

**SMPTÉ RECOMMENDED PRACTICE**

**RP 75-1984**

*Specifications for Flutter Test Film for 35-mm Studio Audio Reproducers, Magnetic Type*



**1. Scope**

This practice specifies a test film for determining the presence of flutter in 35-mm motion-picture studio magnetic audio reproducers operating at 96 perforations per second or approximately 90 ft (27 m) per minute for use with one, three-, four-, and six-track audio systems.

**2. Test Film Signal**

**2.1 Frequency.** The audio record shall be an original recording which will reproduce at a frequency of 3130 ± 25 Hz when the linear speed of the film is 96 perforations per second or approximately 90 ft (27 m) per minute (18 in or 46 cm per second).

**2.2 Distortion.** The total harmonic distortion of the recorded signal shall not exceed 0.2 percent.

**2.3 Audio Record.** The audio record shall be recorded so that it extends from one edge of the film to the other.

**2.4 Recorded Level.** The flutter test tone shall be not less than 6 dB down from the equivalent reference level of 1 kHz at 185 nanowebers per meter after correct equalization of 35 μs.

**2.5 Flutter.** The weighted peak flutter of the audio record shall not exceed ± 0.01 percent when measured in accordance with American National Standard Weighted Peak Flutter of Sound Recording and Reproducing Equipment, ANSI/IEEE 193-1982.

**2.6 Azimuth.** The azimuth of the audio record shall be 90° ± 3° to the reference edge of the film.

**3. Film Stock**

**3.1** The film stock shall be full-coat, splice-free, safety type in compliance with American National Standard Specifications for Motion-Picture Safety Film, ANSI PH22.31M-1980.

**3.1.1** Test films made on low-shrinkage, triacetate base shall be cut and perforated in accordance with long-pitch dimensions specified in American National Standard Dimensions for 35-mm

Motion-Picture Film Perforated KS, ANSI PH22.139-1980.

**3.1.2** Test films made on polyester base shall be perforated in accordance with short-pitch dimensions specified in ANSI PH22.139-1980.

**3.2** The film stock shall be conditioned for 10 days at 20°C ± 3°C (68°F ± 3.4°F) at a relative humidity of 50 ± 10 percent prior to recording.

**3.3** The film shall be recorded and packaged within the temperature and humidity limits specified in 3.2. The recorded film shall be packaged in a metal can and sealed either with a low-moisture permeability plastic tape or a fabric tape having a moisture barrier.

**1. Identification**

Each test film shall be identified by a suitable identification marking.

**3. Calibration**

**3.1 Flux.** The short circuit flux on the test film shall be determined by means of the calibrated short-gap ferromagnetic core reproducer technique. This technique is described in American National Standard Method of Measuring Recorded Flux of Magnetic Sound Records at Medium Wave Lengths, ANSI/IEEE 317-1982.

**3.2 Level.** The signal level specified in 2.1 shall be measured with an rms voltmeter calibrated in decibels with an accuracy of ± 0.1 dB over the bandwidth 31.5 Hz to 16 kHz.

**3.3 Method.** The test film shall be calibrated on a reproducing head made in accordance with American National Standard Position, Dimensions and Reproducing Speed of Three, 290-Mil Magnetic Sound Records on 35-mm and One Record on 17.5-mm Motion-Picture Film, ANSI PH22.86-1981.

**NOTE:** A test film made in accordance with this practice is available from the Society of Motion Picture and Television Engineers.

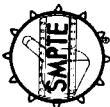
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**SMPTÉ RECOMMENDED PRACTICE**

**RP 79-1984**

*Specifications for Flutter Test Film for 35-mm Four-Track Striped Release Print Audio Reproducers, Magnetic Type*



**1. Scope**

This practice specifies a test film for determining the presence of flutter in 35-mm motion-picture magnetic audio reproducers operating at 96 perforations per second or approximately 90 ft (27 m) per minute, designed for four-track magnetic audio release prints.

**2. Test Film Signal**

**2.1 Frequency.** The audio record shall be an original recording which will reproduce at a frequency of 3130 ± 25 Hz when the linear speed of the film is 96 perforations per second or approximately 90 ft (27 m) per minute (18 in or 46 cm per second).

**2.2 Distortion.** The total harmonic distortion of the recorded signal shall not exceed 0.2 percent.

**2.3 Audio Record.**

**2.3.1 Full-Coat.** The audio record on full-coat material shall be recorded so that it extends from one edge of the film to the other.

**2.3.2 Striped Release Print.** For release prints that are striped in accordance with American National Standard for Motion-Picture Film (35-mm) — Four Track Magnetic Sound Release Prints — Magnetic Stripping, ANSI PH22.177-1982, the audio record shall be recorded in accordance with American National Standard Position, Dimensions and Reproducing Speed of Four Magnetic Sound Records on 35-mm Motion-Picture Release Prints, ANSI PH22.137-1981.

**2.4 Recorded Level.** The flutter test tone shall not be less than 6 dB down from the equivalent reference level of 1 kHz at 185 nanowebers per meter after correct equalization of 35 and 3180 μs.

**2.5 Flutter.** The weighted peak flutter of the audio record shall not exceed ± 0.01 percent when measured in accordance with American National Standard Weighted Peak Flutter of Sound Recording and Reproducing Equipment, ANSI/IEEE 193-1982.

**2.6 Azimuth.** The azimuth of the audio record shall be 90° ± 3° to the reference edge of the film.

**3. Film Stock**

**3.1** The film stock shall be splice-free, safety type in compliance with American National Standard Specifications for Motion-Picture Safety Film, ANSI PH22.31M-1980.

**3.1.1** Test films made on low-shrinkage base shall be cut and perforated in accordance with dimensions specified in American National Standard Dimensions for 35-mm Motion-Picture Film, CS-1870, ANSI PH22.102-1980.

**3.2** The film stock shall be conditioned for 10 days at 20°C ± 3°C (68°F ± 3.4°F) at a relative humidity of 50 ± 10 percent prior to recording.

**3.3** The film shall be recorded and packaged within the temperature and humidity limits specified in 3.2. The recorded film shall be packaged in a metal can and sealed either with a low-moisture permeability plastic tape or a fabric tape having a moisture barrier.

**1. Identification**

Each test film shall be identified by a suitable identification marking.

**3. Calibration**

**3.1 Flux.** The short circuit flux on the test film shall be determined by means of the calibrated short-gap ferromagnetic core reproducer technique. This technique is described in American National Standard Method of Measuring Recorded Flux of Magnetic Sound Records at Medium Wave Lengths, ANSI/IEEE 317-1982.

**3.2 Level.** The signal level specified in 2.1 shall be measured with an rms voltmeter calibrated in decibels with an accuracy of ± 0.1 dB over the bandwidth 31.5 Hz to 16 kHz.

**3.3 Method.** The test film shall be calibrated on a reproducing head made in accordance with ANSI PH22.137-1981.

**NOTE:** A test film made in accordance with this practice is available from the Society of Motion Picture and Television Engineers.

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