American Standard

Dimensions for 65mm Motion-Picture Film, KS-1870

ASA
Reg. U.S. Pat. Off.
PH22.118-1961

*UDC 778.5:771.523:531.7

1. Scope

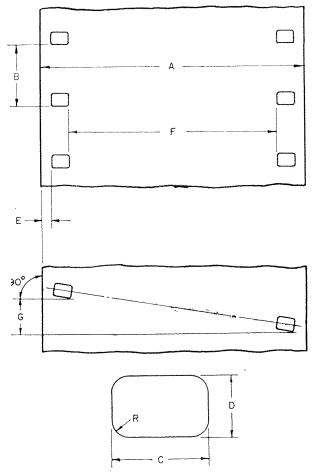
1.1 This standard specifies the cutting and perforating dimensions of 65mm motion-picture film.

2. Dimensions

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

2.2 These dimensions apply to material immediately after cutting and perforating.

2.3 Dimension L represents the length of any 100 consecutive pitch intervals.



Dimensions	Inches	Millimeters
A Film width	2.558 ± 0.002	64.97 ± 0.05
B Length pitch	0.1870 ± 0.0005	4.750 ± 0.013
C Perforation width	0.1100 ± 0.0004	2.794 ± 0.010
D Perforation height	0.0780 ± 0.0004	1.981 ± 0.010
E Edge to perforation	0.117 ± 0.003	2.95 ± 0.08
F Width between perforations	2.104 ± 0.003	53.44 ± 0.08
G Perforation skewness	0.002 max	0.05 max
L Length pitch (100 consecutive pitch intervals)	18.700 ± 0.015	474.98 ± 0.38
R Radius of perforation fillet	0.020 ± 0.001	0.51 ± 0.03

NOTES

1. The title of this standard was established by the application of a nomenclature system developed for all film dimension standards: Each title provides an indication of the film width, the perforation shape (BH, KS, DH or CS) or the number of rows of perforations (1R, 2R or 4R), depending upon which is the significant factor, and the perforation pitch without the decimal point.

2. The dimensions in the inch system are the fundamental standard. The dimensions in the metric system are practical approximations based on American Standard Inch-Millimeter Conversion for Industrial Use, B48.1-1933, reaffirmed in 1947, providing a conversion factor of 1 inch = 25.4 millimeters.

Approved February 8, 1961, by the American Standards Association, Incorporated
Sponsor: Society of Motion Picture and Television Engineers

*Universal Decimal Classification

Printed in U.S.A.
ASA¾M361/40

APPENDIXES

(These Appendixes are not a part of American Standard Dimensions for 65mm Motion-Picture Film, KS-1870, PH22.118-1961, but are included to facilitate its use.)

APPENDIX 1

The dimensions given in this standard represent the practice of film manufacturers in that the dimensions and tolerances are for film immediately after perforation. The punches and dies themselves are made to tolerances considerably smaller than those given, but since film is a plastic material, the dimensions of the slit and perforated film never agree exactly with the dimensions of the slitters, punches and dies. Film can shrink or swell due to loss or gain in moisture content or can shrink due to loss of solvent. These changes invariably result in changes in the dimensions during the life of the film. The change is generally uniform throughout a roll.

APPENDIX 2

The uniformity of pitch, margin and hole size (Dimensions B, C, D and E) is an important variable affecting steadiness. Variations in these dimensions, from roll to roll, are of little significance compared to variations from one sprocket hole to the next. Actually it is the maximum variation from one sprocket hole to the next within any small group of consecutive perforations that is important.

APPENDIX 3

Film of this size is generally used as a camera negative. There are two advantages in using this larger size. One is the possibility of producing large prints by contact printing for exhibition in special theaters designed to provide the audience with a large viewing angle. The other purpose is to serve as an original from which 35mm prints can be produced by reduction with less grain and better definition than is obtained by making contact prints from 35mm negatives.

Prints may be made on 70mm film. The appropriate film is described in American Standard Dimensions for 70mm Motion-Picture Film, Perforated 65mm, KS-1870, PH22.119-1961. Note that the 70mm film used with 65mm negative differs in its dimensions from the two earlier films described by American Standard Dimensions for 70mm Unperforated and Perforated Film for Cameras Other Than Motion-Picture Cameras, PH1.20-1956, Type I and Type II. The perforations of the related 70mm film have the same size and pitch as those described by PH1.20-1956, Type II, but the margin and distance between perforations are different. Consequently Dimension F is the same in both the 65mm film, KS-1870 and the 70mm film, perforated 65mm, KS-1870. The increased space provided by a larger margin E is used to make room for magnetic soundtracks.

Note that the image usually placed on this film is five pitches high. The manufacture of the film is based on this idea and best results accrue from using this format. The pitch of the negative is nominal since the printing of film of this size is currently done by the use of step printers.

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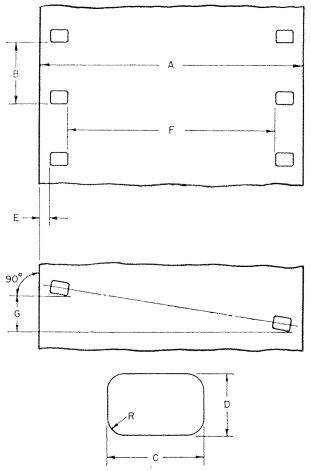

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C Perforation width	0.1100 ± 0.0004	2.794 ± 0.010
D Perforation height	0.0780 ± 0.0004	1.981 ± 0.010
E Edge to perforation	0.215 ± 0.003	5.46 ± 0.08
F Width between perforations	2.104 ± 0.003	53.44 ± 0.08
G Perforation skewness	0.002 max	0.05 max
L Length pitch (100 consecutive pitch intervals)	18.700 ± 0.015	474.98 ± 0.38
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APPENDIX 3

Film described in this standard is used in making prints from 65mm film described in American Standard Dimensions for 65mm Motion-Picture Film, KS-1870, PH22.118-1961. Note that this film differs from the other 70mm films described in American Standard Dimensions for 70mm Unperforated and Perforated Film for Cameras Other Than Motion-Picture Cameras, PH1.20-1956, Types I and II.