

Preservation Standards

Checklist of Standards Applicable to the Preservation of Archives and Manuscripts

Compiled by VICTORIA IRONS WALCH for the SAA Task Force on Archival Standards

Abstract: Standards have become increasingly important as use of complex technologies influences all phases of archival work. The Society of American Archivists Task Force on Archival Standards has identified more than 150 standards related in some way to archival preservation. The checklist presents the standards (together with information about availability and cost), describes the organizations that developed them, and calls for increased archival participation in the standards-development process.

About the author: Victoria Irons Walch is a free-lance archivist who has worked at the National Archives and Records Administration, the Chicago Historical Society, and the Illinois State Archives. She is the project coordinator of Working Group on Standards for Archival Description, whose report appeared in the Fall 1989 issue of the American Archivist, and a member of the SAA Archival Standards Board, which was recently established by the SAA Council on the recommendation of the task force for which she compiled this checklist.

STANDARDS ARE PLAYING AN increasingly important role in archival practice, especially as the use of complex technologies becomes more common in all phases of archival work. In June 1988 the SAA Council created a Task Force on Archival Standards¹ and gave it a two-fold assignment: (1) to review SAA's own past standards efforts and recommend a process for ongoing internal standards development, review, and approval, and (2) to clarify the impact of standards developed by nonarchival organizations on archival practice and recommend ways to improve communications with external standards-developing bodies.

To achieve these ends, council asked the task force to compile an inventory of all existing standards that are applicable to the management, preservation, and use of archives and manuscripts. By the summer of 1990, the task force's database contained more than 450 such standards. Of these, some 150-200 related in one way or another to preservation. The list that follows is a selection from the task force's database of those most clearly applicable to this area of archival practice. The task force intends to publish a complete list of all of the standards in the database within the next several months.

The world of national and international standards is extremely complex and the relationships among the various standards-developing organizations can be difficult to unravel.² Figure 1 provides a summary of

the organizations that develop standards applicable to the preservation of archives and manuscripts. The standards in this checklist are grouped under the organization that developed them, arranged in the same order as in figure 1. The brief introductory remarks accompanying each group are intended primarily to provide guidance on how and where to obtain further information.

Standards come in varying strengths, from very precise and exacting *technical standards*, through more broadly defined *conventions* or *rules*, to the most generalized *guidelines*.³ All play important roles in archival practice, but the bulk of this checklist comprises technical standards. Whatever their strength, however, all of the standards included here have been developed by a group, through a consensus process, and presumably have been extensively reviewed. Most have received some sort of formal approval or endorsement by the appropriate professional or technical organizations.

As a rule, this list excludes entries for products of an individual's efforts. Most specifically, despite their widespread use and unarguable value, it omits most *manuals* or *handbooks*. Usually these are produced by practitioners whose acknowledged expertise gives them great weight; wide use often raises them to the status of de facto standards. But they usually lack the two key characteristics of *consensus development* and *formal approval* shared by the rest of the standards on this list.

¹The SAA Task Force on Archival Standards was chaired by H. Thomas Hickerson, Cornell University. Its members were Marie Allen, National Archives and Records Administration; Lawrence Dowler, Harvard University; Judith Fortson, Hoover Institution; David Klaassen, University of Minnesota; Gerald Newborg, North Dakota State Historical Society; Margery Sly, Smith College; and Victoria Irons Walch, consulting archivist.

²For more extensive discussions of standards development see "Report and Recommendations of the Working Group on Standards for Archival Description," *American Archivist* 52 (Fall 1989): 451-61;

Victoria Irons Walch, "The Role of Standards in the Archival Management of Electronic Records," *American Archivist* 53 (Winter 1990): 30-43; Walt Crawford, *Technical Standards for Librarians* (White Plains, NY: Knowledge Industry Publications, Inc., 1986); and Carl F. Cargill, *Information Technology Standardization: Theory, Process, and Organizations* (Bedford, MA: Digital Press, 1989).

³The varying levels of standards are defined in "Report and Recommendations of the Working Group on Standards for Archival Description," 452-54.

Figure 1

<p align="center">Organizations that Develop Standards Applicable to the Preservation of Archives and Manuscripts</p> <p align="center">International Standards</p> <p>International Organization for Standardization (ISO) <i>Technical Committees (TCs):</i> ISO TC 42: Photography ISO TC 46: Information and Documentation ISO TC 171: Micrographics and Optical Memories for Document and Image Recording, Storage, and Use</p> <p align="center">U.S. National Standards</p> <p>American National Standards Institute (ANSI) <i>Accredited Standards Committees (ASCs):</i> ASC IT9: Physical Properties and Permanence of Imaging Media ASC PH1: Photographic Film Rolls (Plastic, Wood, or Metal) ASC PH2: Photographic Sensitometry ASC PH4: Photographic Processing ASC X3: Information Processing</p> <p>ANSI-accredited standards developing organizations</p> <p>Association of Records Managers and Administrators (ARMA) Association of Information and Image Management (AIIM) American Society for Testing and Materials (ASTM) National Fire Protection Association (NFPA) National Information Standards Organization (NISO Z39) Society of Motion Picture and Television Engineers (SMPTE) Underwriters Laboratory (UL)</p> <p align="center">Other Technical and Professional Associations</p> <p>American Institute for Conservation of Historic and Artistic Works (AIC) American Library Association (ALA) <i>Affiliated associations:</i> Association for Library Collections and Technical Services (ALCTS) Association of College and Research Libraries (ACRL) National Association of Government Archivists and Records Administrators (NAGARA) Research Libraries Group (RLG) Society of American Archivists (SAA) Technical Association of the Pulp and Paper Industry (TAPPI)</p> <p align="center">U.S. Federal Agencies</p> <p>Library of Congress (LC) National Institute for Standards and Technology (NIST)</p>

Every effort has been made to make sure that this list only contains standards that are currently in force and available for purchase. Most formal technical standards are subject to a periodic review cycle, typically every five to seven years, so that anyone encountering a citation elsewhere to a standard that was approved more than eight years ago should immediately question its continued validity.

The entry for each standard includes its number (when applicable), which often includes the year in which it was approved, and its formal title. When the information was available, the entries also include number of pages and purchase cost (the typically high dollar-to-page ratio reflects the great expense involved in developing the standard rather than the mere cost of printing). The amounts were usually derived from 1989-90 publications catalogs, but they may change quickly.

In only two cases are standards included that are being revised or are still in the development process. The Association for Information and Image Management (AIIM) and the National Information Standards Organization (NISO) both have some key preservation-related standards in process, and the archival community has an opportunity to participate in their development and review.

The fostering of such "participation" should be one of the most important by-products of this checklist and the other work of the Task Force on Archival Standards. Virtually all of the organizations included in this checklist profess a desire to include a wide range of interested professionals in their standards activities. They recognize that only through true consensus are standards developed that will be widely applicable and accepted. They will welcome archivists at their tables if we choose to pull up a chair.

The task force recommended, and council approved, the establishment of an SAA

Standards Board which met for the first time in September 1990. The board will be seeking to extend SAA's reach to these external standards developers and would welcome support and active participation by SAA members in all areas.⁴

International Organization for Standardization (ISO)

The International Organization for Standardization coordinates the work of national standards bodies from some 87 countries worldwide. The United States representative to ISO is the American National Standards Institute (ANSI).

ISO conducts its work through technical committees (TCs) that focus on specific technologies, materials, or methods. Current preservation-related ISO standards are listed below under the TCs that are responsible for their development and review. In each case, an organization in the U.S. that works most closely with the TC is also listed as a source for further information. This is either (1) an organization that serves as the official secretariat for all the international activities of the TC; or (2) an organization that has been designated by ANSI as the administrator of the Technical Advisory Group (TAG) for that TC, thereby coordinating official U.S. representation to the body.

ISO produces composite handbooks that provide the texts of standards on specific topics that are more economical to purchase than would be individual copies of each standard. Those of greatest interest to archivists would include *Handbook 1: Documentation and Information* (3rd ed., 1988), 1,012 pp.; *Handbook 23: Paper, Board and*

⁴The first members of the SAA Standards Board are H. Thomas Hickerson, chair; Edwin Bridges, Alabama Department of Archives and History; Judith Fortson, Hoover Institution; Victoria Irons Walch, consulting archivist; and Thomas E. Weir, Jr., National Archives and Records Administration.

Pulps (1984), 450 pp.; and *Handbook 26: Photography* (1985), 444 pp.

Copies of these handbooks or individual ISO standards may be ordered in the U.S. from the American National Standards Institute, 1430 Broadway, New York, NY 10018. Phone: (212) 642-4900.

ISO TC 42: Photography. Secretariat: National Association of Photographic Manufacturers, Inc., 550 Mamaroneck Avenue, Harrison, NY 10528. Phone: (914) 698-7603.

ISO 3897:1986 Photography—Processed Photographic Plates—Storage Practices. 11 pp. \$27.

ISO 4331:1986 Photography—Processed Photographic Black-and-White Film for Archival Records—Silver-Gelatin Type on Cellulose Ester Base—Specifications. 10 pp. \$25.

ISO 4332:1986 Photography—Processed Photographic Black-and-White Film for Archival Records—Silver-Gelatin Type on Poly(ethylene terephthalate) Base—Specifications. 11 pp. \$27.

ISO 5466:1986 Photography—Processed Safety Photographic Film—Storage Practices. 13 pp. \$30.

ISO 6051:1986 Photography—Processed Photographic Paper Prints—Storage Practices. 10 pp. \$25.

ISO 7830:1983 Photography—Safety Photographic Films other than Motion Picture Films—Material Specifications. 3 pp. \$18.

ISO 8225:1987 Photography—Ammonia Processed Diazo Photographic Film—Specification for Stability. 11 pp. \$27.

ISO TC 46: Information & Documentation. ANSI TAG administrator: National Information Standards Organization (Z39), National Institute of Standards and Technology, Administration 101, Room E-106, Gaithersburg, MD 20899. Phone: (301) 975-2814.

ISO 5127-11:1987 Documentation and information—Vocabulary—Part 11: Audio-visual documents. 10 pp. \$25.

ISO TC 171: Micrographics and Optical Memories for Document and Image Recording, Storage and Use. ANSI TAG administrator: Association for Information and Image Management, 1100 Wayne Avenue, Suite 1100, Silver Spring, MD 20910. Phone: (301) 587-8202.

ISO 435:1975 Documentary Reproduction—ISO Conventional Typographical Character for Legibility Tests (ISO Character). 3 pp. \$18.

ISO 436:1975 Microphotography—ISO No. 1 Mire—Description and Use in Photographic Documentary Reproduction. 3 pp. \$18.

ANSI/ISO 3334:1989 Microcopying ISO Test Chart No. 2—Description and Use in Photographic Documentary Reproduction. 5 pp. \$20.

ISO 4087:1979 Microfilming of Newspapers on 35 mm Unperforated Microfilm for Archival Purposes. 8 pp. \$22.

ISO 6196-1:1980 Micrographics—Vocabulary—Section 01: General Terms. 12 pp. \$25.

ISO 6196-2:1982 Micrographics—Vocabulary—Section 02: Image Positions and Methods of Recording. 10 pp. \$25.

ISO 6196-3:1983 Micrographics—Vocabulary—Part 3: Film Processing. 12 pp. \$27.

ISO 6196-4:1987 Micrographics—Vocabulary—Part 4: Materials and Packaging. 24 pp. \$42.

ISO 6196-5:1987 Micrographics—Vocabulary—Part 5: Quality of Images, Legibility, Inspection. 24 pp. \$42.

ISO 6200:1976 Micrographics—Density of Silver-Gelatin Type Films. 2 pp. \$15.

ISO 8126:1986 Micrographics—Diazo and Vesicular Films—Visual Density—Specifications. 3 pp. \$18.

American National Standards Institute (ANSI)

The principal national standards organization in the United States is the American National Standards Institute (ANSI). ANSI is not a government entity, as are the national standards bodies in most other countries, but a private organization that coordinates the work of some 200 committees and organizations that it has accredited as standards developers. Some of these, like the Accredited Standards Committees (ASCs) listed immediately below, exist solely to develop ANSI standards. Further information on their activities may be obtained through the organizations serving as their secretariats. Others, listed individually in the section that follows, are usually professional or technical organizations for which ANSI standards development is only one of many activities.

Additional information or copies of ANSI standards may be ordered from American National Standards Institute, Sales Department, 1430 Broadway, New York, NY 10018. Phone: (212) 642-4900. The *1989-1990 Catalog of American National Standards* (194 pp.) costs \$20 plus shipping and handling.

ASC IT9: Accredited Standards Committee on Physical Properties and Permanence of Imaging Media. Secretariat: National Association of Photographic Manufacturers, Inc., 550 Mamaroneck Avenue, Harrison, NY 10528. Phone: (914) 698-7603.

Note: Work on ANSI standards related to all phases of photography is in a period of transition; over the next year or two, the ASCs designated with PH (for photography) are being phased out and their work assumed by those with an IT (for imaging technology) designation.

ANSI IT9.1-1989 Imaging Media (Film)—Silver-Gelatin Type—Specifications for Stability. [Revision and consolidation of

ANSI PH1.28-1984, PH 1.41-1984, and PH1.66-1985]. \$21.

ANSI IT9.2-1988 Imaging Media—Photographic Processed Films, Plates, and Papers—Filing Enclosures and Storage Containers. \$16.

ANSI IT9.3-1989 Imaging Media—Photographic Films and Papers—Characteristics. \$16.

ANSI IT9.5-1988 Imaging Media (Film)—Ammonia-Processed Diazo Films—Specifications for Stability. \$15.

ANSI IT9.7-1989 Imaging Media—Determination of Brittleness of Photographic Film—Wedge Brittleness Test. \$8.

ANSI IT9.8-1989 Imaging Media—Photographic Film—Determination of Folding Endurance. \$8.

ASC PH1: Accredited Standards Committee on Photographic Films, Plates, and Papers. Secretariat: National Association of Photographic Manufacturers, Inc., 550 Mamaroneck Avenue, Harrison, NY 10528. Phone: (914) 698-7603.

ANSI PH1.13-1979 (R1983) Dimensions for Cores for Photographic Film Rolls (Plastic, Wood, or Metal). \$8.

ANSI PH1.19-1986 Photographic Sheet Film—Designation of Emulsion Side. \$8.

ANSI PH1.25-1984 (R1989) Photography (Film)—Safety Photographic Film. \$8.

ANSI PH1.29-1985 Photography (Film)—Methods for Determining Curl of Photographic Film. \$12.

ANSI PH1.33-1986 Photography (Film)—16 mm 100 foot, 16 mm 200 foot, 35 mm 100 foot, and 70 mm 100 foot Spools for Recording Instruments, Microfilms, and Still-Picture Cameras—Dimensions. \$11.

ANSI PH1.37-1977 (R1983) Methods for Determining the Scratch Resistance of Processed Photographic Film. \$8.

ANSI PH1.42-1969 (R1987) Method for Comparing the Color Stabilities of Photographs. \$12.

ANSI PH1.43-1985 Photography (Film)—Processed Safety Film—Storage. \$13.

ANSI PH1.45-1981 (R1989) Practice for Storage of Processed Photographic Plates. \$12.

ANSI PH1.46-1979 (R1989) Dimensions of Containers for Packaging and Storage of Aerial Photographic Film on Spools. \$11.

ANSI PH1.48-1982 (R1987) Practice for Storage of Black-and-White Photographic Paper Prints. \$12.

ANSI PH1.51-1983 Photography (Film)—Micrographic Sheet and Roll Film Dimensions. \$12.

ANSI PH1.52-1986 Dimensions for Engineering Reproduction Films in Sheets and Rolls. \$11.

ANSI PH1.67-1985 Photography (Film)—Processed Vesicular Film—Specifications for Stability. \$15.

ASC PH2: Accredited Standards Committee for Photographic Sensitometry. Secretariat: National Association of Photographic Manufacturers, Inc., 550 Mamaroneck Avenue, Harrison, NY 10528. Phone: (914) 698-7603.

ANSI PH2.44-1985 Vesicular Microfilms—Method for Determining Speed and Average Gradient. \$12.

ANSI PH2.51-1987 Source Document Microfilms—Determination of ASA Speed and Average Gradient. \$13.

ASC PH4: Accredited Standards Committee on Photographic Processing. Secretariat: National Association of Photographic Manufacturers, Inc., 550 Mamaroneck Avenue, Harrison, NY 10528. Phone: (914) 698-7603.

ANSI PH4.8-1985 Photography (Chemicals)—Residual Thiosulfate and Other Chemicals in Films, Plates, and Papers—Determination and Measurement. \$13.

ANSI PH4.21-1989 Specifications for

Thermally Activated Dry Mounting Tissue for Mounting Photographs. \$8.

ANSI PH4.29-1986 Black-and-White Films, Plates, and Papers—Manual Processing Methods. \$10.

ANSI PH4.31-1982 (R1987) Specifications for Testing the Photographic Inertness of Construction Materials Used in Photographic Processing. \$11.

ANSI PH4.32-1986 Method for Evaluating the Processing of Black-and-White Photographic Papers with Respect to the Stability of the Resultant Image. \$10.

ANSI PH4.36-1978 (R1988) Method for the Determination of pH of Photographic Processing Solutions, and Specifications for pH Meters Used to Measure pH of Photographic Processing Solutions. \$12.

ANSI PH4.99-1988 Photography (Chemicals)—General Information and Test Methods for Standards for Photographic-Grade Chemicals and Processing Solutions. \$12.

ASC X3: Accredited Standards Committee for Information Processing Systems. Secretariat: Computer and Business Equipment Manufacturers Association (CBEMA), 311 First Street NW, Fifth Floor, Washington, DC 20001. Phone: (202) 737-8888.

Note: ASC X3 develops standards related to all aspects of information processing, including specifications for the media on which electronic data is stored (e.g., floppy disks, magnetic tape). For manufacturing purposes, these are the equivalent of the paper and film specifications listed elsewhere. Because there are so many ASC X3 standards and they are developing and changing so rapidly, specific entries are not included in this checklist. A complete list may be obtained from ANSI or CBEMA.

ANSI-Accredited Standards Developing Organizations

The **Association of Records Managers and Administrators (ARMA)**, the prin-

cial organization for records and information managers in the United States, is one of the standards developers most recently accredited by ANSI. Only its Alphabetic Filing Rules (ANSI/ARMA 1-1990) has gone through the full ANSI approval process. Copies of the ARMA preservation-related standards listed below may be obtained from ARMA International, Inc., 420 Somerset, Suite 215, Prairie Village, KS 66208. Phone: (913) 341-3808.

Magnetic Diskettes—Recovery Procedures Guideline, 1987. 9 pp. ARMA members, \$14; nonmembers, \$19.

Record Center Operations Guideline, 1986. 51 pp. ARMA members, \$14; nonmembers, \$19.

The **Association for Information and Image Management (AIIM)**, successor to the National Micrographics Association, has an active standards program and is the principal developer of standards for microforms and other information storage technologies involving images, such as optical disks. The *AIIM Bookstore*, a free catalog issued annually, offers for sale a large number of books from commercial publishers as well as AIIM itself that provide excellent resource material on such topics as preservation, records and information management, and disaster recovery. The catalog also lists all current ANSI/AIIM standards as well as many closely related ones developed by federal and international agencies.

Several AIIM standards have been adopted as Federal Information Processing Standards (FIPS); when applicable, the FIPS publication number is given.

AIIM offers a *Preservation Standards Set* (catalog no. MS801) that “provides a comprehensive collection of AIIM and general standards” related to the preservation of information on microforms. Cost to AIIM members is \$250, nonmembers, \$275.

Additional information or copies of standards may be obtained from AIIM, 1100

Wayne Avenue, Suite 1100, Silver Spring, MD 20910. Phone: (301) 587-8202.

ANSI-approved AIIM Standards:

ANSI/AIIM MS1-1988 Practice for Operational Practices/Inspection and Quality Control for Alphanumeric Computer-Output Microforms. Adopted as FIPS Pub 82. AIIM members, \$25; nonmembers, \$30.

ANSI/AIIM MS5-1985 Microfiche. AIIM members, \$25; nonmembers, \$30.

ANSI/AIIM MS6-1981 (R1988) Microfilm Package Labeling. AIIM members, \$25; nonmembers, \$30.

ANSI/AIIM MS9-1987 Method of Measuring Thickness of Buildup Area on Unitized Microfilm Carriers (Aperture, Camera, Copy and Image Cards) (AIIM members, \$25; nonmembers, \$30.

ANSI/AIIM MS10-1987 Method for Determining Adhesion of Protection Sheet of Aperture Adhesive of Unitized Microfilm Carrier (Aperture Card). AIIM members, \$25; nonmembers, \$30.

ANSI/AIIM MS11-1987 Microfilm Jackets. AIIM members, \$25; nonmembers, \$30.

ANSI/AIIM MS14-1988 Specifications for 16 and 35 mm Microfilms in Roll Form. AIIM members, \$25; nonmembers, \$30.

ANSI/AIIM MS17-1983 Test Chart for Rotary Microfilm Cameras. AIIM members, \$25; nonmembers, \$30.

ANSI/AIIM MS18-1987 Splices for Imaged Film—Dimensions and Operational Constraints. AIIM members, \$25; nonmembers, \$30.

ANSI/AIIM MS19-1987 Recommended Practice for Identification of Microforms. AIIM members, \$25; nonmembers, \$30.

ANSI/AIIM MS20 (under revision) Microfilm Readers. AIIM members, \$25; nonmembers, \$30.

ANSI/AIIM MS23-1983 Practice for Operational Procedures/Inspection and

- Quality Control of First Generation Silver-Gelatin Microfilm of Documents. AIIM members, \$30; nonmembers, \$36.
- ANSI/AIIM MS24-1980 (R1987) Standard Test Target for Use in Microrecording Engineering Graphics on 35 mm Microfilm. AIIM members, \$25; nonmembers, \$30.
- ANSI/AIIM MS28-1987 Alphanumeric COM Quality Test Slide. Adopted as FIPS Pub 108. AIIM members, \$25; nonmembers, \$30.
- ANSI/AIIM MS29-1987 Micrographics—Cores and Spools for Recording Equipment—Dimensions. AIIM members, \$25; nonmembers, \$30.
- ANSI/AIIM MS32-1987 Microrecording of Engineering Source Documents on 35 mm Microfilm. AIIM members, \$25; nonmembers, \$30.
- ANSI/AIIM MS34 (under revision) Dimensions for 100 ft. Reels for Conventionally Threaded Processed 16 mm and 35 mm Microfilm. AIIM members, \$25; nonmembers, \$30.
- ANSI/AIIM MS35-1987 Requirements and Characteristics of Original Black-and-White Documents That May Be Microfilmed. AIIM members, \$25; nonmembers, \$30.
- ANSI/AIIM MS36-1987 Reader-Printers. AIIM members, \$25; nonmembers, \$30.
- ANSI/AIIM MS37-1988 Recommended Practice for Microphotography of Cartographic Materials. AIIM members, \$35; nonmembers, \$40.
- ANSI/AIIM MS38-1987 Microrecording of Engineering Graphics—Computer-Output Microfilm. AIIM members, \$25; nonmembers, \$30.
- ANSI/AIIM MS39-1987 Recommended Practice for Operational Procedures, Quality Control and Inspection of Graphic Computer-Output Microforms. AIIM members, \$30; nonmembers, \$35.
- ANSI/AIIM MS41-1988 Dimensions for Unitized Microfilm Carriers (Aperture,

- Camera, Copy and Image Cards). AIIM members, \$25; nonmembers, \$30.
- ANSI/AIIM MS42-1989 Recommended Practice for the Expungement, Deletion, Correction or Amendment of Records on Microforms. AIIM members, \$30; nonmembers, \$35.
- ANSI/AIIM MS43-1988 Recommended Practice for Operational Procedures/Inspection and Quality Control of Duplicate Microforms of Documents and From COM. AIIM members, \$30; nonmembers, \$35.
- ANSI/AIIM MS45-1989 Recommended Practice for Inspection of Stored Microfilm. AIIM members, \$35; nonmembers, \$40.
- ANSI/AIIM MS47 (under revision) Rotary Cameras for 16mm Microfilm—Mechanical and Optical Characteristics. Prices to be announced.
- ANSI/AIIM MS111-1987 Recommended Practice for Microfilming Printed Newspapers on 35 mm Roll Microfilm. AIIM members, \$25; nonmembers, \$30.

Technical Reports:

- AIIM TR2-1980 Glossary of Micrographics. \$25 members; \$30 nonmembers.
- AIIM TR10-1985 Microimage Quality and Method for Measuring Quality in Flow Cameras. \$25 members; \$30 nonmembers.
- AIIM TR11-1987 Microfilm Jacket Formatting and Loading Techniques. \$25 members; \$30 nonmembers.
- AIIM TR13-1988 Care and Handling of Active Microform Files. \$25 members; \$30 nonmembers.
- AIIM TR16-1989 Recommended Content of Product Specification Sheet for Readers and Reader Printers. \$25 members; \$30 nonmembers.
- AIIM TR18-1989 Equipment Safety. \$25 members; \$30 nonmembers.
- AIIM TR20-1989 Environmental and Right-

to-Know Regulations Affecting Microfilm Processors. \$25 members; \$30 nonmembers.

The **American Society for Testing and Materials (ASTM)**, with some 32,000 members, is the largest and one of the oldest standards-developing organizations in the United States. Each year, ASTM publishes its more than 8,500 standards in its *Annual Book of ASTM Standards* which comprises sixty-eight volumes. Most preservation-related standards would be found among the 267 standards contained in volume 15.09, *Paper; Packaging; Flexible Barrier Materials; Business Copy Products* (1,248 pp.; \$95). Volume 00.01, *Subject Index; Alphanumeric List*, covers all 8,500 ASTM standards (880 pp.; \$39).

Although ASTM is an ANSI-accredited standards developer, it does not necessarily submit each of its standards for ANSI approval. None of those in the following list is an ANSI-approved standard. Additional information or copies of ASTM standards may be obtained from ASTM, 916 Race Street, Philadelphia, PA 19103. Phone: (215) 299-5400.

ASTM D2860-1990 Standard Test Method for Adhesion of Pressure-sensitive Tape to Fiberboard at 90-Degree Angle and Constant Stress. \$8.

ASTM D3208-1986 Standard Specification for Manifold Papers for Permanent Records. \$8.

ASTM D3290-1986 Standard Specification for Bond and Ledger Papers for Permanent Records. \$8.

ASTM D3301-1985 Standard Specification for File Folders for Storage of Permanent Records. \$8.

ASTM D3458-1985 Standard Specification for Copies from Office Copying Machines for Permanent Records. \$8.

The **National Fire Protection Associa-**

tion (NFPA) is an ANSI-accredited organization that develops standards for fire protection of all kinds of structures and materials, including several specifically addressing records, library and museum collections, and historic sites. Only those most closely applicable to preservation are included here; others, such as those covering certain types of fire suppression systems (e.g., Halon, foam), equipment (e.g., fire extinguishers, sprinkler systems), and air conditioning and heating systems, may be found listed in the free annual NFPA catalog.

Additional information or copies of NFPA publications may be obtained from NFPA, Batterymarch Park, Quincy, MA 02269. Phone: (800) 344-3555.

ANSI/NFPA 1-1987 Fire Prevention Code. 33 pp. NFPA members, \$13; nonmembers, \$14.50.

ANSI/NFPA 13-1989 Installation of Sprinkler Systems. 120 pp. NFPA members, \$16.65; nonmembers, \$18.50.

ANSI/NFPA 13A-1987 Inspection, Testing, and Maintenance of Sprinkler Systems. 27 pp. NFPA members, \$13; nonmembers, \$14.50.

ANSI/NFPA 40-1988 Cellulose Nitrate Motion Picture Film. 18 pp. NFPA members, \$13; nonmembers, \$14.50.

ANSI/NFPA 75-1987 Protection of Electronic Computer/Data Processing Equipment. 16 pp. NFPA members, \$11.25; nonmembers, \$12.50.

ANSI/NFPA 232-1986 Protection of Records. 17 pp. NFPA members, \$11.25; nonmembers, \$12.50.

ANSI/NFPA 232AM-1986 Fire Protection for Archives and Records Centers. 10 pp. NFPA members, \$11.25; nonmembers, \$12.50.

ANSI/NFPA 910-1985 Protection of Libraries and Library Collections. 25 pp. NFPA members, \$13; nonmembers, \$14.50.

ANSI/NFPA 911-1985 Protection of Museums and Museum Collections. 26 pp. NFPA members, \$11.25; nonmembers, \$12.50.

ANSI/NFPA 913-1987 Protection of Historic Sites and Structures. 23 pp. NFPA members, \$13; nonmembers, \$14.50.

ANSI/NFPA 914-1989 Recommended Practice for Fire Protection in Rehabilitation and Adaptive Reuse of Historic Structures. 30 pp. NFPA members, \$13; nonmembers, \$14.50.

The **National Information Standards Organization (NISO Z39)** is the principal U.S. standards developer for library- and publishing-related standards. Its purview extends to many areas affecting archival practice, including bibliographic exchange, and, most relevant here, paper permanence and environmental storage conditions. Other NISO standards are applied in microfilming archival materials, including transliteration standards often used to Romanize foreign languages for headers and targets. In addition to both approved and draft standards, this list includes four NISO committees whose work the archival community will want to monitor because of its significance to preservation.

Further information about NISO and copies of draft standards may be obtained from NISO, National Institute of Standards and Technology, Administration 101, Room E-106, Gaithersburg, MD 20899. Phone: (301) 975-2814. Copies of approved NISO standards may be ordered from: Transaction Publishers, Department NISO EX 78, Rutgers-The State University, New Brunswick, NJ 08903. Phone: (201) 932-2280.

Approved standards:

ANSI Z39.11-1972 (R1983) System for the Romanization of Japanese. \$10.

ANSI Z39.12-1972 (R1984) System for the Romanization of Arabic. \$10.

ANSI Z39.24-1976 System for the Romanization of Slavic Cyrillic Characters. \$10.

ANSI Z39.25-1975 Romanization of Hebrew. \$12.

ANSI Z39.32-1981 Information on Microfiche Headings. \$12.

ANSI Z39.35-1979 System for the Romanization of Lao, Khmer, and Pali. \$12.

ANSI Z39.37-1979 System for the Romanization of Armenian. \$10.

ANSI Z39.48-1984 Permanence of Paper for Printed Library Materials. \$10.

ANSI Z39.64-1989 East Asian Character Code for Bibliographic Use. (Approved but not yet published)

ANSI Z85.1-1980 Permanent and Durable Library Catalog Cards. \$12.

Draft Standards Awaiting Approval:

Z39.48-199x Permanence of Paper for Publications and Documents in Libraries and Archives [revision of Z39.48-1984; draft scheduled for issue in November 1990]. \$30.

Z39.62-199x Eye-Legible Information on Microfilm Leaders and Trailers and on Containers of Process Microfilm on Open Reels [draft issued December 1989]. \$25.

NISO Committees Formed To Develop New Standards:

Z39 SC R Environmental Conditions for Storage of Paper-based Library and Archival Materials.

Z39 SC MM Environmental Conditions for the Exhibition of Library and Archival Materials.

Z39 SC QQ Physical Preparation of Theses and Dissertations in Printed Form for Long-term Retention by Libraries and Archives.

Z39 SC RR Adhesives Used to Affix Labels to Library Materials.

The **Society of Motion Picture and Television Engineers (SMPTE)**, a professional society of some 9,000 members, has developed more than 180 standards for motion picture film, recording tape and re-

cording practices, and video tape. Additional information may be obtained from SMPTE, 509 West Hartsdale Avenue, White Plains, NY 10607. Phone: (914) 761-1100.

ANSI/SMPTE 223M-1985 Specifications for Motion-Picture Safety Film. \$8.

Underwriters Laboratories (UL) is a nonprofit organization that evaluates the safety of a wide variety of products. It has prepared nearly 1,300 standards used for the evaluation of electrical, fire, and mechanical safety. Additional information may be obtained from UL, 333 Pfingsten Road, Northbrook, IL 60062. Phone: (708) 272-8800.

ANSI/UL 72-1983 Tests for Fire Resistance of Record Protection Equipment. \$14.

ANSI/UL 155-1989 Tests for Fire Resistance for Vault and File Room Doors. \$14.

Other Technical and Professional Associations

In addition to those ANSI-accredited organizations listed above, a wide variety of other technical and profession associations in the United States have developed standards that are applicable to archival preservation.

The **American Institute for Conservation of Historic and Artistic Works (AIC)**, founded in 1972, has more than 250 members who are professionals, including scientists and educators, in the field of conservation. While emphasizing art-related concerns, AIC also maintains a Speciality Group on Book and Paper Conservation. Additional information may be obtained from the AIC, 1400 16th Street NW, Suite 340, Washington DC 20036. Phone: (202) 232-6636.

AIC Code of Ethics and Standards of Prac-

tice. 10 pp. [Published in *AIC Directory*, 1986-1987, 10-19.]

Guidelines for Selecting a Conservator. 6 pp.

American Library Association (ALA). Standards development and approval occurs at many levels within the American Library Association. Most often, specific standards are developed by a committee or task force within a section. Final approval may rest simply with the section, or the document may be forwarded to the association level (e.g., the two affiliated organizations, ALCTS and ACRL, listed below). For adoption as an official ALA-wide standard, approval must be obtained from the ALA Standards Committee.

Many of these standards were originally printed in widely available ALA periodicals; citations are given when applicable. Copies or reprints of specific documents may be obtained from ALA Publishing Services or from the association noted in each entry. Write to the American Library Association, 50 East Huron Street, Chicago, IL 60611. Phone: (312) 944-6780. For information on specific standards, contact the association or section that prepared the standard.

Association for Library Collections and Technical Services (ALCTS).

Glossary of Selected Preservation Terms [draft]. Developed by the Preservation of Library Materials Section, Library/Vendors Task Force. Published in the *ALCTS Newsletter* 1:2 (1990): 14-15.

Guidelines for Cataloging Microform Sets, 1989. 2 pp. Developed by the Reproduction of Library Materials Section, Bibliographic Control of Microforms Committee. \$1.00 from ALCTS.

Guidelines for Packaging and Shipping Microforms, 1989. 2 pp. \$1.00 from ALCTS.

Preparation of Archival Copies of Theses and Dissertations, 1986. 16 pp. Prepared

by Jane Boyd and Don Etherington. \$5.50 from ALA Publishing Services.

Standard Terminology for USMARC Field 583. July 1988. Prepared by Preservation Program Management Committee, Preservation of Library Materials Section, Association for Library Collections & Technical Services. \$1 from ALA Publishing Services.

Association of College and Research Libraries (ACRL).

ACRL Guidelines for the Preparation of Policies on Library Access: A Draft. Prepared by the ACRL Library Access Task Force. Published in *College and Research Libraries News* (May 1989): 386-92. [Contains a section on access issues related to collection management and preservation.]

Binding Terms: Thesaurus for Use in Rare Books and Special Collections Cataloguing, 1988. 37 pp. Prepared by the Rare Books and Manuscripts Section. ACRL members, \$8.50; nonmembers, \$10; from ALA Publishing Services.

Guidelines for Borrowing Special Collections Materials for Exhibition. Prepared by the Rare Books and Manuscripts Section. Published in *College and Research Libraries News* (May 1990): 430-34.

Guidelines for Conservators and Curators: Collations and Marking in Special Collections. Prepared by the Rare Books and Manuscripts Ad Hoc Conservators' Collations Committee. Published in *College and Research Libraries News* (May 1988): 294-95.

Guidelines for the Security of Rare Book, Manuscript, and Other Special Collections. Prepared by the Rare Books and Manuscripts Section Security Committee. Published in *College and Research Libraries News* (March 1990): 240-44.

The National Association of Government Archivists and Records Administrators (NAGARA), in cooperation with

the Georgia Department of Archives and History and with funding from the National Historical Publications and Records Commission, has been conducting a national preservation planning project for archives and manuscript repositories. By late 1990, several products of the NAGARA Guide and Resources for Archival Strategic Preservation Planning (GRASP) Project should be available, including a computer-assisted self-study, a manual of planning strategies, and a 700-page resource compendium. While not technical standards, per se, the GRASP guidelines have been developed through a thorough review and analysis of the preservation practices and needs of some twenty-three archival repositories. The GRASP products promise to provide excellent planning tools for all types of preservation-related activities.⁵

Additional information may be obtained from the NAGARA GRASP Project Director, Georgia Department of Archives and History, 330 Capitol Avenue SE, Atlanta, GA 30334-1549. Phone: (404) 651-9272.

The **Research Libraries Group (RLG)**, founded in 1974, is a not-for-profit corporation owned and operated by a number of the nation's major universities and other research institutions. Dedicated to improving the management of information resources necessary for the advancement of scholarship, RLG maintains an active Preservation Program. Among many other activities, the Preservation Committee and RLG staff have undertaken several initiatives primarily aimed at defining preservation microfilming within the RLG community, including the important development, publication, and updating of the RLG Guidelines for Preservation Microfilming.

While not a standard per se, these guidelines provide references to technical stan-

⁵See Bonnie Rose Curtin, "Preservation Planning for Archives: Development and Field Testing of the NAGARA GRASP," in this issue.

dards and sets procedural and bibliographic guidelines for the preparation, creation, inspection, storage, and cataloging of preservation microfilm produced in RLG-sponsored projects. Because of the emphasis on longevity and stability, some of its requirements, such as those in the area of preparation, targeting, filming, processing, and inspecting, are stricter than industry-based standards. Microfilm projects being done outside of the RLG umbrella have often followed RLG guidelines; preservation microfilming "according to RLG guidelines" is guaranteed by a number of microfilm vendors. While these guidelines are aimed primarily at the microfilming of books and serials, many of the requirements are applicable to manuscripts and archives as well. The current NEH-funded RLG Archives Preservation Microfilming Project (1990-93) has as one of its goals to develop a manual for the preparation and preservation microfilming of archival material.

The **Society of American Archivists (SAA)** has not developed any preservation "standards" in the strictest definition of the term, but its *Archives Assessment and Planning Workbook* (84 pp.) can provide useful guidance in planning and managing preservation activities. The workbook was prepared by the Committee on Institutional Evaluation and edited by Paul McCarthy. It incorporates the "Principles of Institutional Evaluation," first published by SAA in 1982, which have been widely used to identify and define the necessary components of an archival program. There is a full section devoted to the preservation of archival and manuscript holdings with thirty-one evaluative questions.

SAA publications may be obtained from SAA, 600 South Federal, Suite 504, Chicago, IL 60605. Phone: (312) 922-0140.

The **Technical Association of the Pulp and Paper Industry (TAPPI)** publishes test methods for the manufacturing and evaluation of paper and paper products. Official

methods (those with the *om* designation) are reviewed every five years. Classical methods (designated *cm*) are considered to have long-term applicability and receive less frequent review. Provisional methods (designated *pm*) often become official methods after a period of years with further refinement and use.

Copies of all 260 test methods are contained in a two-volume set that sells for \$104 to nonmembers of TAPPI. Copies of individual test methods may be obtained from TAPPI at a cost of \$5 per page.

Contact TAPPI, Technology Park, P.O. Box 105113, Atlanta, GA 30092. Phone: (404) 446-1400.

- TAPPI T-208-om-1989 Moisture in Wood, Pulp, Paper, and Paperboard by Toluene Distillation. 3 pp.
- TAPPI T-401-om-1988 Fiber Analysis of Paper and Paperboard. 12 pp.
- TAPPI T-402-om-1988 Standard Conditioning and Testing Atmospheres for Paper, Board, etc. 3 pp.
- TAPPI T-406-om-1988 Reducible Sulphur in Paper and Paperboard. 5 pp.
- TAPPI T-410-om-1988 Grammage of Paper and Paperboard (Weight Per Unit Area). 3 pp.
- TAPPI T-411-om-1989 Thickness (Caliper) of Paper and Paperboard. 3 pp.
- TAPPI T-412-om-1988 Moisture in Paper and Paperboard. 2 pp.
- TAPPI T-413-om-1989 Ash in Paper and Paperboard. 2 pp.
- TAPPI T-414-om-1988 Internal Tearing Resistance of Paper. 6 pp.
- TAPPI T-423-om-1989 Folding Endurance of Paper (Schopper Type Tester). 4 pp.
- TAPPI T-433-cm-1984 Water Resistance of Sized Paper and Paperboard (Dry Indicator Method). 3 pp.
- TAPPI T-435-om-1988 Hydrogen Ion Concentration (pH) of Paper Extracts (Hot Extraction Method). 4 pp.
- TAPPI T-453-pm-1985 Effect of Dry Heat on Properties of Paper. 3 pp.

- TAPPI T-476-pm-1984 Abrasion Loss of Paper and Paperboard. 3 pp.
- TAPPI T-487-pm-1985 Fungus Resistance of Paper and Paperboard. 3 pp.
- TAPPI T-489-om-1986 Stiffness of Paper and Paperboard. 3 pp.
- TAPPI T-509-om-1988 Hydrogen Ion Concentration (pH) of Paper Extracts—Cold Extraction Method. 4 pp.
- TAPPI T-511-om-1988 Folding Endurance of Paper (MIT Tester). 3 pp.
- TAPPI T-529-om-1988 Surface pH Measurement of Paper. 3 pp.
- TAPPI T-544-pm-1985 Effect of Moisture on Properties of Paper and Board. 3 pp.

U.S. Federal Agencies

At least two federal agencies have developed materials that address the standardization of practices related to preservation.

The **Library of Congress (LC)** has issued a number of useful publications related to preservation. Much valuable information, in the form of fact and information sheets, may be obtained from the National Preservation Program Office. From 1973 to 1980 LC also issued a series of microfilming specifications for manuscripts, newspapers, books and pamphlets, and library card catalogs. They need updating and are no longer available directly from LC (reprints, with updates through 1982, are available from the Association for Information and Image Management; see address listed above).

Copies of the following publications may be obtained from the address following the citations.

Bookbinding and the Conservation of Books: A Dictionary of Descriptive Terminology, 1982. 296 pp. \$27. Available from the Superintendent of Documents, U.S. Government Printing Office, Washing-

ton, DC 20402-9325. Stock number 030-000-00126-5.

Boxes for the Protection of Rare Books: Their Design and Construction, 1982. 293 pp. Available from the LC Central Services Division, Printing and Processing Section, Washington, DC 20540.

Descriptive Terms for Graphic Materials: Genre and Physical Characteristic Headings, 1987. 135 pp. Prepared by Helena Zinkham and Elisabeth Betz Parker, Library of Congress Prints and Photographs Division. \$20. Available from the LC Cataloging Distribution Service, Washington, DC 20541. Phone: (202) 707-6100.

The **National Institute for Standards and Technology (NIST)**, formerly the National Bureau of Standards is the principal standards agency within the federal government. NIST oversees the development of Federal Information Processing Standards (FIPS) and conducts technical studies for other federal agencies. Copies of FIPS Publications and NIST reports are available from the National Technical Information Service (NTIS), U.S. Department of Commerce, Springfield, VA 22161. Phone: (703) 487-4650.

Air Quality Criteria for Storage of Paper-Based Archival Records, 1983. 112 pp. Prepared by R. G. Mathey, T. K. Faison, S. Silberstein, J. E. Woods, and W. B. Johnson, National Bureau of Standards.

FIPS Pub 82 Guideline for Inspection and Quality Control for Alphanumeric Computer-Output Microforms (adopts ANSI/AIIM MS1-1988).

FIPS Pub 84 Microfilm Readers (adopts ANSI/AIIM MS20-1979).

FIPS Pub 108 Alphanumeric Computer Output Microform Quality Test Slide (adopts ANSI/AIIM MS28-1983).