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Reaffirmed 2009

REAFFIRMED 2003

SMPTE STANDARD

ANSI/SMPTE 37M-1994
Revision of
ANSI/SMPTE 37M-1987

for Motion-Picture Equipment — Raw Stock Cores

1 Scope

This standard specifies the recommended sizes and dimensions of raw stock cores for 8-, 16-, 35-, 65-, and 70-mm motion-picture films.

2 Dimensions

The dimensions of all cores shall be as given in figure 1 and table 1.

3 Concentricity allowance

The concentricity of the inside and outside diameters of the core shall be as specified in figure 1.

4 Drive holes in 35-mm × 125-mm cores

Cores of 35-mm × 125-mm shall have eight drive holes with dimensions and locations as shown in figure 2 and table 2.

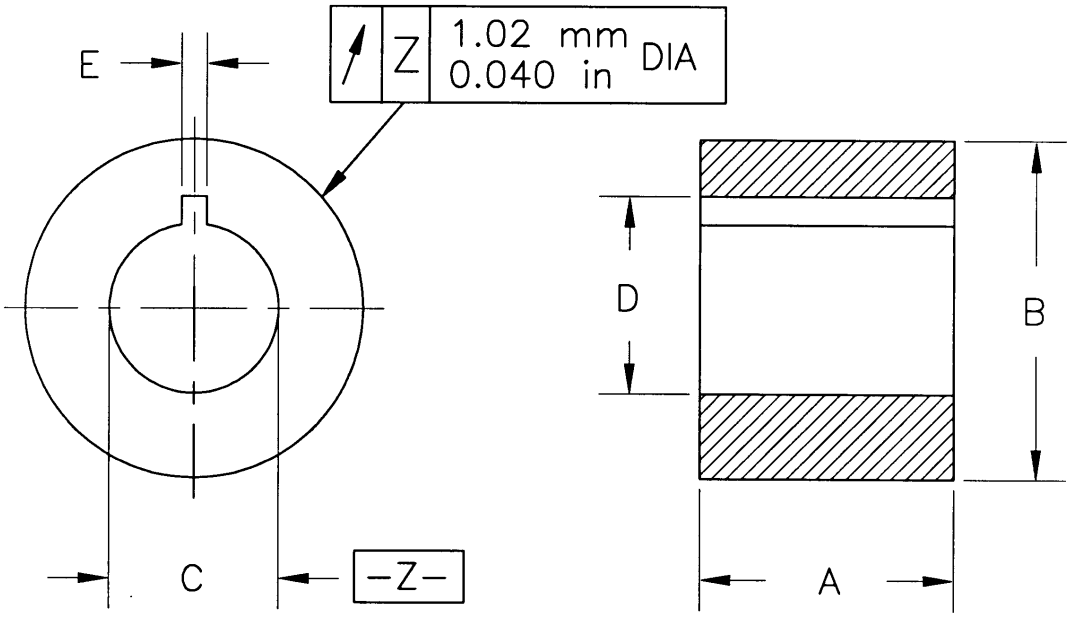

Figure 1 – Core

American National Standard

Approved
May 12, 1994

Table 1 – Core dimensions

Nominal size	Dimension A		Dimension B	
	Millimeters[1)]	Inches	Millimeters	Inches
8 mm × 50 mm (8 mm × 2 in)	7.90 + 0.00 – 0.50	0.311 + 0.000 – 0.020	50.00 æ 0.50	1.968 ± 0.020
16 mm × 50 mm (16 mm × 2 in)	15.90 + 0.00 – 0.50	0.626 + 0.000 – 0.020	50.00 æ 0.50	1.968 ± 0.020
16 mm × 75 mm (16 mm × 3 in)	15.90 + 0.00 – 0.50	0.626 + 0.000 – 0.020	75.00 + 2.00 – 1.00	2.953 + 0.079 – 0.039
16 mm × 100 mm (16 mm × 4 in)	15.90 + 0.00 – 0.50	0.626 + 0.000 – 0.020	100.00 æ 1.50	3.937 ± 0.059
35 mm × 50 mm (35 mm × 2 in)	34.90 + 0.00 – 1.00	1.374 + 0.000 – 0.039	50.00 æ 0.50	1.968 ± 0.020
35 mm × 75 mm (35 mm × 3 in)	34.90 + 0.00 – 1.00	1.374 + 0.000 – 0.039	75.00 + 2.00 – 1.00	2.953 + 0.079 – 0.039
35 mm × 100 mm (35 mm × 4 in)	34.90 + 0.00 – 1.00	1.374 + 0.000 – 0.039	100.00 æ 1.50	3.937 ± 0.059
35 mm × 125 mm[2)] (35 mm × 5 in)	34.90 + 0.00 – 1.00	1.374 + 0.000 – 0.039	125.00 æ 1.00	4.921 ± 0.039
65 mm × 75 mm (65 mm × 3 in)	64.90 + 0.00 – 1.00	2.555 + 0.000 – 0.039	75.00 + 2.00 – 1.00	2.953 + 0.079 – 0.039
70 mm × 75 mm (70 mm × 3 in)	69.90 + 0.00 – 1.00	2.752 + 0.000 – 0.039	75.00 + 2.00 – 1.00	2.953 + 0.079 – 0.039

Dimensions	Millimeters	Inches
C	25.70 + 0.40 – 0.00	1.012 + 0.016 – 0.000
D	29.50 + 0.90 – 0.00	1.161 + 0.035 – 0.000
E	3.80 + 0.40 – 0.00	0.150 + 0.016 – 0.000

NOTES
[1)] Millimeter dimensions are primary.
[2)] See clause 4.

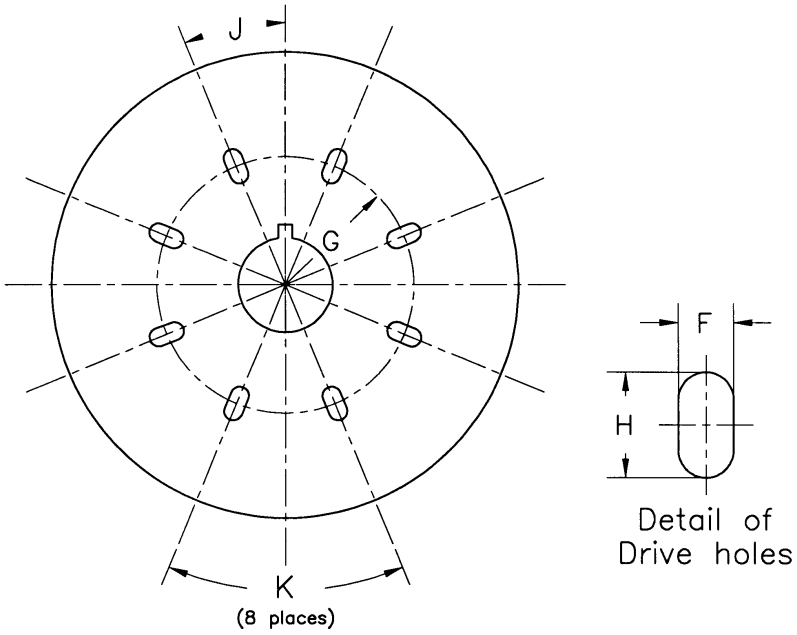

Figure 2 – Drive holes in 35-mm × 125-mm core

Table 2 – Drive hole dimensions

Dimensions	Millimeters	Inches
F	10.00 ± 0.50	0.394 ± 0.020
G	35.00 ± 0.50	1.378 ± 0.020
H	14.60 ± 0.50	0.575 ± 0.020
J	22.5°	22.5°
K	45°	45°

Annex A (informative)
Additional data

Means of attaching film to all cores are optional.

The keyway is provided as a means of driving the core for take-up or of providing holdback tension on a feed spindle. The dimensions of the keyway shall be adequate to clear a square-ended key.

The maximum value for dimension A has been fixed intentionally to encourage a common manufacturing practice of keeping the maximum widths of cores very slightly less than the minimum widths of corresponding films.

The rather large tolerances on dimension B are necessary to encompass the satisfactory existing practices of many different manufacturers. It is expected, however, that cores made by any one manufacturer would be held to a considerably smaller tolerance range. This will help prevent large variations, including undue tapering of the core from one side to the other, of any manufacturer's product.

In the interest of standardization, it is recommended that future cores with diameters greater than 100 mm (4 in) be designed to even-millimeter (nominal inch) dimensions, such as 125, 150, 175 millimeters, etc.

Cores with keys (so-called male cores) have not been included in this standard because they are in declining use. Therefore, new equipment should be designed to accept the female core (core with keyway).