

Standards and Recommended Practices

Approved American National Standards

Two American National Standards were approved by the American National Standards Institute on July 28, 1988: ANSI/SMPTE 154-1988, Motion-Picture Film (8-mm Type S) — Projectable Image Area and Projector Usage; and ANSI/SMPTE 157-1988, Motion-Picture Film (8-mm Type S) — Camera Aperture Image and Usage. Copies of the standards are available for a nominal fee from the American National Standards Institute, 1430 Broadway, New York, NY 10018.

Approved International Standard

The International Organization for Standardization (ISO) has approved an International Standard, the technical content of which is published here for your information. ISO 9525:1988, Cinematography — Recording Head Gaps for Two Sound Records on 17.5 mm Magnetic Film — Positions and Width Di-

mensions, has no comparable American National Standard. This material is reproduced with permission from the ISO and is copyrighted by the American National Standards Institute, 1430 Broadway, New York, NY 10018, from which copies are available.

Approved Withdrawal of American National Standard

A recommendation for withdrawal of an American National Standard was approved by the American National Standards Institute on September 30, 1988. ANSI PH22.24-1982, Dimensions of Transverse Cemented Splices on 16-mm and 8-mm Type R Motion-Picture Film, was withdrawn because other splicing documents are now SMPTE Recommended Practices. SMPTE Recommended Practice RP 149-1988 is a revision of ANSI PH22.24-1982 and is available from Society Headquarters for \$3.00.

—*Sherwin H. Becker, Director of Engineering*

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The Society provides a Standards Subscription Service to assist firms, libraries, and individuals in establishing and maintaining a complete and current file of approved American National Standards, SMPTE Recommended Practices, and SMPTE Engineering Guidelines in the motion-picture, television, and video magnetic recording fields. Through this service, the Society makes automatic distribution to standards subscribers of all new and revised standards, recommended practices, and guidelines that are approved during the calendar year in these fields.

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American National Standard for motion-picture film (8-mm type S) — camera aperture image and usage

Approved July 28, 1988

Sponsor: Society of Motion Picture and Television Engineers

1. Scope

1.1 This standard specifies the dimensions of the camera aperture image and its relative position to the reference edge and the perforations of 8-mm type S motion-picture film, as specified in ANSI/SMPTE 149-1988.

1.2 This standard also specifies the position of the emulsion and the frame rate for 8-mm type S motion-picture film.

2. Referenced American National Standard

This standard is intended for use in conjunction with the following American National Standard:

ANSI/SMPTE 149-1988, Motion-Picture Film (8-mm Type S)—Perforated IR

3. Emulsion and Film Position

3.1 Except for special processes, the emulsion shall be toward the camera lens.

3.2 The perforation used for the film-positioning device shall be two perforations following the perforation adjacent to the image being formed when a positioning device is at the end of its stroke (the minus-2 position). This location coincides with that of the positioning device required

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for the projected image and thereby improves steadiness through cancellation.

4. Dimensions

4.1 The dimensions shall be as given in the figure and table and shall apply to measurements of the aperture image as formed on freshly exposed and processed film.

4.2 The angle between the vertical and horizontal edges of the aperture image shall be $90 \pm \frac{1}{2}^\circ$ to each other.

Appendix

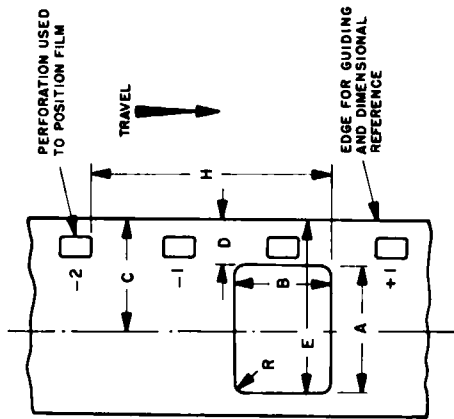
(This Appendix is not part of the American National Standard, but is included for information only.)

A1. If the aperture plate is not in the plane of the emulsion, the physical dimensions of the aperture in the camera will be slightly different from the dimensions given in the figure. The exact amount of this difference will depend upon the f /value and focal length of the camera lenses used and upon the distance between the emulsion and the physical aperture. This separation should be no greater than is necessary to prevent scratching of the film.

A2. It is the intent of this standard to provide a camera image such that the exposed area will always be larger than the area of the projector aperture. Observance of the dimensions given in the standard meets this objective without causing double exposure of the area between the frames.

A3. The centerline of the image area is given for convenience in interpreting the standard, facilitating such applications as the optical design of equipment, and assisting in the understanding of suitable mechanical embodiments related to the camera aperture image area. Note that the centerline of the image area is displaced from the centerline of the film by 0.013 in (0.33 mm) nominal.

A4. The pull-down claw is located at the minus-2 perforation (see figure) with respect to the projector or camera aperture. The reason for selecting the minus-2 perforation for positioning is to obtain the positioning perforation as close as possible to the image being photographed, yet not so close as to interfere with the optical system and gate structure.



ξ OF INTENDED IMAGE AREA
Film as Seen from Inside Camera
Looking toward Lens

Dimensions	Inches	Millimeters
A	0.228 ref	5.79 ref
B	0.163 min	4.14 min
C	0.170 nom	4.32 nom
D	0.037 min	0.94 min
E	0.058 max	1.47 max
H	0.282 min	7.16 min
H*	0.393 ± 0.005	9.98 ± 0.13
R	0.005 max	0.13 max

*Dimension H is the distance from the bottom edge of the picture frame to the bottom of the perforation which is two pitches following the perforation adjacent to that picture frame.