**Microfilm Storage Guidelines**

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**INTRODUCTION**

Imaging Services at the Library of Virginia (LVA) receives microfilm, microfiche, and optical media for security and archival storage from historical societies; archival programs; school districts; churches; colleges; universities; and state, county, and municipal governments. LVA stores archival (permanent) and long-term records of the above media in an environmentally controlled area. A bar-code system is used that helps to locate and retrieve the more than 2,000 items a month being sent to our facility. In the interest of security and in order to successfully capture accurate information about the records being stored, the following requirements for storing media have been established. All items sent for storage are to be accompanied by a completed ARC-3 form. This form is available from LVA and can be photocopied for use if required.

With your help and cooperation in following these procedures, LVA can accurately store and retrieve your media. Shipments not meeting the requirements will be returned for correction or additional information.

**MICROFILM**

**Type of Film**

Use only safety-based silver halide film that has been designated as having a life expectancy of 500 years (LE 500).

**Quality of Film**

The microfilm you submit should meet the requirements as stated in the [State Standards](http://www.lva.virginia.gov/agencies/records/standards/), 17 VAC 15-20 and 17 VAC 15-50. These are standards for archival microfilming and computer-output microfilm. If you do not have copies, please request them from Imaging Services or get them from our [website](http://www.lva.virginia.gov/agencies/records/index.htm). The standards cover such requirements as resolution, film density, and methylene blue testing. Basic requirements for archival film are:

**Resolution:**

90 lines and 4.0 pattern for 16mm film

90 lines and 6.3 pattern for 35mm film

120 lines and 5.0 pattern for 16mm film used in cameras in procedural recording in the Circuit Court Clerk’s offices

120 lines and 3.2 pattern for 16mm film generated from digital scanning

**Density:**

.8 to 1.2 for all film except computer-output-generated film, which can go as high as 1.8

**Methylene Blue:**

A required periodic test (minimum monthly) to determine whether the film has been processed properly for archival retention. If you are not certain that your vendor meets this requirement, please contact LVA for verification and information about obtaining this test.

The film you submit for storage should be free from fingerprints or any other foreign substances, free from scratches in the emulsified areas, and free from microbiological growth and chemical reactions (redox). It should contain all necessary targets or information as requested below and the records filmed should be unobscured. In meeting these requirements, you or your vendor should conduct a visual check of your film using a light box, rewinds, and an eye loupe. The **camera negative film** should **not** be placed in a reader to make the necessary inspection. As an alternative, if light-boxing is not possible, you can produce a working copy from the camera negative that can then be used on a reader to verify that the camera negative meets the requirements.

Clarification of the differences between security and archival film (both stored by LVA) is offered here in order to explain why some of the film stored by LVA may not be of the highest quality. During the course of producing a book for the Circuit Court Clerks’ offices, the vendor produces a film by-product that is used to create a book or paper record. The process of using the film in duplication equipment and handling negates the film meeting normal archival standards. This film is not considered archival but is accepted for security purposes by LVA. The process to produce this film does not always meet the minimum archival standards and, therefore, the film cannot be considered archival. However, the vendors can meet the identification and storage box requirements listed below and they should be encouraged to do so by your office. LVA will no longer accept poorly identified or incorrectly boxed film for security storage. It will be returned to the office of origin.

**Procedures**

1. **Spooling:** Microfilm must be spooled and stored correctly on a plastic reel before being sent to LVA. The beginning of the film should be at the beginning of the reel when spooling off. The emulsion side (dull) should be facing down when film is wound onto a reel with the film extending from the bottom of the roll when winding from left to right.

2. **Clear Leader:** Because a bar code is placed on a clear strip of leader (clear film at the beginning of each reel) and this leader is needed for duplication purposes as well, each reel must have at least 24" of clear film at the beginning. If you are generating your own reels of film, you can obtain a clear leader by simply winding off this amount of film before beginning your first exposure (about 10 turns) or advance the film about 25 exposures, covering the lens while doing this, before your first target.

3. **Film Targeting:** Targeting is an integral part of the microfilming process and necessary in order to properly identify records on film, serve as a finding aid, conduct quality tests of the film, and provide a legal foundation for acceptance of the film as a true and accurate copy. Targets must appear before the documents to be filmed, face in the same direction as those documents, and be filmed in a consistent sequence. According to Section 5.5 of [*Standards for the Microfilming of Public Records for Archival Retention*](http://www.lva.virginia.gov/agencies/records/standards/17VAC15-20.asp), microfilm identification shall conform to ANSI/AIIM MS19. To meet this requirement, targets need to be filmed as shown in Appendix [A](http://www.lva.virginia.gov/agencies/records/standards/microgde.asp#a). Sample targets are included in Appendix [C](http://www.lva.virginia.gov/agencies/records/standards/microgde.asp#c). You may photocopy these targets for use on your film.

*Resolution charts must be purchased independently (Circuit Court Clerks can obtain a free resolution chart by contacting LVA). The resolution charts cannot be photocopied for use.*

4. **Acid/lignin-free boxes:** All microfilm sent to LVA for storage must be placed in acid/lignin-free boxes. This ensures long-term storage of the film at our facility. A list of vendors selling these types of boxes is in Appendix [B](http://www.lva.virginia.gov/agencies/records/standards/microgde.asp#b). If desired, you can contact LVA for samples.

5. **Labeling film boxes:** Each microfilm box is to have the minimum information listed on the outside of the box. The required information is stated in Appendix [A](http://www.lva.virginia.gov/agencies/records/standards/microgde.asp#a).

**MICROFICHE**

Most microfiche produced today for archival purposes is created from computer-generated tapes. This is called COM (computer-output microfilm). Roll film can also be produced from COM. Microfiche format is generally not used for the permanent storage of archival material, but there are exceptions. LVA does store microfiche for archival purposes and maintains it in acid/lignin-free envelopes and containers.

LVA does **not** accept microfiche jackets for archival storage. Jackets are an end-user product only. The original silver camera negative should be duplicated and the duplicate used to make the user microfiche jacket. The camera negative should then be sent to LVA as the archival film. We encourage you to send in microfilm rather than microfiche for permanent storage at LVA.

**Type of Film**

Use only safety-based silver halide film that has been designated as having a life expectancy of 500 years (LE 500).

**Quality of Microfiche**

The microfiche you submit must meet the requirements stated below. There are standards for archival microfilming and for computer-output-generated microfiche. If you do not have copies, please request them from Imaging Services. The standards cover such requirements as resolution, film density, and methylene blue testing. A listing of currently available standards is included at the end of this document. Basic archival requirements are:

**Resolution:**

90 lines and 4.0 pattern

**Density:**

.8 to 1.2 for all film except computer-output-generated film, which can go as high as 1.8

**Methylene Blue:**

A required periodic test (minimum monthly) to determine whether the fiche has been processed properly for archival retention. If you are not certain that your vendor meets this requirement, please contact LVA for verification and information about obtaining this test.

The fiche you submit for storage should be free from fingerprints or any other foreign substances, free from scratches in the emulsified areas, and free from microbiological growth and chemical reactions (redox). It should contain all necessary information as requested below and the records filmed should be unobscured. In meeting these requirements, you or your vendor should conduct a visual check of your fiche using a light box and an eye loupe. The **camera negative fiche** should **not** be placed in a reader to make the necessary inspection. As an alternative, if light-boxing is not possible, you can produce a working copy from the camera negative that can then be used on a reader to verify that the camera negative meets the requirements.

**Procedures**

1. **Fiche targets and labeling**: Individual microfiche must be identified in the header of each fiche. When sending multiple fiche, each group must be identified on the ARC-3 form and the total number of original silver fiche masters must to be listed for each group sent. The microfiche box or envelopes must contain:

* Agency/Office of origin
* Records series title and inclusive dates of series
* Producer and date produced

2. **Acid/lignin-free envelopes and boxes**: Acid/lignin-free envelopes or boxes must be used. LVA will not accept containers that do not meet this requirement. Please see the attached addresses of vendors to obtain your own acid/lignin-free envelopes and/or boxes, which are to be used when sending fiche for permanent archival retention to LVA.

**OPTICAL DISKS/CDS**

Optical disks are accepted for security storage only and there is a fee for storing nonpermanent material. Due to the various formats, hardware and software variations, and the continuous changes occurring in the technology, it would be impossible for LVA to maintain the disks permanently. LVA will maintain any disks it generates in the course of its own scanning projects or when doing scanning for another office as part of the commitment to this technology. However, any other public entity sending disks for security storage to LVA is responsible for maintaining this information (meaning updating, recopying if necessary, maintaining the software and hardware to read it, etc.) LVA will only provide proper environmental storage for this information when requested.

**Procedures**

1. **Labeling and containers**: Optical disks come housed with their own containers, which adequately serve to protect the disk from contamination due to dust, fingerprints, etc. Minimum labeling needs to include:

* Agency/Office of origin
* Records series title and inclusive dates of series for each side
* Disk size, producer, and format (header) used for imaging
* Compression type used (ex: CCITT Group 4)
* Software needed to access the images

**APPENDIX A**

**Microfilm Reel Contents**

1. “START” Target
2. Reel Number – this is a unique number that is never duplicated.
3. Resolution Chart – chart is filmed three times. If using a rotary camera, use a rotary chart; if using a planetary camera, use a planetary chart; if scanning, use a scanner resolution chart. **Make sure to use the correct original resolution chart, not a photocopy**.
4. Density Test Document – an 8 ½" x 11" blank white bond paper is filmed once.
5. Title Page – this lists the name of locality/agency, name of the record that is being filmed, volume number and the dates that pertain for this record, date filmed, State or Local Seal if desired, any other pertinent information.
6. Custodian's Certificate – signed by the person who has custody of the records.
7. Blank spaces x 3
8. Begin filming Record/Volume
9. End of Record/Volume Target – this target is filmed after the last page of each record/volume.
10. Camera Operator's Declaration – this is signed and dated by the individual who did the filming/scanning.
11. If applicable, repeat steps 5–9 for each volume listed on the reel.
12. End of Reel Target – this target is filmed after the last volume on this reel.
13. Resolution Chart – chart is filmed three times. If using a rotary camera, use a rotary chart; if using a planetary camera, use a planetary chart; if scanning, use a scanner resolution chart. **Make sure to use the correct original resolution chart, not a photocopy**.
14. Density Test Document – an 8 ½" x 11" blank white bond paper is filmed once.

**Minimum Labeling Required on Microfilm Box**

1. Locality/Agency name (such as Craig County, Virginia Retirement System, City of Norfolk, etc.)
2. Records Series/Volumes and dates (such as Deeds, Volumes #5 1995–1995, Volume #6 1995–1996; or Item #0001 to 0250, 2009–2009). The label should contain the actual records series or title, volumes, and dates that appear on this particular reel of film. Each volume should be listed separately.
3. Producer of microfilm (such as Business Records, Logan Systems, LVA, TPS, etc.)
4. Write or stamp "silver master" or "silver copy"
5. Negative or positive (neg or pos)

**APPENDIX B**

**Conservation Items**

**Vendor Contacts:**

**Conservation Resources, Inc.**

5532 Port Royal Road

Springfield, VA 22151

Tel: 1-800-634-6932

Fax: 1-703-321-0629

Website: [www.conservationresources](http://www.conservationresources).com

**Hollinger Metal Edge**

9401 Northeast Drive

Fredericksburg, VA 22408

Tel: 1-800-634-0491

Fax: 1-800-947-8814

Website: www.hollingermetaledge.com

**Microfilm Products Co.**

266 Germonds Road

West Nyack, New York 10994

Tel: 1-845-371-3700

Fax: 1-845-371-3780

Website: www.microfilmproducts.com

**Ordering:**

Microfilm reel storage boxes

Acid/lignin free

One-piece open-end or hinged box

35mm: ca. 3.75"H x 3.75"W x 1 9/16"D

16mm: ca. 3.75"H x 3.75"W x .75"D

**Ordering Resolution Charts**

**Vendor Contacts:**

**AIIM**

1100 Wayne Ave. Suite 1100

Silver Spring, Maryland 20910-5603

Tel: 1-301-587-8202

Website: [www.aiim.org](http://www.aiim.org)

**Applied Image, Inc.**

1653 East Main St.

Rochester, New York 14609

Tel: 1-585-482-03

Fax: 1-585-288-5989

Website: www.aig-imaging.com

**Techstreet**

3916 Ranchero Drive

Ann Arbor, Michigan 48108

Tel: 1-800-699-9277

Fax: 1-737-780-2046

Website: [www.techstreet](http://www.techstreet). com

**Ordering:**

Planetary type cameras

ANSI/ISO Test Chart No. 2 compliant

(reflectance type)

**Ordering:**

Planetary type cameras

X303 Planetary camera test charts,

ANSI/ISO No. 2 compliant (reflectance type)

Rotary type cameras

X113 Rotary (flow) test charts (paper)

**APPENDIX C**

**Imaging Targets and Certification Pages**

The targets and pages are available only from a [downloadable Word file](http://www.lva.virginia.gov/agencies/records/standards/targets.doc) at this time.

To use the file, Microsoft Word must be on your computer and your browser must be capable of accessing Word.