

---

---

**Cinematography — Manufacturer-printed,  
latent image identification on 16 mm,  
35 mm and 65 mm motion-picture film —  
Specifications and dimensions**

*Cinématographie — Identification d'image latente, imprimée par le  
fabricant, sur films cinématographiques 16 mm, 35 mm et 65 mm —  
Spécifications et dimensions*

iTeh STANDARD PREVIEW  
(standards.iteh.ai)

[ISO 12222:2000](https://standards.iteh.ai/catalog/standards/sist/fb7aaba1-8dba-440a-84bb-e2755e432583/iso-12222-2000)

[https://standards.iteh.ai/catalog/standards/sist/fb7aaba1-8dba-440a-84bb-  
e2755e432583/iso-12222-2000](https://standards.iteh.ai/catalog/standards/sist/fb7aaba1-8dba-440a-84bb-e2755e432583/iso-12222-2000)



**PDF disclaimer**

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

ISO 12222:2000

<https://standards.iteh.ai/catalog/standards/sist/fb7aaba1-8dba-440a-84bb-e2755e432583/iso-12222-2000>

© ISO 2000

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office  
Case postale 56 • CH-1211 Geneva 20  
Tel. + 41 22 749 01 11  
Fax + 41 22 749 09 47  
E-mail [copyright@iso.ch](mailto:copyright@iso.ch)  
Web [www.iso.ch](http://www.iso.ch)

Printed in Switzerland

## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established 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. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 12222 was prepared by Technical Committee ISO/TC 36, *Cinematography*.

This third edition cancels and replaces the second edition (ISO 12222:1998), subclauses 3.1, clause 4, 5.1.1, 5.4.5, 5.4.6, 5.4.7, 6.1.3.3 b), 6.1.3.3 d), 6.4.7, 6.4.8 and 7.3, Figures 3, 6 and 8, and Tables 1, 4 and 5 of which have been technically revised. Subclause 5.4.8 was added.

(standards.iteh.ai)

ISO 12222:2000

<https://standards.iteh.ai/catalog/standards/sist/fb7aaba1-8dba-440a-84bb-e2755e432583/iso-12222-2000>

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

ISO 12222:2000

<https://standards.iteh.ai/catalog/standards/sist/fb7aaba1-8dba-440a-84bb-e2755e432583/iso-12222-2000>

# Cinematography — Manufacturer-printed, latent image identification on 16 mm, 35 mm and 65 mm motion-picture film — Specifications and dimensions

## 1 Scope

**1.1** This International Standard specifies the position and dimensions of machine-readable identification numbers on 16 mm, 35 mm and 65 mm motion-picture film. These numbers are intended to be a machine-readable version of the latent image key number. This International Standard also specifies the encoding format to be used for these machine-readable numbers, as well as the area scanned and the spectral characteristics of the scanner.

**1.2** This International Standard also specifies the position, dimensions and content of human-readable identification (key) numbers for use on 16 mm, 35 mm and 65 mm motion-picture films intended for original photography or intermediate printing which also include the machine-readable key number described in 1.1.

NOTE These numbers normally are exposed onto the film at the time of manufacture.

**1.3** This International Standard further specifies an area that may be used for optional manufacturer-specific film-type identification information.

**1.4** This International Standard also specifies an area on the film which is not to be exposed by the film manufacturer, thus leaving it available for customer data recording.

**1.5** Finally, this International Standard specifies an optional frame line index mark for 35 mm and 65 mm film.

## 2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 69:1998, *Cinematography — 16 mm motion-picture and magnetic film — Cutting and perforating dimensions*.

ISO 491:1995, *Cinematography — 35 mm motion-picture film and magnetic film — Cutting and perforating dimensions*.

ISO 3023:1995, *Cinematography — 65 mm and 70 mm unexposed motion-picture film — Cutting and perforating dimensions*.

ANSI/AIM BC4-1995, *Uniform Symbology Specification — Code 128*.

### 3 Terms and definitions

For the purposes of this International Standard, the following terms and definitions apply.

#### 3.1

**key number**

**edge number**

**footage number**

identification number that is printed with ink or exposed onto the film at the time of manufacture

NOTE The numbers are placed at regular intervals, typically every 20 perforations for 16 mm film, 64 perforations for 35 mm film and 120 perforations for 65 mm film. For the purposes of this International Standard, the key numbers are latent-image exposed.

#### 3.2

**bar edge**

⟨bar code⟩ that point where the transmittance is halfway between the maximum transmittance of the adjacent space and the minimum transmittance of the adjacent bar

#### 3.3

**scan transmittance profile**

⟨bar code⟩ record of the transmittance measured as a function of distance along the entire bar code symbol

#### 3.4

**symbol contrast**

**SC**

⟨bar code⟩ difference between the largest transmittance ( $T_{\max}$ ) and smallest transmittance ( $T_{\min}$ ) in a scan transmittance profile

iTeh STANDARD PREVIEW  
(standards.iteh.ai)

#### 3.5

**minimum edge contrast**

**EC<sub>min</sub>**

⟨bar code⟩ minimum difference between a space transmittance ( $T_s$ ) and the adjoining bar transmittance ( $T_b$ )

ISO 12222:2000  
<https://standards.iteh.ai/catalog/standards/sist/fb7aaba1-8dba-440a-84bb-e2755e432583/iso-12222-2000>

#### 3.6

**modulation**

**MOD**

⟨bar code⟩ ratio of minimum edge contrast (EC<sub>min</sub>) to symbol contrast (SC)

### 4 General format

The general format of the latent-image identification information shall be as shown in Figure 1 for 16 mm film, Figure 2 for 35 mm film, and Figures 3a) and 3b) for 65 mm film.

No latent information shall be placed along the upper edge of the film, as shown in Figures 1, 2 and 3. This area is reserved for data recording at the time of photography.

This identification information is intended to be exposed onto film cut and perforated in accordance with ISO 69, ISO 491 or ISO 3023.

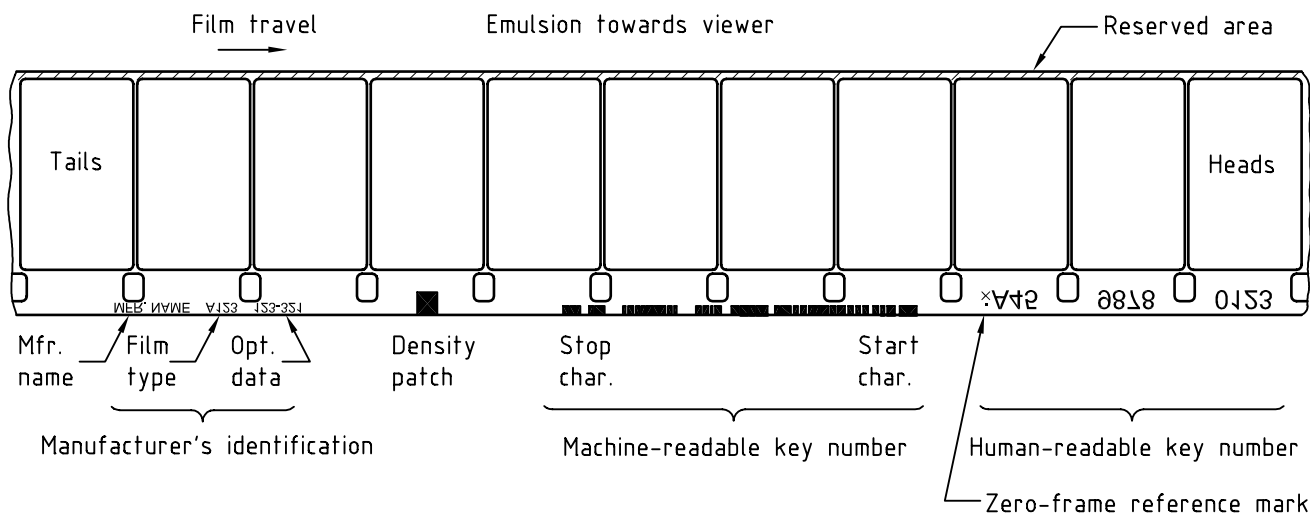


Figure 1 — General format on 16 mm film

## 5 Human-readable key numbers

### 5.1 Human-readable key number specifications applicable to 16 mm, 35 mm and 65 mm film

#### 5.1.1 General

An incrementing, human-readable key number shall be printed onto the film at the time of manufacture. The film shall be supplied to the user with the lowest number at the outside of the roll unless the sales format of the unit shown states differently. The human-readable key number shall consist of two alphabetic characters and 10 numerical characters. For 16 mm film, this alphanumeric code shall be separated into three groups of four characters, as shown in Figure 1. For 35 mm and 65 mm film, this alphanumeric code shall be separated into groups of two alphabetic characters and two, four and four digits, separated by spaces, as shown in Figures 2, 3a) and 3b).

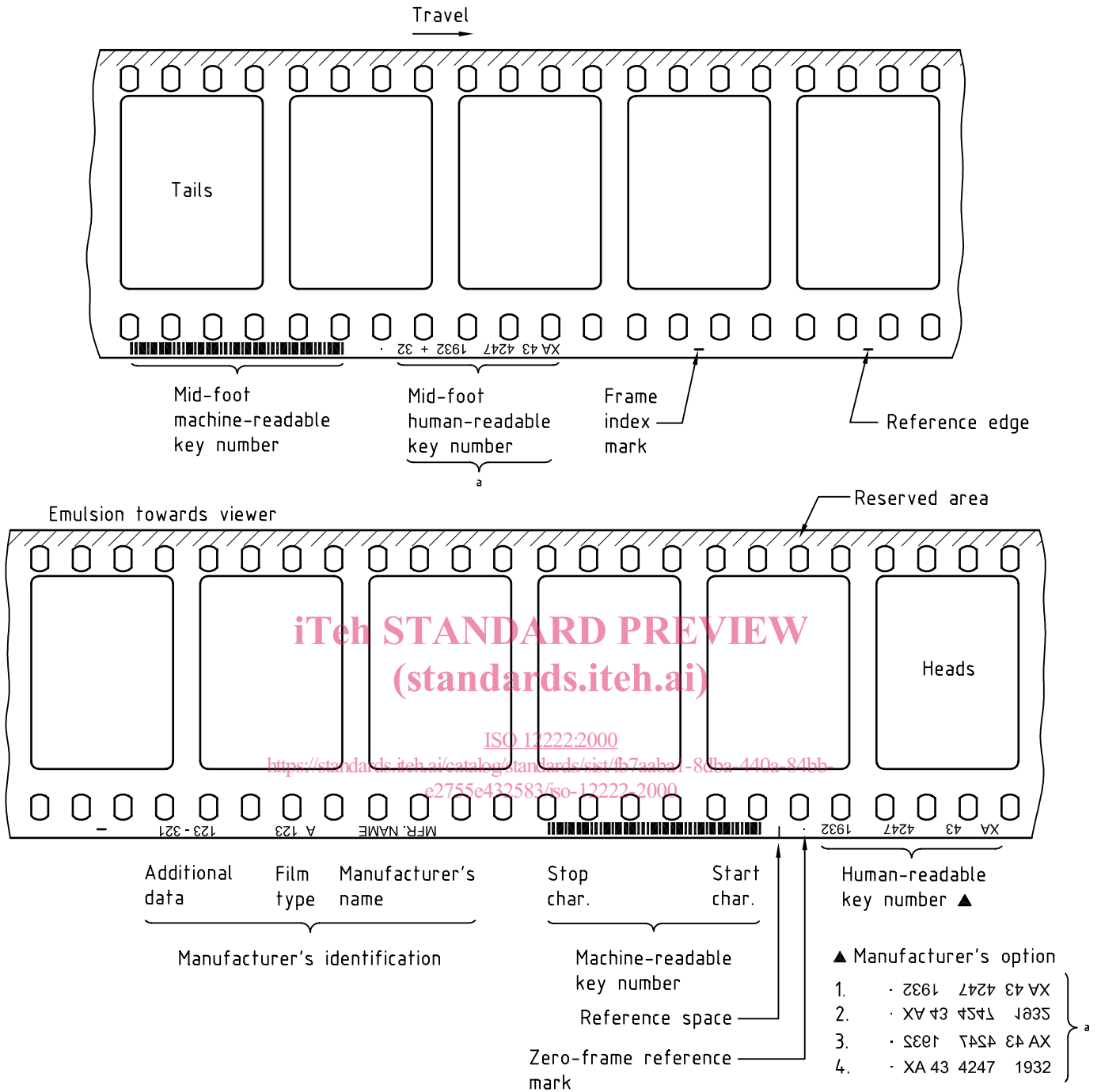
#### 5.1.2 Alphabetic characters

The first two alphabetic characters of the key number identify the manufacturer and film type. The character set used shall be the normal upper-case letters A through Z.

The first alphabetic character shall identify the film manufacturer, according to Table 1. Other letters are reserved for future assignment by ISO/TC 36. The second character shall be a film-type identifier. The character is chosen at the discretion of the film manufacturer.

Table 1 — Manufacturer alphabetic codes

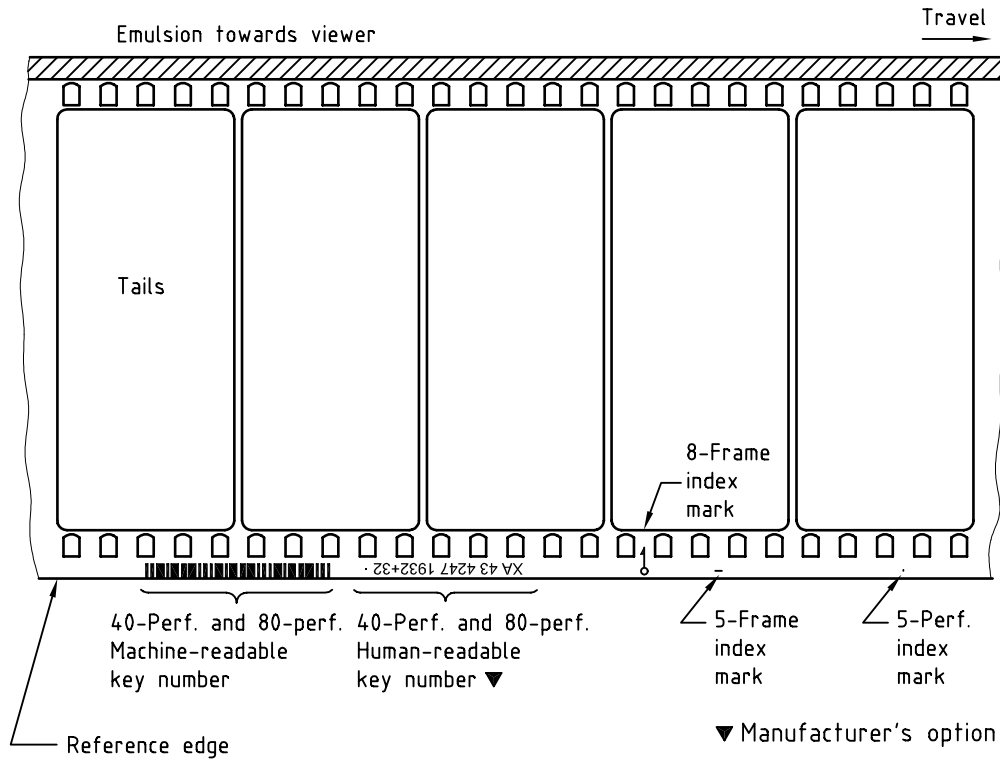
Manufacturer	Code
Agfa-Gevaert N.V.	A
Eastman Kodak Company	E, K
Fuji Photo Film Company	F
Ilford Limited	I
Other or nondesignated	(as assigned or blank)



<sup>a</sup> Human-readable key number orientation is the manufacturer's option.

Figure 2 — General format on 35 mm film

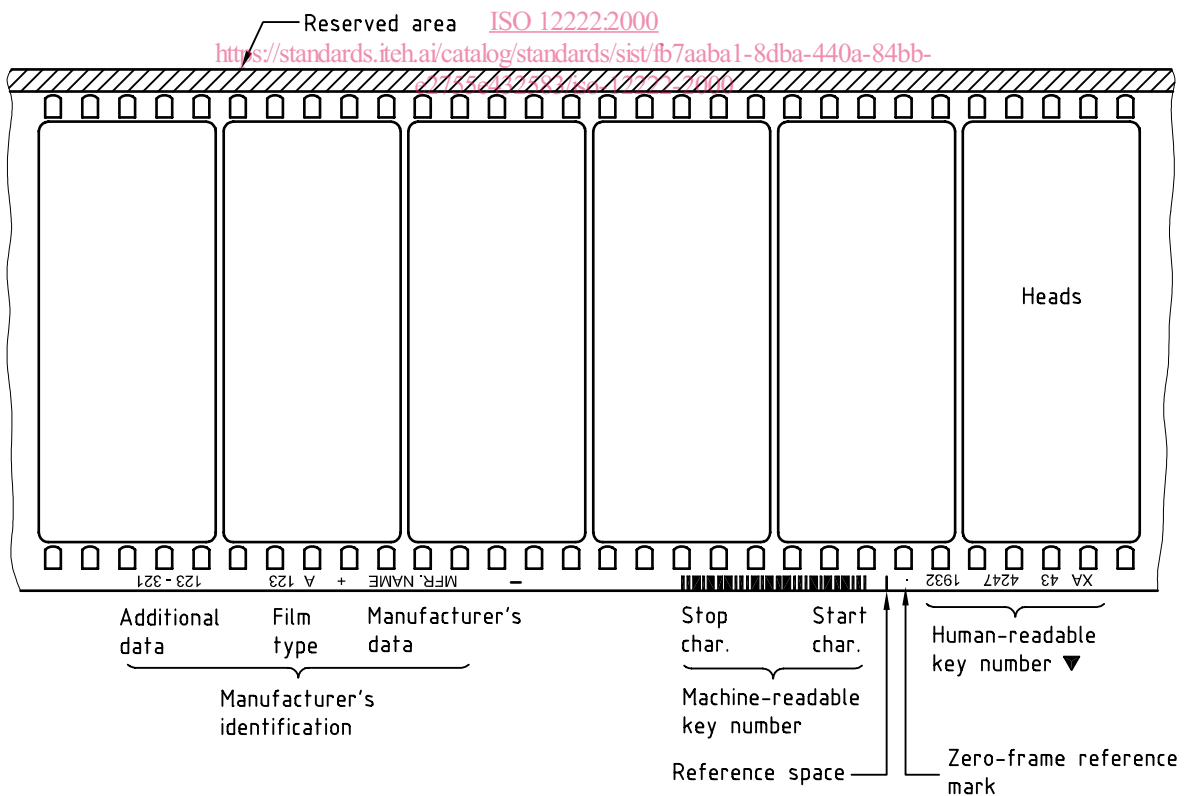




**iTeh STANDARD PREVIEW**  
[\(standards.iteh.ai\)](https://standards.iteh.ai/)

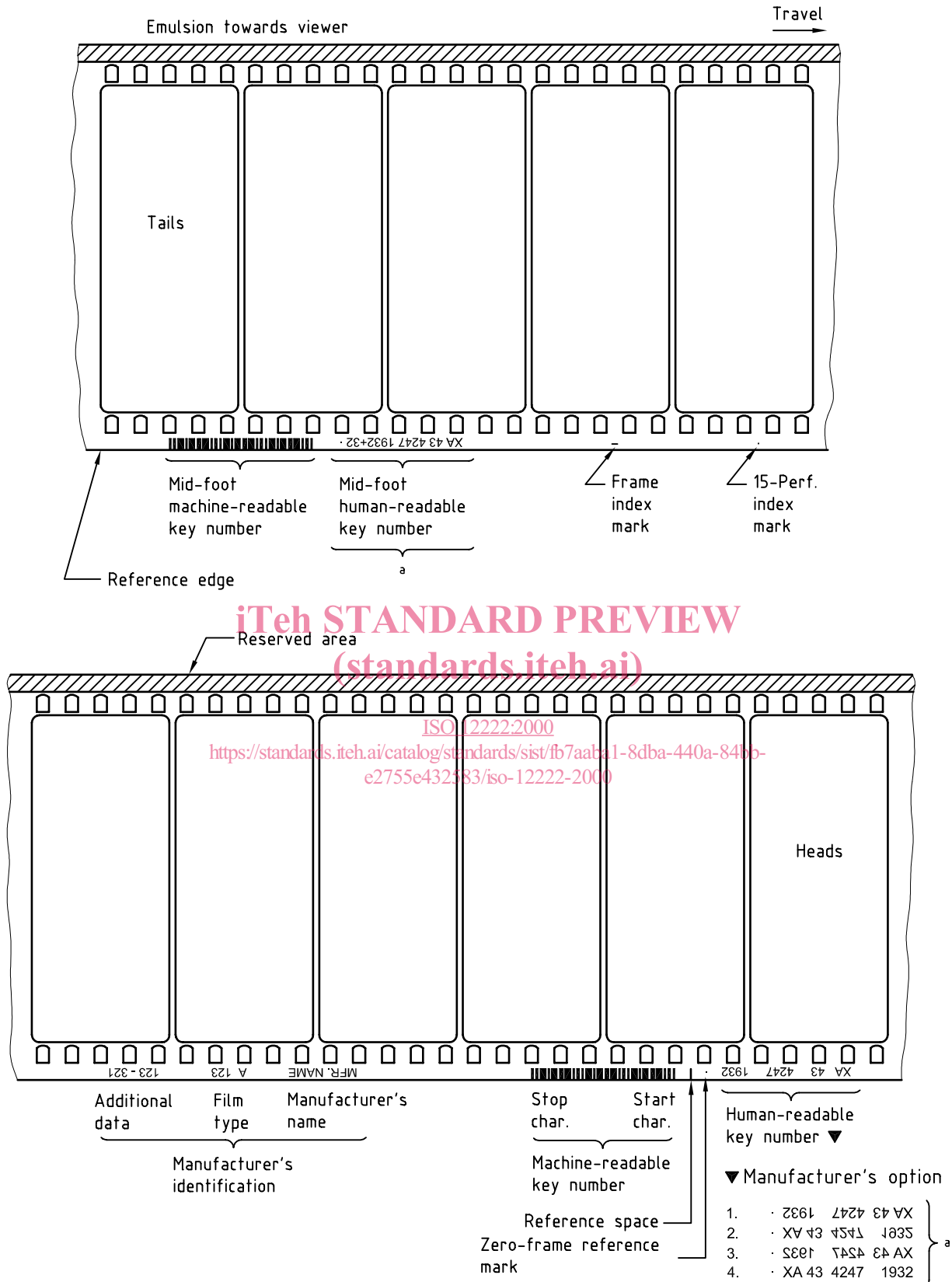
1. · · · 2892  
 2. · XA 43 4247 1932  
 3. · 5381 1454 3A AX  
 4. · XA 43 4247 1932

<sup>a</sup> Human-readable key number orientation is the manufacturer's option.



a) General format on 65 mm film (format A)

Figure 3 — Formats A and B on 65 mm film



<sup>a</sup> Human-readable key number orientation is the manufacturer's option.

**b) Special format on 65 mm film (format B)**

**Figure 3 — Formats A and B on 65 mm film**

### 5.1.3 Numerical characters

For the 10 numerical characters of the key number, only the digits 0, 1, 2, 3, 4, 5, 6, 7, 8 and 9 shall be used, and they shall be in normal counting sequence. It is recommended, although not required, that the "ten thousands" place should not be allowed to increment within a single roll of film.

## 5.2 Human-readable key number specifications applicable to 16 mm film only

### 5.2.1 Dimensions

The height and width of the human-readable key numbers shall be as specified in Figure 4 and Table 2. Note that the height of the first character is less than that of the others to allow for the reference mark specified in 5.2.2. The width of each human-readable character is left to the manufacturer's discretion, but it should be wide enough for good legibility, while still maintaining dimension  $F$ . A character height-to-width ratio of 14:10 and a space between characters of  $2/14$  of a character height is recommended.

### 5.2.2 Reference mark

A zero-frame reference mark shall be printed between the first human-readable key number and the edge of the film, as shown in Figure 1. This may be above or below the character, depending upon which of the possible orientations allowed in 5.2.6 is used. The zero-frame reference mark shall be a filled circle with a diameter as given by dimension  $B_3$  of Table 2.

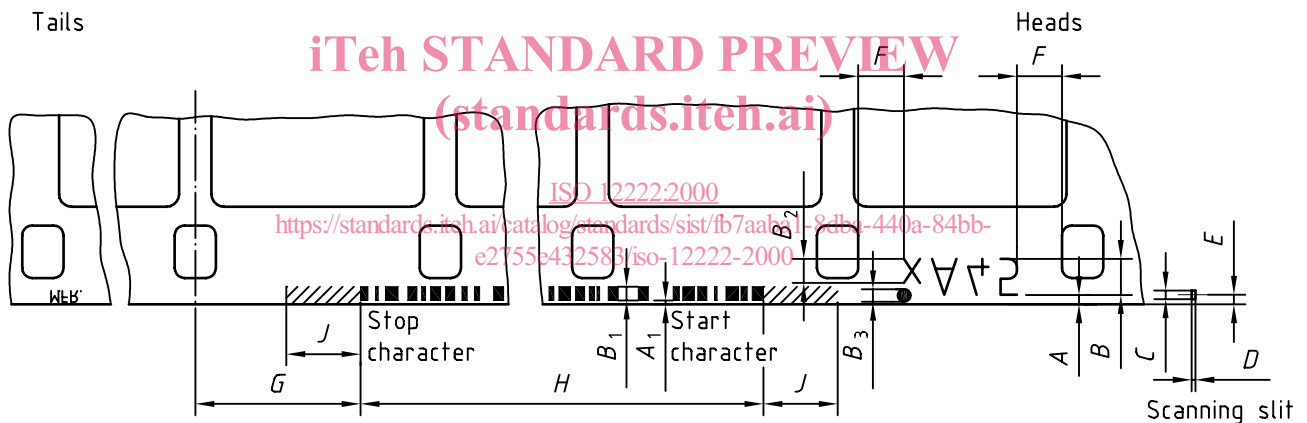


Figure 4 — Key number position and dimensions on 16 mm film