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(ICS 37.080)

SINGAPORE STANDARD

Code of practice for quality control inspection of 16 mm and 35 mm black and white, silver-gelatin type microfilm

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Code of practice for quality control inspection of 16 mm and 35 mm black and white, silver-gelatin type microfilm

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Foreword

This Singapore Standard Code of Practice is prepared by the Technical Committee on Microfilming under the direction of the Chemical Standards Committee. It is a revision of SS 522 which was previously known as CP 71.

It outlines useful procedures for quality control inspection of first generation silver halide microfilm generated from a microfilm camera and a digital type of archive writer.

In a digital age and computer-driven society where information recorded on digital media allows for speedy and wide-reaching access, microfilm seems outdated and behind the times. However, microfilm possesses two simple advantages over electronic media used for recording information:

– well protected against technological obsolescence;

– readable by humans.

These are basic attributes of a good and reliable preservation medium. But the cost for a properly run microfilming programme is high and the investment can only be protected if a microfilming programme is able to produce microfilms that meet certain quality criteria expected by the users. Furthermore, microfilms that followed standards in production and passed quality control tests will lend themselves more ready for digitisation, both in terms of production speed and good quality of the digital images. Quality control in the production of microfilms consists of two sets of attributes:

– the framework which defines what a quality microfilm is;

– the procedures in quality control checks.

Quality level is a relative term which often depends on the requirement of the users. It is obviously better to make known these specifications such as long-term preservation (archiving), legal and administration needs etc, prior to actual filming.

This revision provides an update on background density requirements, procedure for reading images of test charts in Annex B as well in Tables D.1 and D.2 in Annex D. It includes a new definition for digital type archive writer and a new section on polysulfide treatment. Cement splices, heat-weld splices and tape of the pressure-sensitive type were removed from the section on type of splices.

In preparing this standard, reference was made to the following publications:

As amended Aug 2023

ANSI/AIIM TR 26 : 1993	Technical report for information and image management – Resolution as it relates to photographic and electronic imaging
ANSI/AIIM MS 17 : 1992	Micrographics – Rotary (flow) microfilm camera test chart and test target – Descriptions and use
ANSI/AIIM MS 23 : 1998	American National Recommended Practice for operational procedures / production, inspection and quality assurance of first-generation silver microforms of documents
ANSI/AIIM MS 45 : 1990	Information and image management – Recommended practice for the inspection of stored silver-gelatin microforms for evidence of deterioration
BS 1153 : 1992	Recommendations for processing and storage of silver-gelatin type microfilm
ISO 3272-2:1994	Microfilming of technical drawings and other drawing office documents Part 2 : 1994 Quality criteria and control of 35 mm silver–gelatin microfilm

ISO 3334 : 2006	Micrographics – ISO resolution test chart – No. 2 – Description and use
ISO 4087:2005	Micrographics – Microfilming of newspapers for archival purposes on 35 mm microfilms
ISO 6196	Micrographics – Vocabulary
	Part 1 : 1993 General terms
	Part 2 : 1993 Image positions and methods of recording
	Part 4 : 1998 Materials and packaging
	Part 5 : 1987 Quality of images, legibility, inspection
ISO 6199 : 2005	Micrographics – Microfilming of documents on 16 mm and 35 mm silver-gelatin type microfilm – Operating procedures
ISO 6200 : 1999	Micrographics – First generation silver-gelatin microforms of source documents – Density specifications and method of measurement
ISO 10550 : 1994	Micrographics – Planetary camera systems – Test target for checking performance
ISO 11506 : 1999	Document management applications -- Archiving of electronic data -- Computer output microform (COM) / Computer output laser disc (COLD)
ISO 13008 : 2012	Information and documentation -- Digital records conversion and migration process
ISO/TR 13028 : 2010	Information and documentation - Implementation guidelines for digitization of records
ISO 14648-1:2001	Micrographics – Quality control of COM recorders that generate images using a single internal display system – Part 1: Characteristics of the software test target
ISO 14648-2:2001	Micrographics – Quality control of COM recorders that generate images using a single internal display system – Part 2: Method of use
ISO 18901 : 2002	Photography – Processed silver-gelatin type black-and-white film – Specifications for stability
ISO 18902 : 2001	Imaging materials – Processed photographic films, plates and papers – Filing enclosures and storage containers
ISO 18907 : 2000	Imaging materials – Photographic films and papers – Wedge test for brittleness
ISO 18910 : 2000	Imaging materials – Photographic film and paper – Determination of curl
ISO 18911 : 2010	Imaging materials – Processed safety photographic films – Storage practices
ISO 18917 : 1999	Photography – Determination of residual thiosulphate and other related chemicals in processed photographic materials – Methods using iodine-amylose, methylene blue and silver sulfide
ISO 29861: 2009	Document management applications -- Quality control for scanning office documents in colour
SS 596	Code of practice for imaging and writing of digital text and drawing documents on 16 mm and 35 mm black and white, silver-gelatin type microfilm for long term preservation – Operating procedures

National Archives and Records Administration (US National Archives) Managing Micrographics Records Instructional Guide, 1994

National Archives of Canada, Guidelines for Microfilming Records of Archival Value, 1996

RLG (US Research Libraries Group) Archives Microfilming Manual, 1994
Permission has also been sought from the following organisations for the reproduction of materials from their publications into this standard:

- Figure B.1 from ANSI/AIIM MS 23 : 1991 – 'Practice for operational procedures/inspection and quality control of first-generation, silver-gelatin microfilm of documents' with permission of AIIM International.

- Annex A from ISO 18917 : 1999 with permission of the International Organization for Standardization.

- Annex F from the Elkington, Nancy E. 1994. *RLG archives microfilming manual*. Mountain View, CA: Research Libraries Group. http://cdm15003.contentdm.oclc.org/cdm/ref/collection/p267701coll33/id/271, with permission of the OCLC Online Computer Library Center, Inc.

Acknowledgement is made for the use of information from the above publications.

Acknowledgement is also made to the following organisations for their contributions:

As amended Aug 2023

- National Library Board for reviewing this standard which resulted in confirming the standard with amendment and classifying it as a mature standard.

- Micrographics Data Pte Ltd for assisting in this review.

Attention is drawn to the possibility that some of the elements of this Singapore Standard may be the subject of patent rights. Enterprise Singapore shall not be held responsible for identifying any or all such patent rights.

NOTE

1. *Singapore Standards (SSs) and Technical References (TRs) are reviewed periodically to keep abreast of technical changes, technological developments and industry practices. The changes are documented through the issue of either amendments or revisions. Where SSs are deemed to be stable, i.e. no foreseeable changes in them, they will be classified as "mature standards". Mature standards will not be subject to further review unless there are requests to review such standards.*

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1 Scope

This Singapore Standard shall apply to the quality control of 16 mm and 35 mm black and white silver-gelatin type microfilm produced by analogue type camera, digital type archive writer and silver halide film duplication.

This Singapore Standard does not cover the following:

a) filming on 16 mm and 35 mm microfilm camera-processor; and

b) filming on colour microfilm.

2 Normative references

The following referenced documents are indispensable for the application of this standard. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 6200	Micrographics – First generation silver-gelatin microforms of source documents – Density specifications and method of measurement
ISO 10349-1	Photography – Photographic-grade chemicals – Test methods – Part 1 General
ISO 18901	Photography – Processed silver-gelatin type black-and-white film – Specifications for stability
ISO 18910	Imaging materials – Photographic film and paper – Determination of curl
ISO 18917	Photography – Determination of residual thiosulphate and other related chemicals in processed photographic materials – Methods using iodine-amylose, methylene blue and silver sulfide
SS 520	Code of practice for microfilming of documents on 16mm black and white, silver-gelatin type microfilm/planetary and rotary camera filming – Operating procedures