ANSI PH22.194-1984
Revision of ANSI PH22.194-1977

American National Standard for motion-picture film (35-mm)—projector usage—release prints having four perforations per frame

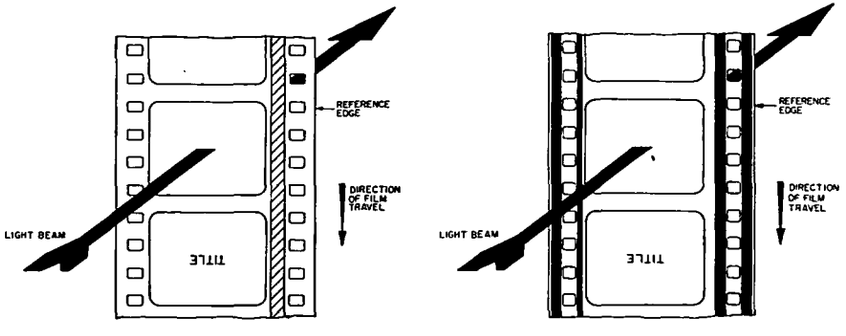
Approved April 26, 1984

Secretariat: Society of Motion Picture and Television Engineers

1. Scope

1.1 This standard specifies the position of the emulsion for 35-mm motion-picture release prints having four perforations per frame and the position of the magnetic striping relative to the projector lens.

1.2 The standard also specifies the rate of projection for systems defined in 1.1 and the relevant standards on location of the picture and audio records.



PHOTOGRAPHIC AUDIO PRINT **MAGNETIC AUDIO PRINT**

View as Seen through Film toward Lens

American National Standards Institute, 1430 Broadway, New York, N.Y. 10018

2. Reference Standards

The following American National Standards are intended to be used in conjunction with this standard:

ANSI PH22.40-1984, Motion-Picture Film (35-mm)—Photographic Audio Records—Release Prints

ANSI PH22.137-1981, Position, Dimensions and Reproducing Speed of Four Magnetic Sound Records on 35-mm Motion-Picture Release Prints

ANSI PH22.195-1984, Motion-Picture Film (35-mm)—Projectable Image Area—Motion-Picture Prints

3. Position of Photographic Emulsion and Magnetic Striping

3.1 The photographic emulsion shall be on the side of the film which faces away from the projector lens. The projectable image area is specified in ANSI PH22.195-1984.

3.2 The magnetic striping shall be on the side of the film which faces the projector lens. Relevant standards on audio records are listed in Sec. 2.

4. Projection Frame Rate

The rate of film travel through the projector shall be 24 frames (96 perforations) per second which is approximately 90 ft (27.4 m) per minute or 18 in (45.7 cm) per second.

5. Framing Adjustment

It is customary to provide a vertical framing adjustment movement of at least 0.315 in (8.00 mm) above and below the normal image position, as specified in ANSI PH22.195-1984.

Appendix

(The Appendix is not a part of this American National Standard, but is included for information purposes only.)

Positioning of Audio Records

When the audio records are reproduced, the distance from the audio-scanning point to the center of the pojector aperture shall be adjusted to bring the picture and sound into synchronism for the average observer. Since sound travels at a rate of about 1100 ft (335 m) per second (approximately 50 ft [15 m] in 1/24 second), synchronism can be achieved by repositioning the audio record in the projector one frame for every 50 ft from the average observer.

ANSI PH22.195-1984
Revision of ANSI PH22.195-1977

American National Standard
for motion-picture film (35-mm)—projectable image area—motion-picture prints

Approved April 26, 1984

Secretariat: Society of Motion Picture and Television Engineers

1. Scope

1.1 This standard specifies the maximum dimensions of the film image area intended for projection from a 35-mm motion-picture film and the placement of this area relative to the perforations and the reference edge of the film.

1.2 The standard specifies three types of image areas intended for theatrical projection (see Appendix A4):

Style A: General theatrical release prints commonly referred to as nonanamorphic or wide screen

Style B: Theatrical release prints with an anamorphic image

Style C: Classic theatrical prints

2. Reference Documents

The following documents are intended to be used in conjunction with this standard:

ANSI PH22.55-1983, Motion-Picture Film—Leaders and Cue Marks—35- and 16-mm Audio Release Prints

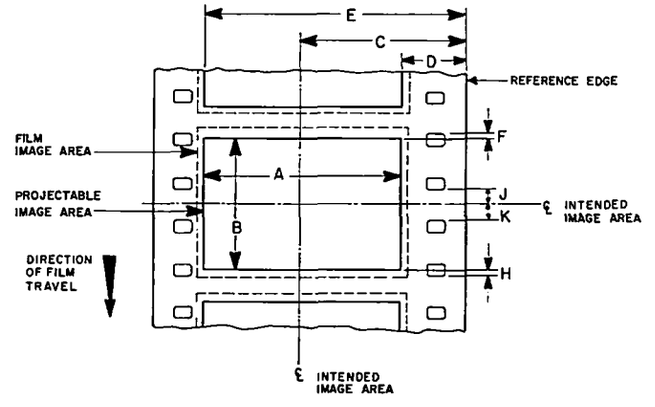
ANSI PH22.59-1974 (R1981), Dimensions for 35-mm Motion-Picture Camera Aperture Images

ANSI PH22.111-1982, Dimensions of Exposed Areas for Picture and Photographic Sound on 35-mm Motion-Picture Prints Made on Continuous Contact Printers

SMPTE RP 27.3-1983, Specifications for Safe Action and Safe Title Areas Test Pattern for Television Systems

3. Dimensions

The dimensions shall be as given in the figure and tables.



View as Seen through Film toward Lens

Table 1
Styles A and C

Dimensions	Inches	Millimeters
A	0.825 ref	20.96 ref
B (Style A)	0.446 min	11.33 min
B (Style C)	0.602 nom	15.29 nom
C*	0.738 ref	18.75 ref
D	0.324 min	8.23 min
E	1.151 max	29.24 max
F = H	within 0.012	within 0.30
J = K	nominally equal	nominally equal

Table 2
Style B

Dimensions	Inches	Millimeters
A	0.838 nom	21.29 nom
B	0.700 max	17.78 max
C*	0.738 nom	18.75 nom
D	0.318 min	8.08 min
E	1.158 max	29.41 max
F = H	within 0.012	within 0.30
J = K	nominally equal	nominally equal

*See Appendix A1.

NOTE 1. Projector Aperture: Dimensions B, D, and E define the image area on the film that is available for projection. They do not define the opening in the projector aperture plate. The size of this opening may differ from Dimensions A and B, for example, because of the physical separation necessary between the aperture plate and the film to avoid scratching the film, the slant of the marginal rays accepted by the projection lens, etc.

NOTE 2. Actual Projected Area: It is recognized that, in many cases, the actual film image area that is projected may be smaller than the projectable maximum and, in some cases, may be nonrectangular (for example, an irregular four-sided figure bound by either straight or curved lines). Such departures may result from equipment considerations, such as slight inconsistencies among lenses, screen sizes, etc.; from geometric limitations such as the screen surface being at an angle other than 90° from the projection axis, or being nonplanar or both; and from aesthetic considerations such as pictorial composition within more restrictive image limits. In the absence of specific instructions to the contrary, it is intended that the actual projected film image area be the largest appropriately-shaped figure that can be inscribed within the specified dimensions.