INTERNATIONAL STANDARD ISO 3646

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

Cinematography — Motion-picture camera cartridge, 8 mm Type S Model II — Slots, projections and cartridge hole for indicating film speed, colour balance and film identification — Dimensions and positions

Cinématographie — Chargeurs, modèle II, pour caméras 8 mm type S — Encoches et bossage pour la sensibilité du film, cavité et bossage pour l'identification du film et pour le filtre de correction de couleur — Dimensions et positions

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Price based on 3 pages

ISO 3646-1976 (E)

FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO Member Bodies). The work of developing International Standards is carried out through ISO Technical Committees. Every Member Body interested in a subject for which a Technical Committee has been set up has the right to be represented on that Committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work.

Draft International Standards adopted by the Technical Committees are circulated to the Member Bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 3646 was drawn up by Technical Committee ISO/TC 36, *Cinematography*, and circulated to the Member Bodies in February 1975.

It has been approved by the Member Bodies of the following countries :

Australia	India	Sweden
Austria	Italy	Switzerland
Belgium	Japan	Turkey
Canada	Netherlands	United Kingdom
Czechoslovakia	Romania	U.S.A.
Denmark	South Africa, Rep. of	U.S.S.R.
France	Spain	Yugoslavia

No Member Body expressed disapproval of the document.

Printed in Switzerland

Cinematography — Motion-picture camera cartridge, 8 mm Type S Model II — Slots, projections and cartridge hole for indicating film speed, colour balance and film identification — Dimensions and positions

1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies the dimensions and location of cartridge slots, projections and a hole for the Model II 8 mm Type S film camera cartridge which, when included by the manufacturer, automatically preset some cameras in accordance with the effective film speed, and insert or withdraw a colour-balancing filter. The combinations which are possible, together with the area available for visible film identification, are also described.

2 REFERENCES

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

ISO 1787, *Cinematography — Camera usage of 8 mm motion-picture film perforated Type S.*

ISO 2863, *Cinematography — Motion-picture camera cartridge, 8 mm Type S Model II — Run length of film — Dimensions and specifications.*

ISO 3025, *Cinematography — Motion-picture camera cartridge, 8 mm Type S Model II — Film load position.*

ISO 3641, *Cinematography — Motion-picture camera cartridge, 8 mm Type S Model II — Cartridge fit and take-up core drive — Dimensions and specifications.*

ISO 3645, *Cinematography — Image area produced by 8 mm Type S motion-picture camera aperture and maximum projectable image area — Positions and dimensions.*

3 DIMENSIONS AND CHARACTERISTICS

3.1 The dimensions and characteristics shall be as shown in the figures and given in the tables.

3.2 The location of the hole, slots and projections for effective film speeds and for film sensitivity identification shall conform to the figures and the tables.

3.3 The dimensions for the film hole or projection intended for insertion or withdrawal of the colour-balancing filter apply if the cartridge is loaded with a colour film balanced for tungsten light exposure. This hole or projection is not included if the cartridge is loaded with colour film for daylight exposure.

3.4 The two slots and the projection used to specify the film speed, and the hole and the projection used to identify the inclusion of a tungsten-type film load, are mutually independent to allow design flexibility.

3.5 The dimensions and specifications of the external characteristics of the camera cartridge and the location of the datum planes used for dimensional reference are established in ISO 3641.

3.6 The corners of the two slots for film speed may be rounded to 0,1 mm (0.004 in) radius maximum.

3.7 The top and bottom corners of the projections for film speed and film identification may be rounded to 1,5 mm (0.06 in) maximum.

3.8 If visual inscriptions of film data, such as film name, number and length of load, are to be provided, they should be on the label side of the cartridge, figure 2, and the film type and speed should also be contained within the area specified.

NOTE — The International Organization for Standardization has been advised that the Fuji Photo Film Company, Ltd., owns the patents as listed below :

Country	Patent No.
Australia	290075
Belgium	659363
Canada	825419
Italy	746611
Spain	316413
Sweden	322123
Switzerland	428424
United Kingdom	1049844
U.S.A.	3599550 and 3434782
W. Germany	1274443

The International Organization for Standardization takes no position with respect to the scope and validity of these patents. With respect to patent identification, the Fuji Photo Film Company has assured the International Organization for Standardization that it will not assert any claim for infringement of such patents based on the manufacture, sale or use of cartridges in compliance with 3.1 and the figures and tables of dimensions. Noting that compliance with this International Standard does not require the use of the inventions covered by the patents identified above, the Fuji Photo Film Company, Ltd., has nevertheless assured the International Organization for Standardization that it is willing to grant licences under these patents on reasonable terms and conditions that are free of any unfair discrimination.

The terms have been declared in a letter dated 10 May 1972 to the ISO/TC 36 Secretariat by the Fuji Photo Film Company, Ltd., in order to clarify the range of the patent holders' assurance in accordance with Resolution 51, Council 1966. Licence details can be obtained from :

Fuji Photo Film Company, Ltd.
26-30 Nishiazabu 2-Chome
Minato-ku
Tokyo 106
Japan

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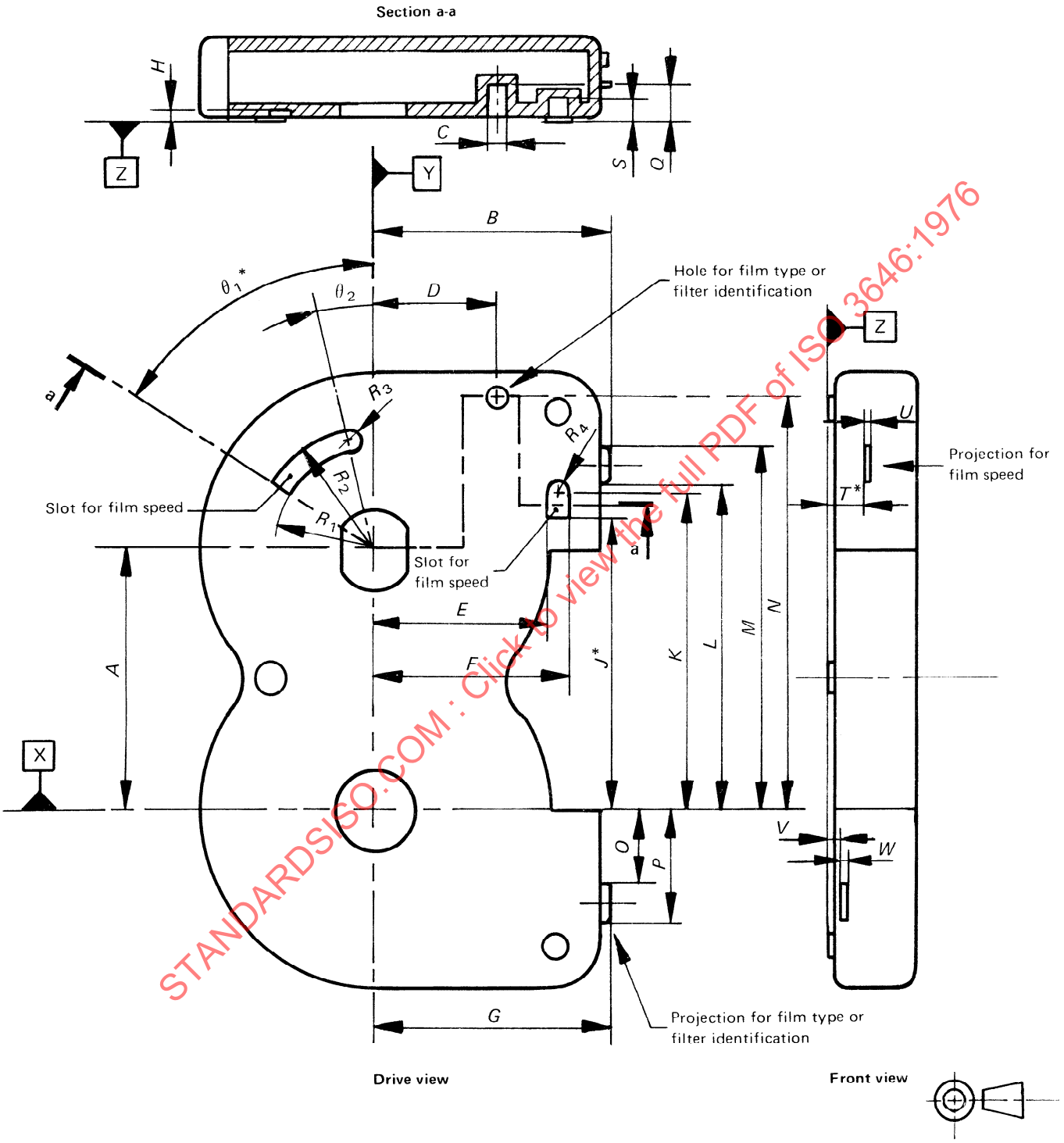

FIGURE 1 — **Location and dimensions of slots, projections and hole**

* See table 2.

TABLE 1 — **Dimensions and angle**

Dimension	mm	in
A ref.	43,0	1.69
B	38,5 $^{0}_{-0,3}$	1.52 $^{0}_{-0.01}$
C min.	3,0	0.12
D	21,0 ± 0,2	0.827 ± 0.008
E	27,8 ± 0,2	1.094 ± 0.008
F	30,8 ± 0,2	1.213 ± 0.008
G	38,5 $^{0}_{-0,3}$	1.52 $^{0}_{-0.01}$
H min.	1,35	0.053
K min.	52,5	2.07
L	55,5 ± 0,4	2.19 ± 0.02
M	61,5 ± 0,4	2.42 ± 0.02
N	68,00 ± 0,35	2.677 ± 0.014
O	12,5 ± 0,4	0.49 ± 0.02
P	18,5 ± 0,4	0.73 ± 0.02
R_1	16,1 ± 0,3	0.63 ± 0.01
R_2	19,9 ± 0,3	0.78 ± 0.01
R_3	1,90 ± 0,30	0.075 ± 0.012
R_4	1,5 ± 0,3	0.06 ± 0.01
Y max.	23,0	0.91
U min.	1,5	0.06
V	1,1 ± 0,3	0.04 ± 0.01
W min.	1,5	0.06
S	2,7 ± 0,2	0.106 ± 0.008
Q min.	6,0	0.236
Angle θ_2	10 ± 1/2°	

NOTE — Dimension *C* is a diameter.

Inch values for dimensions *D*, *E*, *F*, *N*, *S* and *Q* are intentionally carried to an additional decimal place.

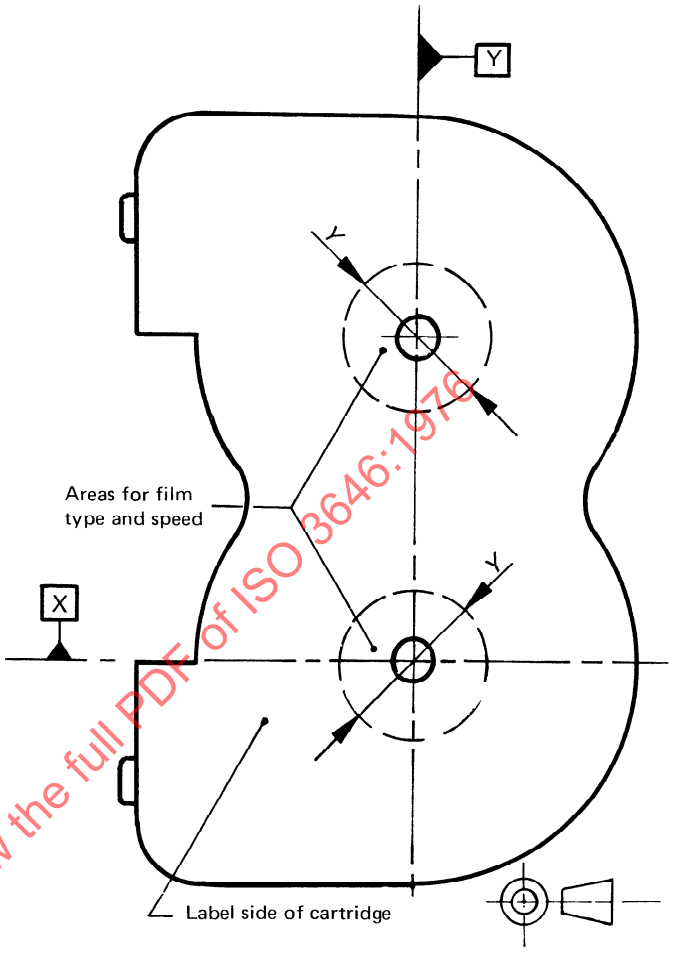

FIGURE 2 — **Cartridge area for visible information or product identification**

TABLE 2 — **Dimensions controlling film speed values**

Film speed		θ_1*	*J***		*T****	
DIN	ASA	degrees	mm	in	mm	in
13	16	22	51,0	2.01	11,6	0.457
14	20	26	50,5	1.99	10,85	0.427
15	25	30	50,0	1.97	10,10	0.398
16	32	34	49,5	1.95	9,35	0.368
17	40	38	49,0	1.93	8,60	0.339
18	50	42	48,5	1.91	7,85	0.309
19	64	46	48,0	1.89	7,10	0.280
20	80	50	47,5	1.87	6,35	0.250
21	100	54	47,0	1.85	5,60	0.220
22	125	58	46,5	1.83	4,85	0.191
23	160	62	46,0	1.81	4,10	0.161
24	200	66	45,5	1.79	3,35	0.132
25	250	70	45,0	1.77	2,60	0.102
26	320	74	44,5	1.75	1,85	0.073
27	400	78	44,0	1.73	1,10	0.043

* Tolerance for all values ± 1/2°

** Tolerance for all values ± 0,1 mm (0.004 in)

*** Tolerance for all values ± 0,3 mm (0.012 in)

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