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SMPTE STANDARD

SMPTE 173-2004

Revision of
SMPTE 173-1999

for Motion-Picture Equipment (8-mm Type R) — Double 8-mm Camera Spools — 100-Ft Capacity



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1 Scope

The dimensions shown in this standard are for double 8-mm type R motion-picture film spools with a nominal capacity of 100 ft (30 m). These spools are used in cameras of the type in which each roll of film is passed through the camera twice for exposure in accordance with SMPTE 231. The spindle holes in the spool are shown with splines which are intended to assist in ensuring correct orientation of the spool in the camera.

2 Dimensions

2.1 The dimensions shall be as given in figures 1 through 4 and table 1.

2.2 If rivet heads or other fastening devices extend beyond the outer surfaces of the flanges, they shall lie at a larger diameter than the minimum K diameter and within the boundaries defined by other portions of the volume of rotation diagram (see figure 1).

2.3 Dimension H_2 is the space between the flanges inside the core, but outside the D-diameter zone.

2.4 Dimension H_3 applies within a diameter of 0.38 in (9.7 mm) centered on the spindle hole of each flange.

2.5 Dimension J represents the thickness of the spool within the K-diameter area, which is centered on the spindle hole axis of each flange.

2.6 A reference plane of rotation for each flange is defined by a plane perpendicular to the axis of the spindle and coincident with the surface of a flat, 0.615-in (15.62-mm) diameter support, which is in contact with the flange and centered on the spindle hole axis of the flange.

Dimension P is the distance measured outwardly from the reference plane of rotation to the farthest plane of rotation described by any point on the flange outside the K-diameter zone when the spool is rotated on an accurate, tight-fitting spindle. This includes rivets or other fastening devices, variations in flange thickness, flatness, and lateral runout of the flanges. (The reference plane from which P is measured is not necessarily coincident with all points within the K-diameter zone, but only with those which are in contact with the reference support which has a diameter smaller than K.)

Selection of a value for dimension P is dependent upon the thickness of the material used for the flanges. According to the flange material thickness, (1) the K-diameter area may be depressed (with P greater than zero), or (2) the outside surfaces of the flanges may be flat from the spindle hole area to the periphery (with P equal to zero), or (3) in the case of flanges made of very thin material, the K-diameter area may be raised rather than recessed (effectively, P less than zero).

2.7 The maximum effective thickness of spools (including all the characteristics mentioned in 2.6) outside the K-diameter area has not been stated because it is a function of a spool's specific J value between the 0.615-in (15.62-mm) diameter reference zones on each flange. The largest overall effective thickness, however, will be $J_{\max} + 2P_{\max} = 0.77$ in (19.6 mm).