
**Cinematography — Projection film
leader (time-based), trailer and cue
marks — Specifications**

*Cinématographie — Amorce de début et fin et repère de
synchronisation pour la projection — Spécifications*

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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 36, *Cinematography*.

This fifth edition cancels and replaces the fourth edition (ISO 4241:2013), of which it constitutes a minor revision. The changes compared to the previous edition are as follows:

- change of the title;
- editorial revision of the structure of the document.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Cinematography — Projection film leader (time-based), trailer and cue marks — Specifications

1 Scope

This document specifies the makeup or assembly of time-based leaders and cue marks for 70 mm, 35 mm, and 16 mm motion-picture release prints.

NOTE Extraneous materials are dealt with in [Annex A](#).

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 4238:1976, *Cinematography — Optical printing ratios for enlargement and reduction of motion-picture film images — Specifications*

3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at <https://www.iso.org/obp>

— IEC Electropedia: available at <http://www.electropedia.org/>

4 Reduction ratio

The reduction ratio in the production of the head and foot leaders from 35 mm motion-picture film to 16 mm motion-picture film shall be in accordance with ISO 4238.

5 General specifications

5.1 Orientation and dimensions of letters and numerals in this document are with respect to 35 mm motion-picture films and are modified proportionally in accordance with ISO 4238 for 70 mm and 16 mm prints.

5.2 Information appearing in the leader which is printed lengthwise (in the direction of film travel) shall read from left to right when viewed from the projection lens towards the projector light source with the head end of the film at the right. Information appearing in the leader which is printed upright shall read normally when the reel is uppermost and the head of the film hangs down ready for threading (see [Figures 1](#) and [5](#) for orientation of information).

5.3 All frames in the head-leader and trailer-leader identification sections (see [6.3](#) and [8.3](#)) and in frames 1 through 171 of the head-leader synchronizing section (see [6.4](#)) shall be masked to the nominal anamorphic projection aperture [20,95 mm (0,825 in) × 17,53 mm (0,690 in)] with clear framelines nominally the height of anamorphic projection aperture framelines [1,55 mm (0,061 in)]. Frames 172 through 218 of the head-leader synchronizing section and frames 1 through 87 of the

trailer-leader runout section shall be masked to the nominal anamorphic camera aperture [21,95 mm (0,864 in) × 18,59 mm (0,732 in)] with clear framelines nominally the height of anamorphic camera-aperture framelines [0,41 mm (0,016 in)].

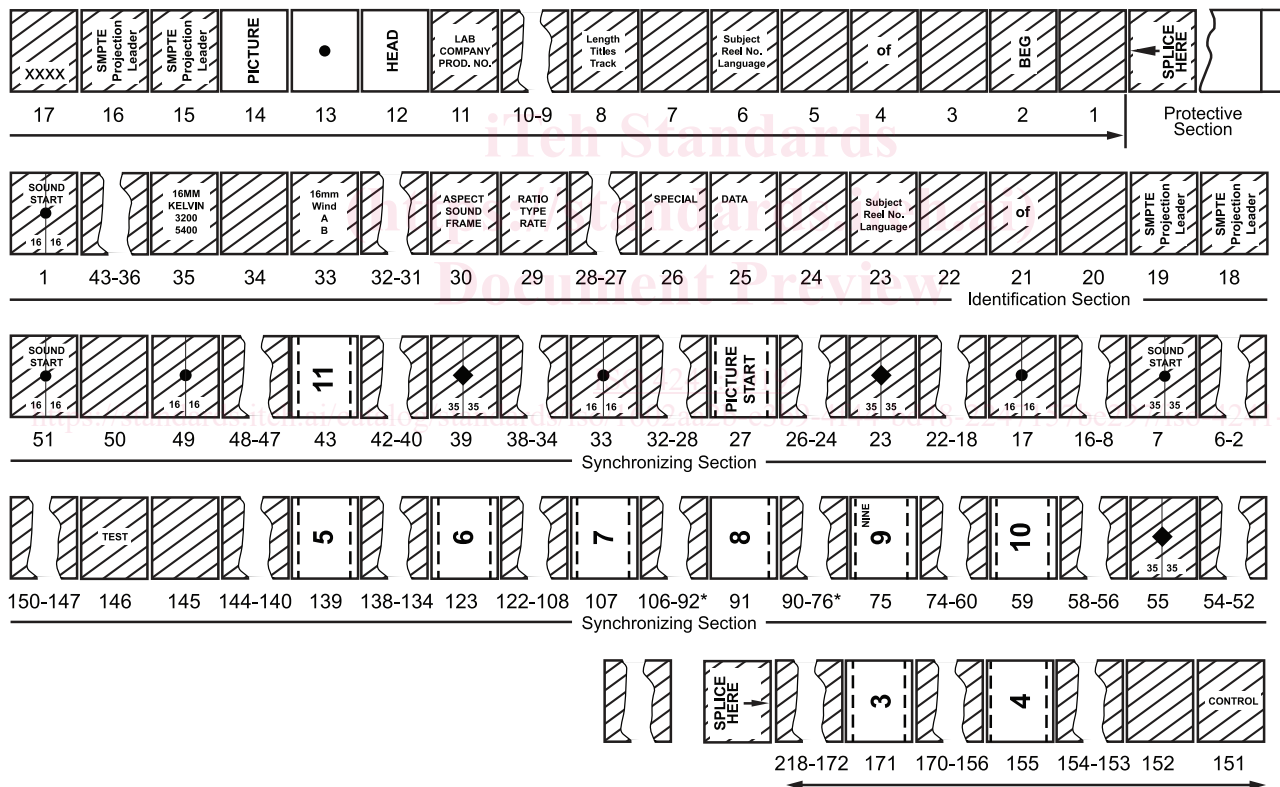
5.4 Because many types of film may be used for leaders, exact neutral densities have not been specified. For the purpose of this document, the following approximate neutral densities are referred to:

- clear (neutral density less than 0,35);
- black (neutral density greater than 1,95).

6 Head leader (see Figure 1)

6.1 Protective section

The protective section of the leader shall consist of a minimum of 2,44 m (8 linear feet) of transparent or raw stock. When the protective leader has been reduced to a length of 1,83 m (6 linear feet), it shall be restored to its original length. Logos, trademarks, part titles, or other extraneous materials, if absolutely necessary, should be placed in this section.



NOTE 1 Repeats frames 44 through 58 of synchronizing section.

NOTE 2 Film shown as viewed from projection lens towards projector light source.

NOTE 3 Cross-hatched frames represent a black background with clear images; non-cross-hatched frames represent a clear background with black images.

Figure 1 — Head leader