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SMPTE RECOMMENDED PRACTICE

RP 90-2004

Revision of RP 90-1999

Specifications for Type U Audio Level and Multifrequency Test Film for 16-mm Audio Reproducers, Magnetic Type



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1 Scope

1.1 This practice specifies a type U audio frequency test film to be used for adjusting the mechanical and electrical parameters of 16-mm motion-picture magnetic audio reproducers operating at 24 frames per second.

NOTE – The film velocity of 16-mm film is also commonly stated as 7.2 inches per second or 183 millimeters per second, and historically stated as 36 feet or 11 meters per minute.

1.2 The International Organization for Standardization recognizes two reference levels for test films — type U with a reference level of 185 nWb/m and type E with a reference level of 320 nWb/m — in order to account for differing meter types in common use in the United States and Europe.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this practice. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this practice are encouraged to investigate the possibility of applying the most recent edition of the standards indicated below.

ANSI S4.3-1982 (R1992), Method for Measurement of Weighted Peak Flutter of Sound Recording and Reproducing Equipment

ANSI S4.6-1982 (R1992), Method of Measuring Recorded Flux of Magnetic Sound Records at Medium Wavelengths

ANSI/IEEE 152-1992, Audio Program Level Measurement

SMPTE 97-1999, Motion-Picture Film (16-mm) — 200-Mil Edge Position — Magnetic Audio Record

SMPTE 109-2003, Motion-Picture Film (16-mm) — Perforated 1R and 2R

SMPTE 223M-2001, Motion-Picture Film — Safety Film

3 Manufacturing

3.1 Film stock

3.1.1 The film stock shall be polyester-base, full-coat, splice-free and in compliance with SMPTE 223M.

3.1.2 Test films shall be made on a base cut and perforated in accordance with SMPTE 109.

3.1.3 The film stock shall be conditioned for 10 days at $20^{\circ}\text{C} \pm 3^{\circ}\text{C}$ ($68^{\circ}\text{F} \pm 5.4^{\circ}\text{F}$) at a relative humidity of $(50 \pm 10)\%$ prior to recording.