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International Standard



6033

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

Cinematography — Projection reel size 7 for 8 mm Type S motion-picture film — Dimensions and specifications

Cinématographie — Bobine de projection, type 7, pour film cinématographique 8 mm type S — Dimensions et spécifications

First edition — 1983-12-15

UDC 778.533.4 : 771.531.352

Ref. No. ISO 6033-1983 (E)

Descriptors : cinematography, motion picture film, motion picture film 8 mm, reels, dimensions, specification.

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Price based on 4 pages

Cinematography — Projection reel size 7 for 8 mm Type S motion-picture film — Dimensions and specifications

1 Scope and field of application

1.1 This International Standard specifies the dimensions for 8 mm Type S motion-picture projection reels size 7, with a nominal film capacity of 15 m, generally used for returning the film from the processing laboratory and considered to be interchangeable in all models of 8 mm Type S projection cassettes (encapsulated devices), having an allowance for reels with up to 75 mm maximum outside flange diameter.

This type of reel also fits normal reel-to-reel projection equipment.

1.2 This International Standard supersedes the specification given for the No. 7 reel described in ISO 3639.

NOTE — The device specified in this International Standard is the same as the one identified as a spool in some countries. In others, a reel is used only with projectors, and spools having solid flanges are generally for raw stock used in cameras.

2 Reference

ISO 3653, *Cinematography — Spindles for 8 mm Type S motion-picture projection reels/spools — Dimensions*.

3 Dimensions

3.1 The dimensions shall be as shown in figure 1 and given in table 1.

3.2 The maximum radial run-out shall be as shown in figure 2.

3.3 The maximal lateral run-out, inward and outward, shall be as shown in figure 3 and given in table 2.

3.4 These dimensions apply regardless of the material (generally plastic) used for construction.

3.5 Film attachment shall be provided by a slot in the reel hub and a minimum cut-out in the hub is required for easy access to the film end. In order to secure the end of the film to the reel for automatic rewinding, and incorporated means of film retention, using a special retention plug or clip or other suitable means of film attachment is provided.

If a plug or clip is used, it shall not protrude beyond dimensions Q , R_4 , R_5 and W , R_6 , R_7 (striped areas in figure 1) respectively. For reel-to-reel operation, the retention means shall not protrude beyond dimensions $O + J + O$.

Once the retention means is pushed into its seat, it shall retain the film to such an extent that a minimum traction of 5 N, acting in a radial direction, will not tear off the reel hub a polyester film of 0,1 mm thickness.

3.6 The reel shall be designed with at least one solid flange (see figure 1), with the exception of the hub area. The solid flange side of the reel shall be opposite to the opening in the hub area for access to film attachment. By definition, the solid flange should not contain openings such as thread-up slots.

3.7 The attached rings, defined by dimensions F , G and O , are guiding means for horizontal operation of the reel.

3.8 Due to the fact that there are different thicknesses of film supports and magnetic striping, uniformity, as far as film thickness is concerned, no longer exists.

The capacity of the reel depends on the winding traction of the projector, the flatness of the film and the number and nature of existing splices.

For calculating the winding capacity of the reel, it is necessary to start with a compact winding. To take into account practice and more unfavourable conditions, a smaller winding diameter than the minimum diameter M of the reel flange is chosen.

The capacity K , in metres, is given by the following formula

$$K = \frac{\pi (d^2 - F_{\max}^2)}{4\,000\,t}$$

where

d is equal to M_{\min} minus 4, expressed in millimetres;

F_{\max} is the maximum hub diameter, expressed in millimetres;

t is the film thickness, expressed in millimetres.

4 Bibliography

ISO 1700, *Cinematography — 8 mm Type S motion-picture raw stock film — Cutting and perforating dimensions*.

ISO 3639, *Cinematography — Projection reels/spools 75 to 312 mm diameter for 8 mm Type S motion-picture film — Dimensions and specifications*.