

ISO

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

ISO RECOMMENDATION

R 892

withdrawn 1975

DIMENSIONS OF PROJECTION REELS
FOR 8 mm MOTION-PICTURE FILM
(OTHER THAN TYPE S)

1st EDITION

December 1968

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BRIEF HISTORY

The ISO Recommendation R 892, *Dimensions of projection reels for 8 mm motion-picture film (other than Type S)*, was drawn up by Technical Committee ISO/TC 36, *Cinematography*, the Secretariat of which is held by the American National Standards Institute (ANSI).

Detailed work on this question by the Technical Committee led, in 1965, to the adoption of a Draft ISO Recommendation.

In November 1966, this Draft ISO Recommendation (No. 1047) was circulated to all the ISO Member Bodies for enquiry. It was approved, subject to a few modifications of an editorial nature, by the following Member Bodies :

Belgium	Greece	Romania
Brazil	Hungary	Sweden
Bulgaria	Israel	Switzerland
Canada	Italy	United Kingdom
Chile	Japan	U.A.R.
Czechoslovakia	Korea, Rep. of	U.S.A.
France	Netherlands	

One Member Body opposed the approval of the Draft :

Germany

The Draft ISO Recommendation was then submitted by correspondence to the ISO Council, which decided, in December 1968, to accept it as an ISO RECOMMENDATION.

DIMENSIONS OF PROJECTION REELS
FOR 8 mm MOTION-PICTURE FILM
(OTHER THAN TYPE S)

1. SCOPE

This ISO Recommendation specifies the recommended sizes and dimensions of projection reels for 8 mm motion-picture film (other than type S).

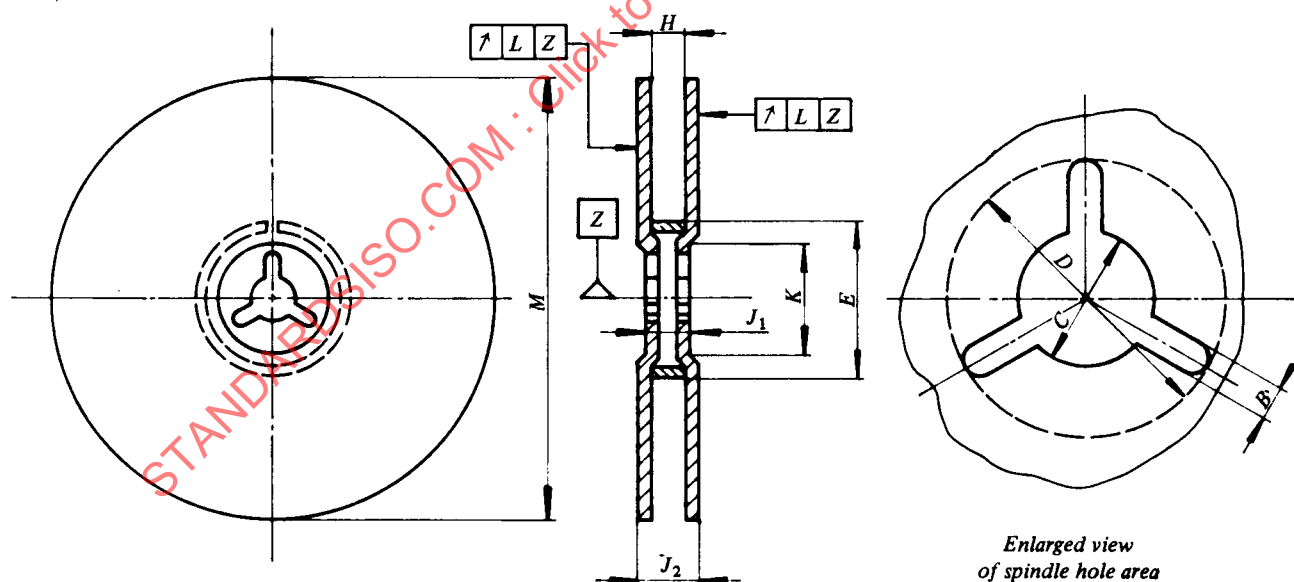
2. DIMENSIONS

FIGURE – Projection reel for 8 mm motion-picture film

TABLE 1 – Size-dependent dimensions of 8 mm motion-picture projection reels

Nominal Reel Capacity*		Dimension	millimetres	inches
metres	feet			
15/20	50/66	<i>M</i>	75 $\begin{smallmatrix} 0 \\ -1 \end{smallmatrix}$	2.95 $\begin{smallmatrix} 0 \\ -0.04 \end{smallmatrix}$
		<i>E</i>	32.5 ± 0.5	1.28 ± 0.02
		<i>L</i> **	0.9 max.	0.035 max.
30	100	<i>M</i>	100 $\begin{smallmatrix} 0 \\ -1 \end{smallmatrix}$	3.94 $\begin{smallmatrix} 0 \\ -0.04 \end{smallmatrix}$
		<i>E</i>	45.5 ± 0.5	1.79 ± 0.02
		<i>L</i> **	1.1 max.	0.04 max.
60	200	<i>M</i>	128 $\begin{smallmatrix} 0 \\ -1 \end{smallmatrix}$	5.04 $\begin{smallmatrix} 0 \\ -0.04 \end{smallmatrix}$
		<i>E</i>	45.5 ± 0.5	1.79 ± 0.02
		<i>L</i> **	1.5 max.	0.06 max.
90	300	<i>M</i>	159 $\begin{smallmatrix} 0 \\ -1 \end{smallmatrix}$	6.26 $\begin{smallmatrix} 0 \\ -0.04 \end{smallmatrix}$
		<i>E</i>	60.5 ± 0.5	2.38 ± 0.02
		<i>L</i> **	1.5 max.	0.06 max.
120	400	<i>M</i>	180 $\begin{smallmatrix} 0 \\ -3 \end{smallmatrix}$	7.09 $\begin{smallmatrix} 0 \\ -0.12 \end{smallmatrix}$
		<i>E</i>	60.5 ± 0.5	2.38 ± 0.02
		<i>L</i> **	2.0 max.	0.08 max.

TABLE 2 – Dimensions common to all sizes of 8 mm motion-picture projection reels

Dimension	millimetres	inches
<i>B</i>	1.6 $\begin{smallmatrix} +0.3 \\ 0 \end{smallmatrix}$	0.06 $\begin{smallmatrix} +0.01 \\ 0 \end{smallmatrix}$
<i>C</i>	8.05 $\begin{smallmatrix} +0.10 \\ 0 \end{smallmatrix}$	0.317 $\begin{smallmatrix} +0.004 \\ 0 \end{smallmatrix}$
<i>D</i> ***	15.5 $\begin{smallmatrix} +1.0 \\ 0 \end{smallmatrix}$	0.61 $\begin{smallmatrix} +0.04 \\ 0 \end{smallmatrix}$
<i>H</i>	8.5 $\begin{smallmatrix} +1.0 \\ 0 \end{smallmatrix}$	0.33 $\begin{smallmatrix} +0.04 \\ 0 \end{smallmatrix}$
<i>J</i> ₁ (see Notes 3 and 4, page 5)	12.5 $\begin{smallmatrix} 0 \\ -1.5 \end{smallmatrix}$	0.49 $\begin{smallmatrix} 0 \\ -0.06 \end{smallmatrix}$
<i>J</i> ₂	14.3 max.	0.56 max.
<i>K</i>	25.5 min.	1.00 min.

- * The nominal reel capacities are based on a total film thickness (including any magnetic striping or winding allowance) in the order of 0.165 to 0.175 mm (0.0065 to 0.0069 in). The nominal reel capacities for other film thicknesses can be calculated by multiplying the nominal reel capacity by a factor. For example, the nominal reel capacities for a film thickness of 0.102 mm (0.004 in nominal) is obtained by multiplying by a factor 1.5.

** See Note 5 and Figure.

- *** There may be a little older equipment which requires a slightly larger *D* minimum value of 16.0 mm. However, the values shown in Table 2 are compatible with recommendations for future construction of 8 mm projector spindles as given in ISO Recommendation R ..., *Spindles for double 8 mm and 16 mm cameras and for 8 mm and 16 mm projectors* (at present at the stage of a draft proposal).

NOTES

1. The dimensions for 15/20 m and 30 m capacity reels apply to accessory projection reels (of strong construction designed for long-term re-use) and are recommended for future construction of "return" reels (those supplied by processors for return of film to customers). Temporarily, however, return reels with other dimensions are recognized.
2. For future construction, it is preferred that each flange should have a round spindle hole of diameter C and should have three driving holes spaced at approximately 120° and conforming to dimensions B and D . (Only one slot normally is used to drive the reel, but the three slots specified facilitate loading the reel on the spindle.) The many existing reels with drive slots in only one flange are recognized temporarily.
3. The J dimension range listed in Table 2 encompasses the lower and upper ends respectively of two distinct practices, 12.0 to 13.0 mm (0.47 to 0.57 in) and 10.2 to 11.4 mm (0.40 to 0.45 in), now found on most existing reels. Reel locking means, particularly detents, on many existing projector spindles are unable to accommodate the complete ranges of both current reel practices but generally will function satisfactorily with the reduced compromise range in Table 2, i.e., 11.0 to 12.5 mm (0.43 to 0.49 in) construction.*
 Reel manufacture within the compromise range should be possible with minimum alteration of existing equipment, but it is expected that a given manufacturer will observe somewhat narrower tolerances within the range. It further is recommended that new tools, as they are required, be designed so as to produce reels near the center of the compromise range within reasonably narrow tolerances.
4. Dimension J_1 applies within the K diameter zone which is centred on the spindle-hole axis. It is not intended to imply, however, that the K diameter zone should necessarily be a depressed area. Depending upon the values selected for J_1 and J_2 , the entire flange might be flat or the K diameter zone might even be slightly raised.
5. Dimension L designates the runout tolerance for each flange when revolved about datum axis Z . This method is defined in ISO Recommendation ...**, *Indication on drawings of tolerances of form and of position* (see Annex).
6. The flanges, outside the K diameter zone, should lie within the limits of planes defined by the maximum dimension J_2 .
7. Provisions should be made for securing the end of the film. These provisions should be such as to accept the full width of the film and such that the film may be freely released at the end of its run.

* ISO Recommendation R ..., *Spindles for double 8 mm and 16 mm cameras and for 8 mm and 16 mm projectors*, (at present at the stage of a draft proposal) takes account of this compromise for reels and recommends appropriate positioning of locking means on spindles (of 8 mm maximum diameter) for future 8 mm projectors.

** At present Draft ISO Recommendation No. 1016.

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