


Approved American Standards

Published here for your information are four American Standards approved on September 20, 1965, by the American Standards Association: PH22.24-1965, Dimensions of Transverse Cemented Splices on 16mm and 8mm Motion-Picture Film, Projection Type; PH22.77-1965, Dimensions of Transverse Cemented Splices on 16mm and 8mm Motion-Picture Film, Laboratory Type; PH22.83-1965, Specifications for Location and Spacing of Edge Numbers on 16mm Motion-Picture Film; and PH22.111-1965, Dimensions of Exposed Areas for Picture and Photographic Sound on 35mm Motion-Picture Prints Made on Continuous Contact Printers.

All four standards are revisions of existing documents and although much of the technical information is unchanged there are differences which should be reviewed carefully. This is especially true with PH22.83, PH22.24, and PH22.77.

Inasmuch as compliance with American Standards is purely voluntary, these standards will become truly effective if very broad publicity is given to their existence. The ASA and the SMPTE would appreciate any personal influence to promote the use of these standards where such action is appropriate and proper. Copies of the standards may be obtained for a nominal fee from the American Standards Association, 10 East 40th Street, New York City, 10016.—A.E.A.

American Standard Specifications for
**Location and Spacing of Edge Numbers
on 16mm Motion-Picture Film**



PH22.83-1965
Revision of
PH22.83-1952
*UDC 778.5

1. Scope

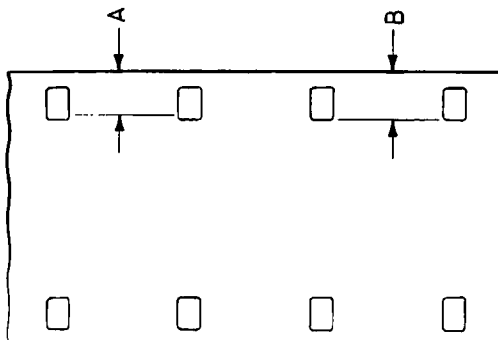
1.1 Specifications. This standard defines the location within which edge numbers will appear on 16mm motion-picture film. The interval between successive numbers is also established.

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.



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

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.

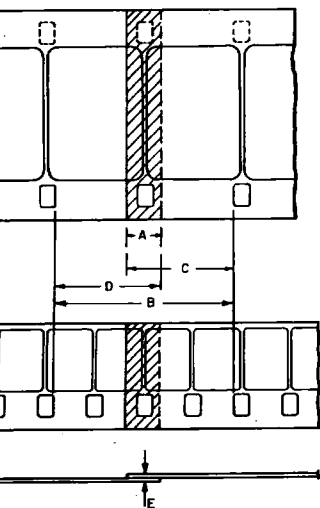
3.2 Inked Edge Numbers. The interval between consecutive inked edge numbers shall be either 40 frames or 16 frames. Where the 40-frame interval is used, the numbers will then indicate film footage, subject to a small correction for the shrinkage of the film. Where the 16-frame interval is used, the edge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

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1. Scope

1.1 Specifications. This standard specifies the dimensions of transverse cemented splices on 16mm and 8mm motion-picture film primarily intended for projection such as release prints and reversal films.



Dimensions	Inches	Millimeters
A	0.100 \pm 0.000 -0.005	2.54 \pm 0.00 -0.13
B	0.548 \pm 0.001	13.92 \pm 0.03
C	0.324 \pm 0.000 -0.003	8.23 \pm 0.00 -0.08
D	0.324 \pm 0.000 -0.003	8.23 \pm 0.00 -0.08
E	0.012 max	0.30 max

Tolerances shown are not to be cumulative.

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1.2 Laboratory and Professional Uses.

The narrower splices used for laboratory and professional purposes are covered by American Standard Dimensions of Transverse Cemented Splices on 16mm and 8mm Motion-Picture Film, Laboratory Type, PH22.77-1965.

1.3 Excepted Splicers. It is not intended that this standard be prejudicial to diagonal, scarf, or tape splicers.

2. Dimensions

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

2.2 Film Width at Splice. Film width at the splice shall not exceed 0.317 in. for 8mm film and 0.630 in. for 16mm film. If the film has been widened during scraping, the extra width shall be removed.

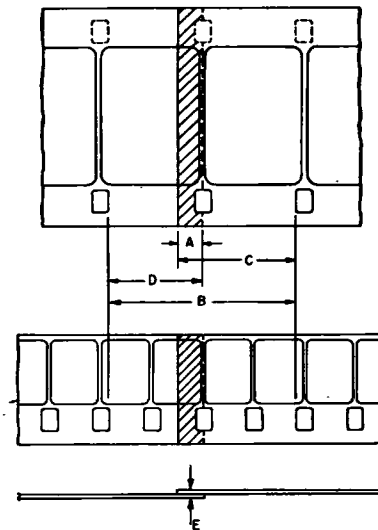
2.3 Lateral Offset for Perforation Overlap. Perforation overlapping shall not be offset laterally by more than 0.002 in.

2.4 Lateral Offset for Film Edges. Edges of the two spliced films shall not be offset laterally by more than 0.002 in., unless a difference in the lateral shrinkages of the two strips makes it impossible to maintain the tolerance. Shoulders formed by such misalignment shall be beveled after the cement has dried.

2.5 Angle Between Edges. In the plan view, the angle between the respective edges of the spliced films shall be $180^\circ \pm 4'$. Thus, the spliced film shall be aligned to the extent that, when one portion of the film is placed against a straight edge, the other portion will not deviate more than 0.006 in. (approximate film thickness) in 6 in.

1. Scope

1.1 Specifications. This standard specifies the dimensions of transverse cemented splices on 16mm and 8mm motion-picture film primarily intended for use in laboratory and professional applications.



Dimensions	Inches	Millimeters
A	0.070 \pm 0.003	1.78 \pm 0.08
B	0.548 \pm 0.001	13.92 \pm 0.03
C	0.344 \pm 0.003	8.74 \pm 0.08
D	0.274 \pm 0.000 -0.003	6.96 \pm 0.00 -0.08
E	0.012 max	0.30 max

Tolerances shown are not to be cumulative.

1.2 Splices Specified Elsewhere. Splices used for projection of release prints and reversal films are covered by American Standard Dimensions of Transverse Cemented Splices on 16mm and 8mm Motion-Picture Film, Laboratory Type, PH22.24-1965.

1.3 Excepted Splicers. It is not intended that this standard be prejudicial to diagonal, scarf, or tape splicers.

2. Dimensions

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

2.2 Film Width at Splice. Film width at the splice shall not exceed 0.317 in. for 8mm film and 0.630 in. for 16mm film. If the film has been widened during scraping, the extra width shall be removed.

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2.5 Angle Between Edges. In the plan view, the angle between the respective edges of the spliced films shall be $180^\circ \pm 4'$. Thus, the spliced film shall be aligned to the extent that, when one portion of the film is placed against a straight edge, the other portion will not deviate more than 0.006 in. (approximate film thickness) in 6 in.

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A1. Dimension A

A is given a negative, but no positive, tolerance. Narrower splices are less conspicuous and are less likely to affect the normal operation of the film as it follows the bends in its path through the machinery.

A3. Orienting the Films

In the plan view, the splice is arranged with the perforations at the bottom, in order to show them as they appear on most splicers. It is desirable to orient the films in splicing so that a magnetic head scanning the film would, at a splice, drop down onto the trailing film rather than bump up onto it.

A2. Dimension B

B controls the longitudinal registration of the film being spliced. It is measured to the perforations most commonly used for registration on the sprocket, and to the nearer edges of these perforations because they are edges that are generally used for registration.

A4. Preventing White Line

In order to prevent the appearance of a white line on the screen, the scraped area should be 0.001 to 0.003 in. narrower than the area covered by the overlapping film. Presence of this narrow uncemented area will not shorten the life of the splice.

PH22.24-1965

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Appendix

This appendix is not a part of American Standard Dimensions of Transverse Cemented Splices on 16mm and 8mm Motion-Picture Film, Laboratories PH22.24-1965, but is included to facilitate its use.)

A1. Dimension B

B controls the longitudinal registration of the film being spliced. It is measured to the perforations most commonly used for registration on the sprocket, and to the nearer edges of these perforations because they are edges that are generally used for registration.

A3. Orienting the Films

It is desirable to orient the films in splicing so that a magnetic head scanning the film would, at a splice, drop down onto the trailing film rather than bump up onto it.

A4. Preventing White Line

In order to prevent the appearance of a white line on the screen, the scraped area should be 0.001 to 0.003 in. narrower than the area covered by the overlapping film. Presence of this narrow uncemented area will not shorten the life of the splice.

PH22.77-1965

Dimensions C and D

Dimensions C and D were chosen to give a splice edge along the frame line. This provides an "invisible splice" when printing "A" and "B" original photography.

1. Scope

1.1 This standard specifies the location and width dimensions of the exposed areas for picture and photographic sound on 35mm motion-picture prints made on continuous contact printers.

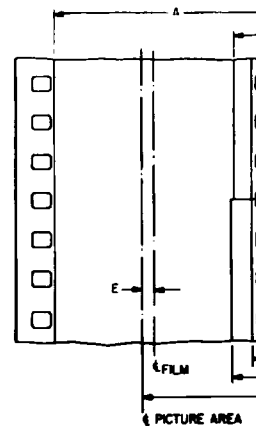
1.2 This standard is applicable to the printing of motion-picture raw stock which is cut and perforated in accordance with American Standard Dimensions for 35mm Motion-Picture Film, KS-1870, PH22.36-1964, or American Standard Dimensions for 35mm Motion-Picture Film, DH-1870, PH22.1-1964.

1.3 This standard refers to the adjustment of the printer, and is in accordance with American Standard Photographic Sound Record on 35mm Prints, PH22.40-1957.

2. Dimensions

The dimensions shall be as specified in the figure and table.

Dimensions	Inches	Millimeters
A	1.184 ± 0.002	30.07 ± 0.05
B	0.304 ± 0.002	7.72 ± 0.05
C	0.192 ± 0.001	4.88 ± 0.03
D	0.308 ± 0.002	7.82 ± 0.05
E	0.050 nom	1.27 nom
F	0.738 nom	18.75 nom



As seen from emulsion side of

NOTE 1: Dimension A minus B defines the picture area exposed in accordance with the standard and Dimension D minus C that of the sprocket hole. Thus, an overlap area ranging from 0.1 to 0.2 in. will receive exposure from both picture and sprocket hole apertures.

NOTE 2: The centerline information (E and F) given in the table is provided for reference. These two dimensions are specified in American Standard Dimensions of Picture Nonanamorphic Projected Images (PH22.58-1954).

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