Engineering Activities

New Index

A new index to American Standards on Cinematography, dated September 1954, has just come off the press and will be distributed to all members of the engineering committees. Other interested parties may receive a free copy of this index upon written request to the Society headquarters.

The previous index was issued February 1953. Since that time the process of revising outmoded standards, reaffirming standards still valid and adding new standards has continued apace and introduced sufficient changes to warrant the issue of this new index. Those who maintain a close watch on the status of existing standards would do well to have a copy of this latest issue.

American Standards on Cinematography may be purchased directly on order from the American Standards Association, 70 East 45 Street, New York 17, N.Y.—*Henry Kogel*, Staff Engineer.

Proposed Revision of Three American Standards PH22.15, -.16, -.28

Proposed revisions of three American Standards are published on the following pages for a three-month period of trial and criticism. All comments should be sent to Henry Kogel, SMPTE Staff Engineer, prior to December 15, 1954. If no adverse comments are received the three standards will then be submitted to ASA Sectional Committee PH22 for further processing as American Standards.

PH22.28, Projector Lenses for Motion Picture Theaters, revises the existing standard by eliminating references to (1) projection angle, (2) observation port and (3) projection lens mounting and also by several editorial modifications including change in title.

PH22.15, 16mm Film Perforated One Edge — Usage in Camera and PH22.16, 16mm Film Perforated One Edge — Usage in Projector, have modified the previous standards by (1) elimination of the guided edge specification, (2) addition of a $\pm\frac{1}{2}$ frame tolerance on the 26 frame sound to picture spacing and (3) several editorial modifications including change of title. The 16mm & 8mm Committee intends to resolve the guided edge question through the issuance of Society Recommendations providing the history and background of the question and recommendations as to preferred trends.

The 16mm standards were approved by the 16mm & 8mm Committee; the projection lens standard was approved by the Film Projection Practice Committee and all three were approved for this trial publication by the Standards Committee.—*H.K.*

Proposed American Standard

Projection Lenses for Motion-Picture Theaters

PH22.28

(Revision of Z22.28-1946)

1. Projection Lens Height

1.1 The height from the floor to the center of the projection lens of a motion-picture projector shall be 48 in., when measured with the projector at zero degree tilt.

2. Projection Lens Focal Length

2.1 The focal length of motion-picture projection lenses shall increase in ¼-in. steps up to 8 in., and in ½-in. steps from 8 to 9 in.

3. Projection Objectives, Focal Markings

3.1 Projection objectives shall have the equivalent focal length marked thereon in inches, quarters, and halves of an inch, or in decimals.

3.2 The tolerance of the designated focal length shall not exceed ± 1%.

NOT APPROVED

American Standards PH22.58, -.59, -.95, -.96-1954 and Withdrawal of Z22.54-1946

Published on the following pages are two new standards, PH22.95,-.96 and revision of American Standards PH22.58 and -.59.

The two new television standards, PH22.95 and -.96 were published for trial and comment in July 1953 along with an explanatory paragraph giving the basis for arriving at the specified dimensions.

Revision of PH22.58 and -.59 involved substantial modifications. The reasons for these modifications and the proposals themselves were published in October 1953.

On August 26, 1954, American Standard Method of Determining Freedom From Travel Ghost in 16mm Sound Motion Picture Projectors, Z22.54-1946, was withdrawn. The action was taken because the diamond target specified in that standard was considered unsatisfactory and the test film containing the target had not been generally supplied to the trade for many years. To fill this void, the 16mm & 8mm Committee is in the process of developing a replacement standard. In the meantime the Society is supplying a travel ghost test film with a more satisfactory rectangular target.—*H.K.*

A Graphic Language for those concerned with electrical diagrams has emerged from a complete revision and coordination of five American Standards for graphical symbols and is available from the American Standards Association, 70 E. 45 St., New York 17, under the designation American Standard Y32.2-1954. The 58-page Standard costs $1.25. The project was led jointly by the American Institute of Electrical Engineers and the American Society of Mechanical Engineers. The Standard, containing single-line diagrams and simplified symbols, is of use in all electrical fields including radio and electronics, telephone, telegraph and power. Symbols already in use are included wherever possible, and the points of view of many groups are coordinated.

MEMBERSHIP CERTIFICATES

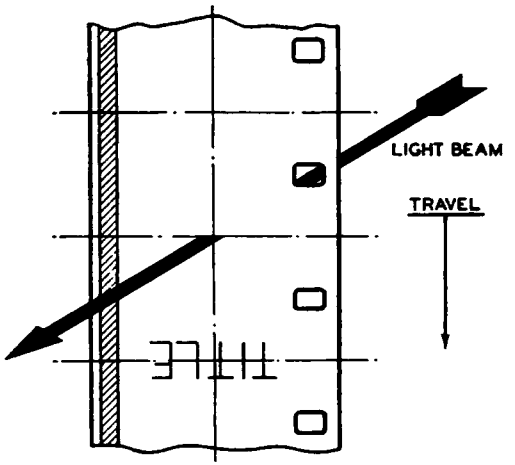
Society members have for many years purchased attractive hand-engrossed membership certificates for display in their offices or homes. These certificates were always priced, at least as far back as the records go, at $1.50. This is now less than their cost and so it has been necessary to increase the price of certificates effective October 1, 1954, to $2.50.

Proposed American Standard

16mm Film Perforated One Edge, Usage in Camera

PH22.15

(Revision of Z22.15-1946)



Drawing shows film as seen from inside the camera looking toward the camera lens.

1. Position of the Emulsion

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

2. Rate of Exposure

The rate of exposure shall be 24 frames/sec.

3. Relationship Between Sound and Picture

The apparatus and film shall be so arranged that the sound is placed on the film 26 frames, ± ½ frame, ahead of the horizontal centerline through the corresponding picture. Thus, a given point on the film shall pass the soundhead after it has passed the picture aperture.

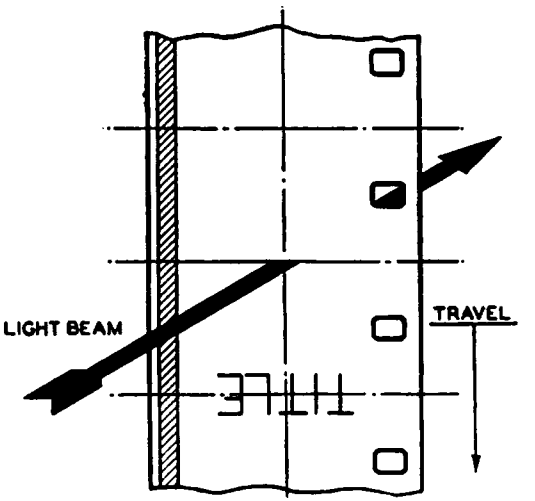
NOT APPROVED

Proposed American Standard

16mm Film Perforated One Edge, Usage in Projector

PH22.16

(Revision of Z22.16-1947)



Drawing shows film as seen from the light source in the projector.

1. Position of the Emulsion

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

2. Rate of Projection

The rate of projection shall be 24 frames/sec.

3. Relationship Between Sound and Picture

The apparatus and the film shall be so arranged that when the film is threaded normally, the soundtrack is scanned for reproduction at a point 26 frames, ± ½ frame, ahead of the centerline through the picture being projected. Thus a given point on the film shall pass the soundhead after it has passed the picture aperture.

NOT APPROVED

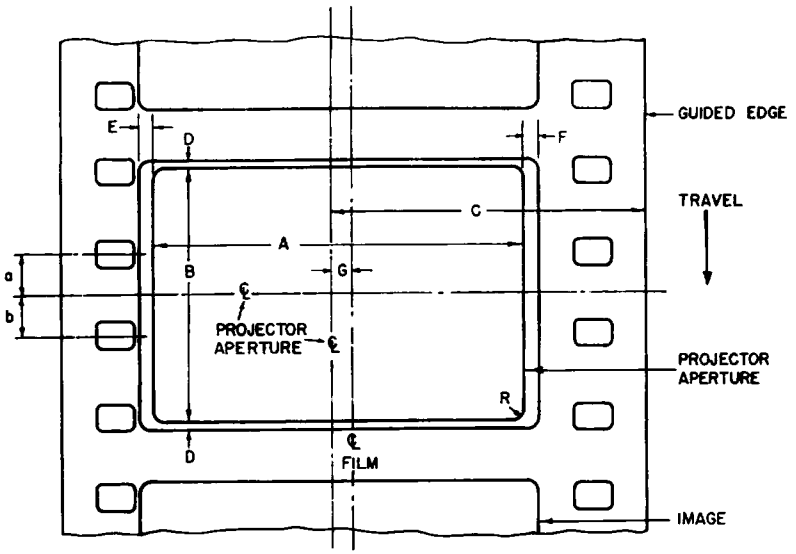
American Standard

Aperture for 35mm Sound Motion-Picture Projectors

ASA
Reg. U.S. Pat. Office

PH22.58-1954
Revision of Z22.58-1947

*UDC 778.554.4



Dimension	Inches	Millimeters
A	0.825 ± 0.002	20.95 ± 0.05
B	0.600 ± 0.002	15.25 ± 0.05
C	0.738 ± 0.002	18.74 ± 0.05
D	0.0155	0.394
E	0.022	0.56
F	0.021	0.53
G	0.049	1.24
R	Not > 0.005	Not > 0.13
a = b = ½ longitudinal perforation pitch.		

These dimensions and locations are shown relative to unshrunk raw stock.

Note: The aperture dimensions given result in a screen picture having a height-to-width ratio of 3 to 4 when the projection angle is 14 degrees.

Approved August 13, 1954, by the American Standards Association, Incorporated
Sponsor: Society of Motion Picture and Television Engineers

*Universal Decimal Classification

Printed in U.S.A.
ASA½M954

Price, 25 Cents

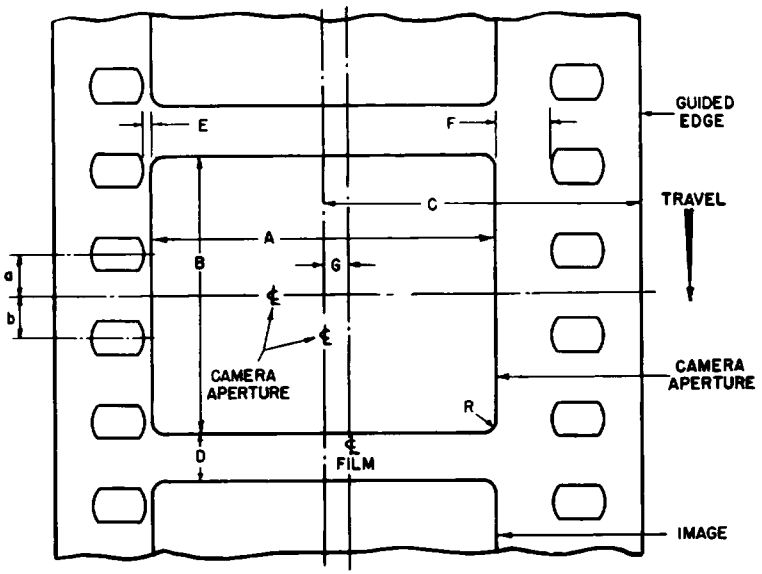
American Standard

Aperture for 35mm Sound Motion-Picture Cameras

ASA
Reg. U.S. Pat. Office

PH22.59-1954
Revision of Z22.59-1947

*UDC 778.53



Dimension	Inches	Millimeters
A	0.868 ± 0.002	22.05 ± 0.05
B	0.631 ± 0.002	16.03 ± 0.05
C	0.738 ± 0.002	18.75 ± 0.05
D	0.117	2.97
E	0.016	0.38
F	0.115	2.92
G	0.049	1.24
R	0.03 Approx	0.76 Approx
a = b = ½ longitudinal perforation pitch.		

These dimensions and locations are shown relative to unshrunk raw stock.

Note: The aperture dimensions given in combination with an 0.600 × 0.825 in. (15.25 × 20.95 mm) projector aperture result in a screen picture having a height-to-width ratio of 3 to 4 when the projection angle is 14 degrees.

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Printed in U.S.A.
ASA½M954

Price, 25 Cents

American Standard

Television Picture Area—35mm Motion-Picture Film

ASA
Reg. U.S. Pat. Office

PH22.95-1954

*UDC 778.5.621.397.5

1. Scope

1.1 The area to be included in a television picture is determined at the point of origination of the program concerned. In subsequent treatment of the resulting picture, it is very important that excessive cropping of the edges of the picture be avoided. The purpose of this standard is to establish operating procedures which will minimize the loss in area sustained in recording a television picture on 35mm film and in subsequently reproducing the film with a television film chain, and also to prevent the televising of a black or white band formed by the edge of the recorded area or the projector aperture.

1.2 Since the film chain equipment will also be used, without intervening readjustment of the equipment, for reproduction of films produced by standard photographic techniques, this standard provides for optimum utilization of the picture area of standard 35mm motion-picture film.

1.3 Film prepared by conventional photographic techniques for television reproduction shall be prepared in accord with the provisions of American Standard Aperture for 35mm Sound Motion-Picture Cameras, PH22.59–1954, or the latest revision thereof approved by the American Standards Association, Incorporated, which specifies the location and size of the camera aperture. The loss of significant picture information in television reproduction can be avoided by providing in the camera viewfinder an indication of the area to be scanned in television reproduction.

1.4 Paragraph 2 of this standard applies only to video recordings intended for reproduction by a television system. If the video recording is intended for direct projection to a theater screen the image dimensions, with the exception of picture width, are adequately specified by American Standard PH22.59–1954, or the latest revision thereof. For the correct aspect ratio the image width should be 0.841 ± 0.004 inch.

2. Video Recording on 35mm Motion-Picture Film

2.1 The picture aperture of a 35mm television recording camera shall be in accord with American Standard PH22.59–1954, or the latest revision thereof.

2.2 The television picture appearing on the picture tube of the video recording equipment shall produce an image on the recording film having a height of 0.612 ± 0.004 inch and a width of 0.816 ± 0.004 inch.

2.3 The center point of the image shall coincide with the center point of the picture aperture of a 35mm motion-picture projector as specified by American Standard Aperture for 35mm Sound Motion-Picture Projectors, PH22.58–1954, or the latest revision thereof approved by the American Standards Asso-

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Sponsor: Society of Motion Picture and Television Engineers

*Universal Decimal Classification

Printed in U.S.A.
ASA½M954

Price, 25 Cents

American Standard

Television Picture Area—16mm Motion-Picture Film

ASA
Reg. U.S. Pat. Office

PH22.96-1954

*UDC 778.5.621.397.5

1. Scope

1.1 The area to be included in a television picture is determined at the point of origination of the program concerned. In subsequent treatment of the resulting picture, it is very important that excessive cropping of the edges of the picture be avoided. The purpose of this standard is to establish operating procedures which will minimize the loss in area sustained in recording a television picture on 16mm film and in subsequently reproducing the film with a television film chain, and also to prevent the televising of a black or white band formed by the edge of the recorded area or the projector aperture.

1.2 Since the film chain equipment will also be used, without intervening readjustment of the equipment, for reproduction of films produced by standard photographic techniques, this standard provides for optimum utilization of the picture area of standard 16mm motion-picture film.

1.3 Film prepared by conventional photographic techniques for television reproduction shall be prepared in accord with the provisions of American Standard Location and Size of Picture Aperture of 16mm Motion Picture Cameras, Z22.7–1950, or the latest revision thereof approved by the American Standards Association, Incorporated, which specifies the location and size of the camera aperture. The loss of significant picture information in television reproduction can be avoided by providing in the camera viewfinder an indication of the area to be scanned in television reproduction.

1.4 Paragraph 2 of this standard applies only to video recordings intended for reproduction by a television system. If the video recording is intended for direct projection to a theater screen, the image dimensions are adequately specified by American Standard Z22.7–1950, or the latest revision thereof.

2. Video Recording on 16mm Motion-Picture Film

2.1 The picture aperture of a 16mm television recording camera shall be in accord with American Standard Z22.7–1950, or the latest revision thereof.

2.2 The television picture appearing on the picture tube of the video recording equipment shall produce an image on the recording film having a height of 0.285 ± 0.002 inch and a width of 0.380 ± 0.002 inch.

2.3 The center point of the image shall coincide with the center point of the picture aperture of a 16mm motion-picture camera as specified by American Standard Z22.7–1950, or the latest revision thereof. (This actually serves to locate the image relative to the film.)

3. Television Reproduction of 16mm Motion-Picture Film

3.1 The picture aperture of a 16mm television projector shall be in accord with American Standard Location and Size of Picture Aperture of 16mm Motion Picture Projectors, Z22.8–1950, or the latest revision thereof approved by the American Standards Association, Incorporated.

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ASA½M954

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