INTERNATIONAL STANDARD

ISO 4834

Second edition
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Cinematography — Magnetic sound test films excluding striped release prints — Basic technical characteristics

Cinématographie — Films magnétiques sonores étalons à l'exclusion des copies d'exploitation — Caractéristiques techniques de base

Reference number
ISO 4834:1997(E)

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 4834 was prepared by Technical Committee ISO/TC 36, *Cinematography.*

This second edition cancels and replaces the first edition (ISO 4834:1986), of which it constitutes a technical revision.

Annexes A and B of this International Standard are for information only.

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Introduction

Two types of magnetic test films have been in wide use. They have differed in the manner of measuring the magnetic flux level and in the detailed procedures of measurement that had been anticipated for their application to systems evaluation and adjustment. It has now been possible to achieve agreement as follows:

Type 185 — Magnetic flux levels are measured by the procedures of ANSI S4.6[2] and IEC 94-3[3]. The reference level is 185 nWb/m. The frequency series is 6 dB below reference level. These films were developed for use with a mains frequency of 60 Hz, and for measurement with Standard Volume Indicator (SVI) meters conforming to ANSI C16.5[6].

Type 320 — Magnetic flux levels are measured by the procedures of DIN 45 520[4]. The reference level is 320 nWb/m. The frequency series is 10 dB below reference level. The calibrations differ from those obtained by type 185 test film, and generally indicate a result about 1 dB higher for identical flux levels. These films were developed for use with a mains frequency of 50 Hz, and for measurement with Standard Peak Programme (SPP) meters conforming to IEC 268-10[7].

A compromise format has been developed that provides the functional advantages of both previous series and meets the needs each had served. This International Standard describes that universal format.

Cinematography — Magnetic sound test films excluding striped release prints — Basic technical characteristics

1 Scope

This International Standard specifies basic technical characteristics for the magnetic sound test films for checking, adjusting and measuring sound reproducing channels of dubbing motion-picture installations.

It also specifies types and technical characteristics of magnetic test films made on 35 mm, 17,5 mm and 16 mm motion-picture films.

This International Standard includes test films intended for the checking, adjusting and measuring of

a) inclination angle (azimuth) of the magnetic head gaps;

b) output level balance of multi-channel systems;

c) frequency response of the sound reproduction channel;

d) non-uniformity of film velocity (flutter).

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 69:1990, *Cinematography — 16 mm motion-picture and magnetic film — Cutting and perforating dimensions.*

ISO 162:1985, *Cinematography — Head gaps and sound records for three-, four-, or six-track magnetic sound records on 35 mm and single-track on 17,5 mm motion-picture film containing no picture — Positions and width dimensions.*

ISO 266:1997, *Acoustics — Preferred frequencies.*

ISO 491:1995, *Cinematography — 35 mm motion-picture film and magnetic film — Cutting and perforating dimensions.*

ISO 1188:1984, *Cinematography — Recorded characteristic for magnetic sound on full-coat 16 mm motion-picture film — Specifications.*

ISO 1189:1986, *Cinematography — Recorded characteristic for magnetic sound records on 35 mm motion-picture film excluding striped release prints — Specifications.*

ISO 4242:1980, *Cinematography — Recording head gaps for two sound records on 16 mm magnetic film — Positions and width dimensions.*

3 Specifications common to all types of magnetic sound test films

3.1 Test films shall be made on motion-picture raw stock film, the cutting and perforating dimensions of which are in accordance with the following ISO Standards:

- for 35 mm film: ISO 491
- for 16 mm film: ISO 69

3.2 The location and width dimensions of sound records shall be in accordance with the following ISO Standards:

- for 35 mm film: ISO 162
- for 16 mm film: ISO 4242

3.3 Magnetic recording characteristics for multifrequency test film shall be in accordance with the following ISO Standards:

- for 35 mm film: ISO 1189
- for 16 mm film: ISO 1188

3.4 Test films shall be splice-free, except where a splice is intended as part of the test film.

3.5 Test films shall be recorded at the following frame rates for 16 mm, 17,5 mm and 35 mm test films: at either 24 or 25 frames per second.

Use at other frame rates is admissible, in which case the frame rate shall be stated. All frequency tolerances refer to the stated frame rate.

3.6 Within the multifrequency films, each frequency shall be identified by voice announcements preceding that frequency segment. The peak level of voice announcements shall not exceed the peak level of modulation of the test signal.

3.7 Each test film shall be provided with written identification on the outside of the container, stating function of the film, nature (acetate or polyester) and thickness of the base, frame rate, date, and place of recording.

3.8 If multi-track test films are made on a single strip of motion-picture film, the individual records shall be made in accordance with this International Standard, including the specific International Standards referenced in clause 2, applicable to the film stock and to each sound record.

3.9 It shall be clearly stated which of the recording formats (see 3.2 and 3.3) are intended for evaluation with this test film.

3.9.1 In the event that the test film is recorded with a magnetic head extending the full width of the film, or extending to any greater width than the normal for the specific format, the test film shall nevertheless meet the requirements of this International Standard when reproduced in accordance with the International Standard for the specific format.

3.9.2 Test films recorded to a wider track width than the reproducing head will cause the head to gather fringe effect flux at long wavelengths. Guidelines for the correction of fringe effect shall be given for known standard head stacks that may be aligned with the test film.