standards and recommended practices

Proposed Withdrawal of American Standard

The Standards Committee has proposed the withdrawal of American Standard Method of Determining Resolving Power of 16mm Motion Picture Projector Lenses, PH22.53-1953 (published in the June 1953 *Journal*).

If no objections are received prior to February 15, ASA Sectional Committee PH22 will be requested to approve termination of the standard because the test pattern made in accordance with the document has not been in use for several years and, further, the standard does not represent current practice. —*A.E.A.*

Proposed American Standards

Four Proposed American Standards are published here for a trial period and public approval. Comments should be addressed to Alex E. Alden, Staff Engineer, at Society Headquarters prior to February 15. If no adverse criticism is received by that date, the proposed standards will be submitted to ASA Sectional Committee PH22 for further processing.

PH22.8, Dimensions of 16mm Motion Picture Projected Image Area, and PH22.87, Dimensions of 100-mil Magnetic Striping on 16mm Motion-Picture Film Perforated One Edge, are basically reaffirmations of the earlier issues, modified editorially to facilitate their use.

PH22.83, Specifications for Location and Spacing of Edge Numbers on 16mm Motion-Picture Film, has been expanded to include dimensions of the intended space used by the edge numbers. It should be noted that the 16-frame interval has been added to incorporate the 35–16mm printing of materials.

PH22.146, Method for Determining Speed of Reversal Color Films Intended for Camera Use and Direct Projection in Motion-Picture Photography, specifies a method for establishing the speed of reversal color stock intended for use in 16mm and 8mm cameras.—*A.E.A.*

Proposed American Standard Dimensions of

100-Mil Magnetic Striping on 16mm Motion-Picture Film Perforated One Edge

PH22.87

Revision of PH22.87-1958

1. Scope

This standard specifies the location and dimensions of the magnetic striping material applied to 16mm motion-picture film with perforations along one edge. This film is used for both picture and sound.

2. Magnetic Striping

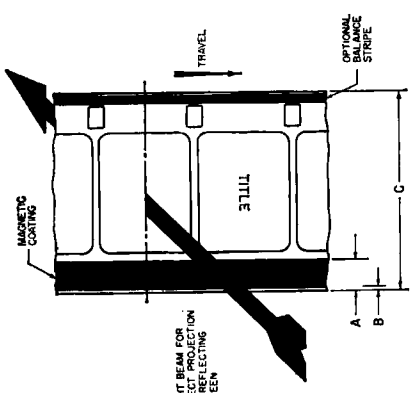
2.1 Dimensions. The dimensions shall be as given in the figure and table.

2.2 Material. The magnetic striping material shall be on the side of the film toward the lamp on a projector arranged for direct projection on a reflection-type screen.

3. Film Base

The film base used shall be of the low-shrinkage safety type, cut and perforated in accordance with American Standard Dimensions for 16mm Film, Perforated One Edge, PH22.12-1953, and American Standard Dimensions for 16mm Motion-Picture Film, 1R-2994, PH22.109-1958.

NOTE: The balance strip is optional and may be a magnetic coating or another material of the same thickness.



Dimensions	Inches	Millimeters
A	$0.100^{+0.005}_{-0.000}$	$2.54^{+0.13}_{-0.00}$
B	0.005 max	0.13 max
C	0.628 nom	16 nom

Appendix

(This Appendix is not a part of Proposed American Standard Dimensions of 100-Mil Magnetic Striping on 16mm Motion-Picture Film Perforated One Edge, PH22.87, but is included to facilitate its use.)

The outer edge of the magnetic striping ideally should be coincident with the edge of the film, and for this reason Dimension B as listed is based upon practical considerations of present striping techniques and film-handling mechanisms. Every effort should be made to reduce this dimension as far as possible, consistent with the best uniformity of stripe thickness and flatness of stripe profile.

NOT APPROVED

Proposed American Standard Dimensions of

16mm Motion-Picture Projected Image Area

PH22.8

Revision of PH22.8-1957

1. Scope

This standard specifies the dimensions of the image area which may be projected for 16mm motion-picture film.

2. Dimensions

2.1 Specifications. The dimensions shall be as given in the figure and table.

2.2 Vertical Angle. The angle between the vertical edges of the image and the edges of normally positioned film shall be 0° ± ½°.

2.3 Horizontal Angle. The angle between the horizontal edges of the image and the edges of normally positioned film shall be 90° ± ½°.

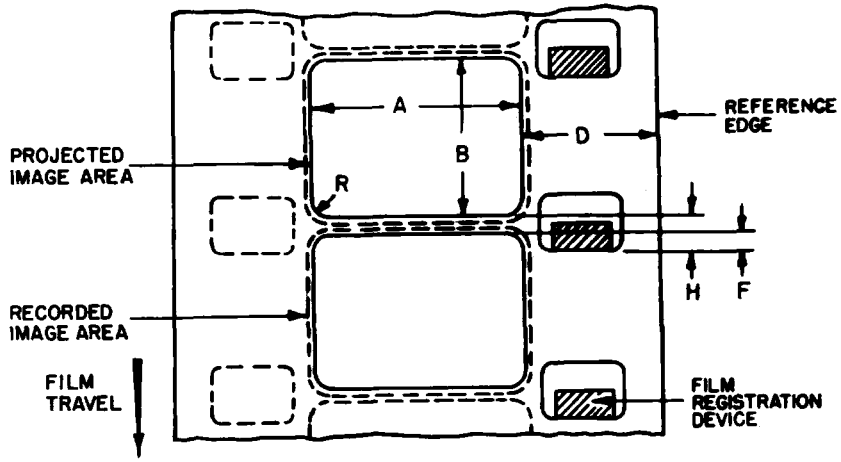


Figure shows arrangement seen from inside projector lamphouse looking toward the lens

Dimensions*	Inches	Millimeters
A	0.380 ± 0.002	9.65 ± 0.05
B	0.284 ± 0.002	7.21 ± 0.05
D	0.124 ± 0.002	3.15 ± 0.05
F	0.020 max	0.51 max
H	0.034 min	0.86 min
R	0.020 max	0.51 max

* See Appendix.

NOTE: Location of the perforations is based on American Standard Dimensions for 16mm Film, Perforated Two Edges, PH22.5-1953, and American Standard Dimensions for 16mm Film, Perforated One Edge, PH22.12-1953.

Appendix

(This Appendix is not a part of Proposed American Standard Dimensions of 16mm Motion-Picture Projected Image Area, PH22.8, but is included to facilitate its use.)

A1. Dimensions A, B and R

Dimensions A, B and R apply to the portion of the image area on the film that is to be projected; the actual opening in the aperture plate has to be slightly smaller. The exact amount of this difference depends on the lens used and on the separation of the emulsion and physical aperture. To minimize the difference in size and make the image of the aperture as sharp as practicable on the screen, this separation should be no larger than is necessary to preclude scratching of the film. When the reduction in size from the image to the actual aperture is being computed, it is suggested a 2-in. f/1.6 lens be assumed unless there is reason for doing otherwise.

A2. Dimensions F and H

Dimensions F and H are measured along the path of the film from the top and bottom of the image formed on the film by the aperture to the stopping position of the registration device. It is customary to provide a framing movement of 0.025 in. (0.64mm) above and below this nominal position. For any given projector, the perforation used for the film registration device need not necessarily be the one shown; in such cases, Dimensions F and H will have to be adjusted to suit, but at all times, the relationship must be maintained.

If the film does not stop exactly where the film registration device leaves it, because of coasting or some other cause, a slight adjustment of the value of Dimensions F and H will be necessary.

A3. Perforations

The figure illustrates film with perforations along both edges. When single-perforated film is used, the perforations appear only on that edge of the film indicated as the reference edge.

Proposed American Standard Specifications for

Location and Spacing of Edge Numbers on 16mm Motion-Picture Film

PH22.83

Revision of PH22.83-1952

1. Scope

1.1 Specifications. This standard defines the location within which edge numbers will appear on 16mm motion-picture film. The interval between successive numbers is also established.

1.2 Application. This standard applies to latent image printing of edge numbers as well as to any other method of printing such as inking.

2. Dimensions

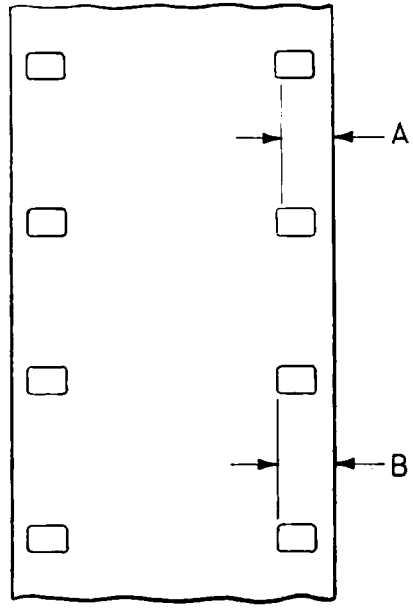
2.1 Latent-Image Numbers. The width dimension of the area on the edge of the film within which latent-image printed numbers shall appear is as shown by Dimension A in the figure and table.

2.2 Inked Edge Numbers. The width dimension of the area on the edge of the film within which inked edge numbers shall appear is as shown by Dimension B in the figure and table.

3. Interval Between Numbers

3.1 Latent-Image Numbers. The interval between consecutive latent-image numbers shall be 40 frames. The numbers will then indicate film footage, subject to a small correction for shrinkage of the film.

3.2 Inked Edge Numbers. The interval between consecutive inked edge numbers shall be either 40 frames or 16 frames. Where the 40-frame interval is used, the numbers will then indicate film footage, subject to a small correction for the shrinkage of the film. Where the 16-frame interval is used, the edge numbers will then indicate corresponding footage on 35mm materials from which the 16mm materia may have been printed.



Dimensions	Inches	Millimeters
A	0.093 max	2.36 max
B	0.108 max	2.74 max

NOT APPROVED

Proposed American Standard Method for Determining

Speed of Reversal Color Films Intended for Camera Use and Direct Projection in Motion-Picture Photography

PH22.146

1. Scope

1.1 Specifications. This standard specifies a method for the determination of American Standard speed (arithmetic and logarithmic) of reversal color films intended for camera use and direct projection in motion-picture photography.

1.2 Reference Standard. American Standard Method for Determining Speed of Reversal Color Film for Still Photography, PH2.21-1961, constitutes the basis for this standard. All sections of American Standard PH2.21-1961, except those to which reference is made below, are to be considered part of this standard.

2. Exposure Time

Exposure time shall be between $^1/_{25}$ and $^1/_{50}$ second.

3. Processing of Samples

Processing shall be carried out in accordance with the film manufacturer's recommendations for optimum quality.

4. Screen Brightness

Screen brightness for 16mm and 8mm projection shall be 16 ± 2 footlamberts.

NOTE: Experience has shown that a density level selected as optimum for a transparency is influenced by screen brightness. A less dense transparency is selected if the screen brightness is reduced. To compensate for the difference in screen luminance between 35mm slide projection and 16mm and 8mm motion-picture film projection, the variation in preferred picture density may correspond to approximately ⅓ of a camera stop change in exposure. This difference is not considered sufficient to warrant a change in the sensitometric test method for motion-picture use.

NOT APPROVED