International Standard 2968

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

Cinematography — Recorded characteristics for magnetic sound record on 8 mm Type S motion-picture prints and full-coat magnetic film perforated 8 mm Type S — Specifications

Cinématographie — Caractéristiques d'enregistrement magnétique du son sur copies de film cinématographique 8 mm perforées, type S, et sur film magnétique 8 mm perforé, type S — Spécifications

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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 2968 was developed by Technical Committee ISO/TC 36, *Cinematography*, and was circulated to the member bodies in May 1980.

It has been approved by the member bodies of the following countries :

Canada	Italy	Switzerland
Czechoslovakia	Japan	United Kingdom
Denmark	Romania	USA
Egypt, Arab Rep. of	South Africa, Rep. of	USSR
France	Spain	
Germany, F. R.	Sweden	

No member body expressed disapproval of the document.

This edition cancels and replaces the first edition (i.e. ISO 2968-1973).

Printed in Switzerland

Cinematography — Recorded characteristics for magnetic sound record on 8 mm Type S motion-picture prints and full-coat magnetic film perforated 8 mm Type S — Specifications

1 Scope and field of application

This International Standard specifies the amplitude/frequency response of recorded magnetic sound on 8 mm Type S motion-picture prints and full-coat magnetic film perforated 8 mm Type S, running at the nominal speed of 24 frames [10,2 cm (4.0 in)] per second or 25 frames [10,6 cm (4.2 in)] per second.

2 References

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

ISO 1781, *Cinematography — Projector usage of 8 mm Type S motion-picture film for front projection.*

ISO 3027, *Cinematography — Magnetic stripes and recording head gaps for sound record on 8 mm Type S motion-picture prints — Position and width dimensions.*

3 Recorded characteristics

3.1 With constant sine-wave signal applied to the input of the recording system, the nominal characteristic of the short-circuit magnetic flux versus frequency shall be that which results from the combination of two curves :

— one falling with increasing frequency in conformity with the impedance of a parallel combination of a capacitance and a resistance having a time constant of 90 µs (t_1);

— one falling with increasing frequency in conformity with the impedance of a series combination of a capacitance and a resistance having a time constant of 3 180 µs (t_2).

The combined curve is defined (in decibels) by :

$$N\,(\text{dB}) = 10 \lg \left(1 + \frac{1}{4\pi^2 f^2 t_2^2}\right) - 10 \lg \left(1 + 4\pi^2 f^2 t_1^2\right)$$

where

f is the frequency, in hertz;

t_1 and t_2 are the time constants, in seconds.

The numerical values are given in the table.

Table

Frequency	$N(t_1)$	$N(t_2)$	N
Hz	dB	dB	dB
50	−0,00	+ 3,01	+ 3,01
63	−0,01	+ 2,12	+ 2,11
80	−0,01	+ 1,43	+ 1,42
100	−0,01	+ 0,97	+ 0,96
125	−0,02	+ 0,65	+ 0,63
160	−0,04	+ 0,41	+ 0,37
200	−0,06	+ 0,26	+ 0,20
250	−0,09	+ 0,17	+ 0,08
315	−0,14	+ 0,11	+ 0,03
400	−0,22	+ 0,07	− 0,15
500	−0,33	+ 0,04	− 0,29
630	−0,52	+ 0,03	− 0,49
800	−0,81	+ 0,02	− 0,79
1 000	−1,20	+ 0,01	− 1;19
1 250	−1,76	+ 0,01	− 1,75
1 600	−2,60	+ 0,00	− 2,60
2 000	−3,58	+ 0,00	− 3,58
2 500	−4,77	+ 0,00	− 4,77
3 150	−6,20	+ 0,00	− 6,20
4 000	−7,86	+ 0,00	− 7,86
5 000	−9,54	+ 0,00	− 9,54
6 300	−11,36	+ 0,00	− 11,36
8 000	−13,32	+ 0,00	− 13,32
10 000	−15,18	+ 0,00	− 15,18

3.2 The corresponding reproducing characteristic is that which gives a flat response when reproducing a sound track recorded with the relative short circuit flux levels stated in 3.1.

4 Tolerances on recorded levels

The magnetic sound records on the film shall be recorded to the characteristic specified in clause 3 within the tolerances given in the figure.

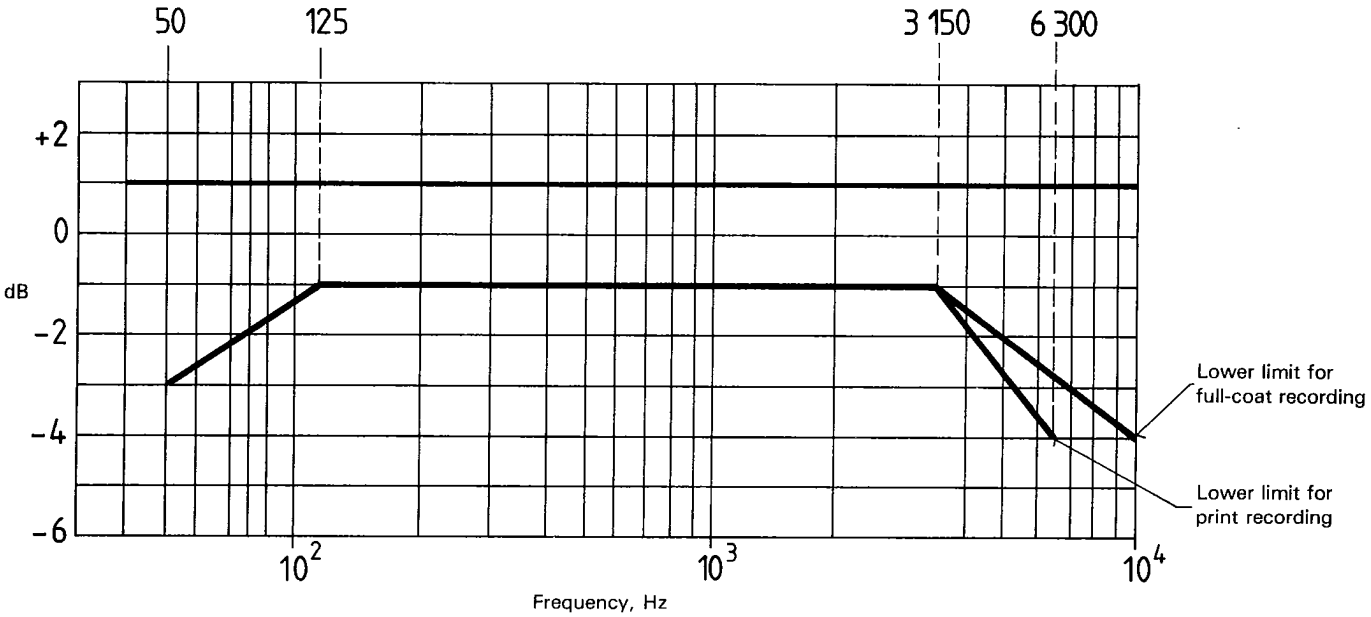

Figure — Tolerances on recorded levels