stored in compliance with the standards of § 1230.20 and inspected as required by § 1230.22.

(b) *Temporary records.* Agencies do not need to obtain additional NARA approval when destroying scheduled temporary records that have been microfilmed. The same approved retention period for temporary records is applied to microform copies of these records. The original records can be destroyed once microfilm is verified, unless legal requirements prevent their early destruction.

§ 1230.12 What are the steps to be followed in filming records?

(a) Ensure that the microforms contain all information shown on the originals and that they can be used for the purposes the original records served.

(b) Arrange, describe, and index the filmed records to permit retrieval of any particular document or component of the records. Title each microform roll or fiche with a titling target or header. For fiche, place the titling information in frame 1 if the information will not fit on the header. At a minimum, titling information must include:

- (1) The title of the records;
- (2) The number or identifier for each unit of film;
- (3) The security classification, if any; and
- (4) The name of the agency and organization the inclusive dates, names, or other data identifying the records to be included on a unit of film.

(c) Add an identification target showing the date of filming. When necessary to give the film copy legal standing,

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the target must also identify the person who authorized the microfilming. See ANSI/AIIM MS19-1993 for standards for identification targets.

(d) The following formats are mandatory standards for microforms:

(1) *Roll film.* (i) *Source documents.* The formats described in ANSI/AIIM MS14-1996 must be used for microfilming source documents on 16mm and 35mm roll film. A reduction ratio no greater than 1:24 is recommended for typewritten or correspondence types of documents. See ANSI/AIIM MS23-1998 for the appropriate reduction ratio and format for meeting the image quality requirements. When microfilming on 35mm film for aperture card applications, the format dimensions in ANSI/AIIM MS32-1996, Table 1 are mandatory, and the aperture card format "D Aperture" shown in ANSI/AIIM MS41-1996, Figure 1, must be used. The components of the aperture card, including the paper and adhesive, must conform to the requirements of ANSI/PIMA IT9.2-1998. The 35mm film used in the aperture card application must conform to film designated as LE 500 in ANSI/NAPM IT9.1-1996.

(ii) *COM.* Computer output microfilm (COM) generated images must be the simplex mode described in ANSI/AIIM MS14-1996 at an effective ratio of 1:24 or 1:48 depending upon the application.

(2) *Microfiche.* For microfilming source documents or computer generated information (COM) on microfiche, the formats and reduction ratios prescribed in ANSI/AIIM MS5-1992 (R1998) must be used as specified for the size and quality of the documents being filmed. See ANSI/AIIM MS23-1998 for determining the appropriate reduction ratio and format for meeting the image quality requirements.

(e) *Index placement*—(1) *Source documents.* When filming original (source) documents, place indexes, registers, or other finding aids, if microfilmed, either in the first frames of the first roll of film or in the last frames of the last roll of film of a series. For microfiche, place them in the last frames of the last microfiche or microfilm jacket of a series.

(2) *COM.* Place indexes on computer-generated microforms following the data on a roll of film or in the last

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frames of a single microfiche, or the last frames of the last fiche in a series. Other index locations may be used only if dictated by special system constraints.

§ 1230.14 What are the filming requirements for permanent and unscheduled records?

(a) *General requirements.* (1) Apply the standards in this section for microfilming of:

(i) Permanent paper records where the original paper record will be destroyed or otherwise disposed of;

(ii) Unscheduled paper records where the original paper record will be destroyed or otherwise disposed of; and

(iii) Permanent and unscheduled original microform records (no paper originals) produced by automation, such as computer output microfilm (COM).

(2) Do not destroy permanent or unscheduled paper records after microfilming without authorization from NARA on a SF 115 (see § 1230.10(a)).

(b) *Film stock standards.* Polyester-based silver gelatin type film that conforms to ANSI/NAPM IT9.1-1996 for LE 500 film must be used in all applications.

(c) *Processing standards.* Microforms must be processed so that the residual thiosulfate ion concentration will not exceed 0.014 grams per square meter in accordance with ANSI/NAPM IT9.1-1996. Follow processing procedures in ANSI/AIIM MS1-1996 and MS23-1998.

(d) *Quality standards*—(1) *Resolution*—

(i) *Source documents.* Determine minimum resolution on microforms of source documents using the method in the Quality Index Method for determining resolution and anticipated losses when duplicating, as described in ANSI/AIIM MS23-1998 and MS43-1998. Perform resolution tests using a ISO 3334-1991 Resolution Test Chart or a commercially available certifiable target manufactured to comply with this standard, and read the patterns following the instructions of ISO 3334-1991. Use the smallest character used to display information to determine the height used in the Quality Index formula. A Quality Index of five is required at the third generation level.

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(ii) *COM*. Computer output microforms (COM) must meet the requirements of ANSI/AIIM MS1-1996.

(2) *Background density of images*. The background ISO standard visual diffuse transmission density on microforms must be appropriate to the type of documents being filmed. The procedure for density measurement is described in

ANSI/AIIM MS23-1998. The densitometer must meet with ANSI/NAPM IT2.18-1996, for spectral conditions and ANSI/NAPM IT2.19-1994, for geometric conditions for transmission density.

(i) Recommended visual diffuse transmission background densities for images of documents are as follows:

Classification	Description of document	Background density
Group 1	High-quality, high contrast printed book, periodicals, and black typing.	1.3-1.5
Group 2	Fine-line originals, black opaque pencil writing, and documents with small high contrast printing.	1.15-1.4
Group 3	Pencil and ink drawings, faded printing, and very small printing, such as footnotes at the bottom of a printed page.	1.0-1.2
Group 4	Low-contrast manuscripts and drawing, graph paper with pale, fine-colored lines; letters typed with a worn ribbon; and poorly printed, faint documents.	0.8-1.0
Group 5	Poor-contrast documents (special exception).	0.7-0.85

(ii) Recommended visual diffuse transmission densities for computer generated images are as follows:

Film Type	Process	Density Measurement Method	Min. Dmax ¹	Max. Dmin ¹	Minimum Density Difference
Silver gelatin	Conventional	Printing or diffuse	0.75	0.15	0.60
Silver gelatin	Full reversal	Printing	1.50	0.20	1.30

¹Character or line density, measured with a microdensitometer or by comparing the film under a microscope with an image of a known density.

(3) *Base plus fog density of films*. The base plus fog density of unexposed, processed films must not exceed 0.10. When a tinted base film is used, the density will be increased. The difference must be added to the values given in the tables in paragraph (d)(2) of this section.

(4) *Line or stroke width*. Due to optical limitations in most photographic systems, film images of thin lines appearing in the original document will tend to fill in as a function of their width and density. Therefore, as the reduction ratio of a given system is increased, reduce the background density

as needed to ensure that the copies will be legible.

§ 1230.16 What are the film and image requirements for temporary records, duplicates, and user copies?

(a) *Temporary records with a retention period over 99 years*. Follow the film and image requirements in §1230.14.

(b) *Temporary records to be kept for less than 100 years*. NARA does not require the use of specific standards. Select a film stock that meets agency needs and ensures the preservation of the

microforms for their full retention period. Consult appropriate ANSI standards, available as noted in §1230.3, or manufacturer's instructions for processing microfilm of these temporary records. Follow the manufacturer's recommendations for production and maintenance of temporary microfilm to ensure that the image is accessible and usable for the entire retention period.

Subpart D—Storage, Use and Disposition Standards for Microform Records

§ 1230.20 How should microform records be stored?

(a) *Permanent and unscheduled records.* Store permanent and unscheduled microform records under the extended term storage conditions specified in ISO 18911:2000 and ANSI/PIMA IT9.2-1998, except that the relative humidity of the storage area must be a constant 35 percent RH, plus or minus 5 percent. Do not store non-silver copies of microforms in the same storage area as silver gelatin originals or duplicate copies.

(b) *Temporary records.* Store temporary microform records under conditions that will ensure their preservation for their full retention period. Agencies may consult Life Expectance (LE) guidelines in ANSI/AIIM standards (see §1230.3 for availability) for measures that can be used to meet retention requirements.

§ 1230.22 What are NARA inspection requirements for permanent and unscheduled microform records?

(a) Agencies must inspect, or arrange to pay a contractor or NARA to inspect the following categories of microform records stored at the agency, at a commercial records storage facility, or at a NARA records center following the inspection requirements in paragraph (b) of this section:

(1) Master films of permanent records microfilmed in order to dispose of the original records;

(2) Master films of permanent records originally created on microfilm;

(3) Other master films scheduled for transfer to the National Archives; and

(4) Master films of unscheduled records.

(b) The films listed in paragraph (a) of this section must be inspected initially in accordance with ANSI/AIIM MS45-1990. All films must be inspected when they are 2 years old. After the initial 2-year inspection, unless there is a catastrophic event, the films must be inspected as follows until legal custody is transferred to the National Archives and Records Administration:

(1) For microfilm that is/was produced after 1990, inspect the microfilm every 5 years.

(2) For microfilm that was produced prior to 1990, inspect the microfilm every 2 years.

(c) To facilitate inspection, the agency must maintain an inventory of microfilm listing each microform series/publication by production date, producer, processor, format, and results of previous inspections.

(d) The elements of the inspection shall consist of:

(1) An inspection for aging blemishes following ANSI/AIIM MS45-1990;

(2) A rereading of resolution targets;

(3) A remeasurement of density; and

(4) A certification of the environmental conditions under which the microforms are stored, as specified in §1230.20(a).

(e) The agency must prepare an inspection report, and send a copy to NARA in accordance with §1230.28(b). The inspection report must contain:

(1) A summary of the inspection findings, including:

(i) A list of batches by year that includes the identification numbers of microfilm rolls and microfiche in each batch;

(ii) The quantity of microforms inspected;

(iii) An assessment of the overall condition of the microforms;

(iv) A summary of any defects discovered, e.g., redox blemishes or base deformation; and

(v) A summary of corrective action taken.

(2) A detailed inspection log created during the inspection that contains the following information:

(i) A complete description of all records inspected (title; roll or fiche number or other unique identifier for