3.2.6 Take-up reels on reel-to-reel machines should be cleaned at the start of each day to remove dust and debris from the tape winding surface and inside flange surfaces.

3.2.7 The tape should not be fingered or handled except at the ends for thread-up.

3.2.8 Frayed or wrinkled ends of the tape should be cut off.

3.2.9 Cardboard cartons, such as master shipping cartons, should not be ripped open in the operations area.

3.2.10 Reel flanges should not be squeezed together during handling; the reel should be held by the bottom flange or carried by the hub.

4. *Shipping Conditions*

4.1 Winding. All tapes should be given an even uniform winding before shipment, as described in Sec. 2.3.1.

4.2 Containers. Tapes should be shipped in containers designed to withstand rugged handling and still protect the tape. Heavy reels, such as those for 1- or 2-in applications, should be supported by the hub and free to rotate inside the case.

4.3 Fastening. All tapes should be secured at the outer end as specified in Sec. 2.3.3.

NOTE: Raw tape stocks will withstand relatively short-term storage conditions, for example during shipment, of —30 to +50°C temperature and 10 to 90 percent relative humidity. The short-term range of temperature and humidity conditions that a prerecorded video tape can withstand and still have acceptable playback is dependent on the tape and machine format used. This is due to the dimensional changes that take place in the tape which will change the amount of time-base error and tracking error on the prerecorded signal. The machine and tape manufacturer should be consulted for guidelines.

Cinematography — Image area produced by 65 and 70 mm motion-picture camera aperture and maximum projectable image area on 70 mm motion-picture prints — Positions and dimensions

1 Scope and field of application

This International Standard specifies, for 65 and 70 mm motion-picture cameras and projectors, the dimensions of the image area produced by the camera on the film and the maximum projectable image area as well as the image positions relative to the reference edge of the film, and the perforations used to position the film in the camera.

2 Reference

ISO 3023, *Cinematography — 65 mm and 70 mm motion-picture film — Cutting and perforating dimensions.*

3 Dimensions and characteristics

3.1 The dimensions shall be as shown in the figures and given in the tables and apply to measurements of the image as formed on, or projected from, a recently exposed and processed film.

3.2 The angle between the horizontal edges of the camera aperture image and the reference edge of the film shall be 90° ± 30′.

3.3 The angle of the vertical edges of the camera aperture image shall be 0° ± 30′ to the reference edge of the film.

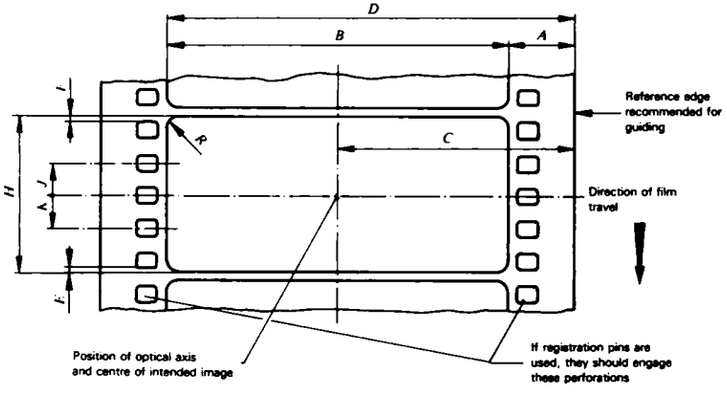
NOTES

1 It is the intent of this International Standard to provide a camera image such that the exposed area will be larger than the maximum projectable image area. Observance of the dimensions given meets this objective without causing double exposure of the area between the frames.

2 It is recognized that, in many cases, the actual film image area that is projected may be smaller than the projectable maximum. It is intended that the actual projected image area be the largest appropriately shaped figure that can be inscribed within the specified dimensions.

3 Since dimension *B* is the minimum width for available projection, it is necessary that for release prints by contact printing or any other system the plus tolerance should be used in the printing system.

4 Image steadiness could be improved if the reference edge is the guided edge as well.



The film is shown, as seen from inside the camera, looking towards the lens.

Figure 1 – Camera aperture image

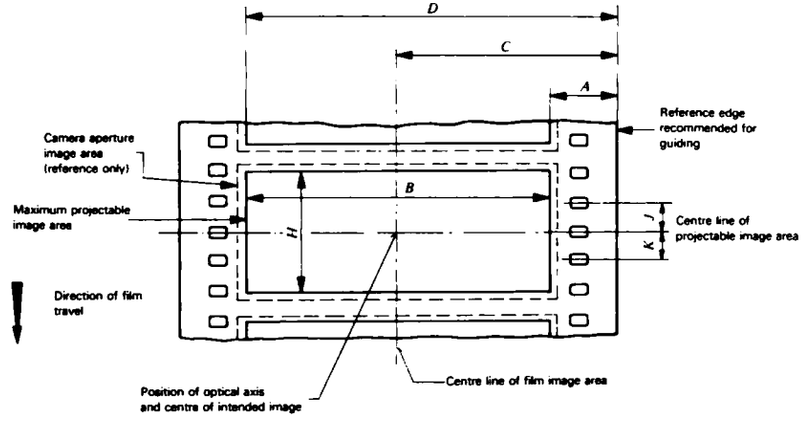
Table 1 – Dimensions relating to camera aperture image

Dimension	Image area produced by camera aperture			
	on 65 mm film		on 70 mm film	
	mm	in	mm	in
A maximum	6,24	0.246	8,73	0.344
B minimum*	52,50	2.066	52,50	2.067
C nominal	32,49	1.279	34,98	1.377
D minimum	58,74	2.312	61,23	2.411
H	$23{,}00^{+0{,}50}_{0}$	$0.906^{+0.020}_{0}$	$23{,}00^{+0{,}50}_{0}$	$0.906^{+0.020}_{0}$
R maximum	0,50	0.020	0,50	0.020

E and *F* shall differ from each other by no more than 0,20 mm (0.008 in).

J = *K* (nominal)

**B* is a derived dimension and is given for information.



The film is shown, as seen from inside the projector, looking towards the lens.

Figure 2 – Maximum projectable image area

Table 2 – Dimensions relating to maximum projectable image area

Dimension	Projectable image area on 70 mm motion-picture film	
	mm	in
A minimum	10,68	0.420
B maximum*	48,59	1.913
C nominal	34,98	1.377
D maximum	59,27	2.333
H maximum	22,10	0.870

**B* is a derived dimension and is given for information.

J = *K* (nominal)