

Cinematography — Picture image area and photographic sound record on 16 mm motion-picture release prints — Positions and dimensions

1 Scope and field of application

- 1.1 This International Standard specifies positions, dimensions and location of image and photographic sound record on 16 mm release prints.
- 1.2 It also specifies the width and lateral position of the sound record scanning beam and its relative displacement with respect to the corresponding picture image frame.

3 Dimensions

- 3.1 The dimensions shall be as shown in the figure and given in the table.
- 3.2 The sound recording and reproducing slit images shall be positioned at an angle of $90^\circ \pm 5'$ with respect to the reference edge of the film.
- 3.3 Dimensions are given relative to unshrunk safety film.

4 Picture sound displacement

The recording of sound on the film shall precede the corresponding picture frame in the direction of film travel in normal projection. The distance between the horizontal centre line of the picture frame and its corresponding sound record shall be $26 \text{ frames} \pm 1 \text{ frame}$, and preferably $26 \text{ frames} \pm 0.5 \text{ frame}$.

5 Emulsion orientation

The preferred emulsion orientation of 16 mm sound motion picture prints is toward the projection lens when the film is threaded for direct front projection.

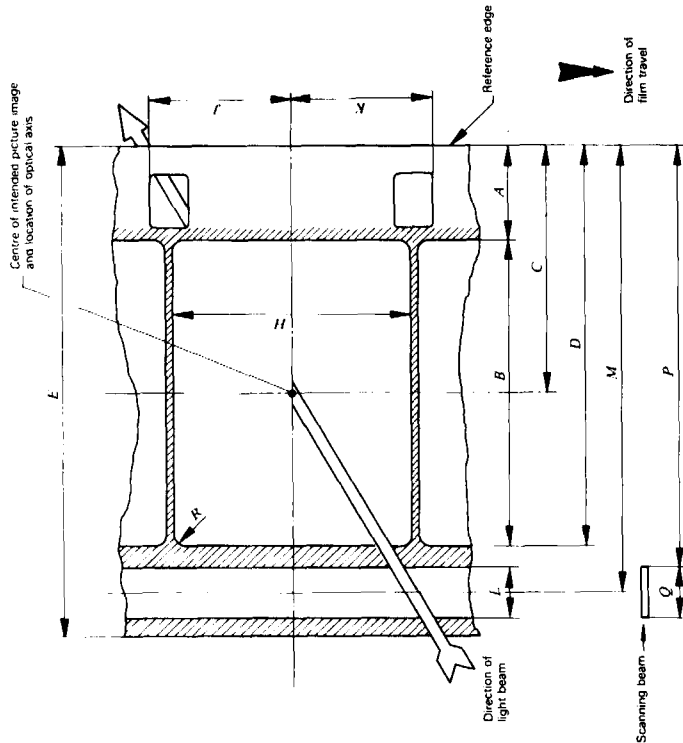
NOTE — 16 mm motion picture prints may be made with the emulsion side either towards the projection lens or towards the light source. There should not be different emulsion orientation in the same reel. The position should be indicated in the leader, or on the container.

6 Reproducing speed

The recording shall be made so that the sound record will reproduce properly at 24 perforations per second (approximately 11 m/36 ft) per minute or 18.3 cm/7.2 in) per second. This equivalent to the projection speed of the picture film of 24 frames per second.

2 References

- ISO 26, *Cinematography — Camera usage of 16 mm motion-picture film* — Specifications.
- ISO 71, *Cinematography — Projector usage of 16 mm motion-picture film for direct front projection* — Specifications.
- ISO 69, *Cinematography — 16 mm motion picture raw stock film — Cutting and perforating dimensions*.
- ISO 71, *Cinematography — 16 mm negative photographic sound record on 16 mm, 35, 16 mm and 35, 32 mm motion-picture film* — Position and dimensions.
- ISO 359, *Cinematography — Projectable image area on 16 mm motion-picture prints* — Dimensions and location.
- ISO 466, *Cinematography — Image produced by 16 mm motion-picture camera aperture* — Position and dimensions.
- ISO 490, *Cinematography — Magnetic stripes and magnetic recording head gaps for sound record on 16 mm motion-picture film perforated along one edge (Type 1)* — Positions and width dimensions.



Dimension	mm	in
A max.	2.95	0.116
B min.	10.05	0.396
C nom.	7.98	0.314
D	$13.00^{+0.15}_0$	$0.512^{+0.006}_0$
E ref.	15.96	0.628
H	$7.42^{+0.15}_0$	$0.292^{+0.006}_0$
L ₁ (See note 1)	$1.52^{+0.10}_0$	$0.060^{+0.004}_0$
L ₂ (See note 2)	2.03 ± 0.08	0.080 ± 0.003
M (See note 3)	14.48 ± 0.08	0.570 ± 0.003
P	13.98 ± 0.03	0.556 ± 0.001
Q	1.80 ± 0.03	0.071 ± 0.001
R max.	0.50	0.020

J = K (nom.)

NOTES

- For variable area and matted variable density sound record.
- For variable density sound record.
- To the centre line of the variable area or the variable density sound record.