
INTERNATIONAL STANDARD



512

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

Road vehicles — Sound signalling devices — Acoustic standards and technical specifications

Véhicules routiers — Avertisseurs sonores — Normes acoustiques et spécifications techniques

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Descriptors : acoustic signals, motor vehicles, tests, acoustic measurement.

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 512 (originally ISO/DIS 2088) was drawn up by Technical Committee ISO/TC 22, *Road vehicles*, and circulated to the Member Bodies in November 1972.

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

Austria	Ireland	South Africa, Rep. of
Belgium	Italy	Sweden
Czechoslovakia	Netherlands	Switzerland
Egypt, Arab Rep. of	New Zealand	Thailand
France	Poland	Turkey
Germany	Portugal	United Kingdom
Hungary	Romania	U.S.S.R.

The Member Bodies of the following countries expressed disapproval of the document on technical grounds :

Canada
Japan
U.S.A.

This International Standard cancels and replaces ISO Recommendation R 512-1966.

Road vehicles — Sound signalling devices — Acoustic standards and technical specifications

1 SCOPE

This International Standard specifies the acoustic properties, such as spectral distribution of acoustic power and sound pressure level, and also the test conditions, of sound signalling devices

- mounted on motor vehicles the engine displacement of which is greater than 50 cm³;
- functioning with an electrical current.

This International Standard also concerns electropneumatic signalling devices.

2 FIELD OF APPLICATION

This International Standard applies to the following two categories according to their operating conditions:

Category I — Sound signalling devices for vehicles without storage battery (for example motorcycles).

Category II — Sound signalling devices for vehicles with storage battery.

It applies only to sound signalling devices producing a sound of constant frequency (or a harmonic chord). It does not apply to sound signalling devices producing a sequence of sounds of various frequencies used on priority vehicles: police vans, fire-fighting vehicles and ambulances, for example.

3 REFERENCE

IEC Publication 179, *Precision sound level meters*.

4 TESTS

4.1 Test for apparatus not mounted on vehicle

4.1.1 Conditions of supply to the sound signalling device during the test

4.1.1.1 For sound signalling devices for vehicles without storage battery, it is essential that the electric current be supplied by a generator of the same type as that of the vehicle for which the sound signalling device is intended, this generator being driven as though the engine of the vehicle were running at a rate between 70 and 100 % of the

speed of revolution corresponding to the maximum power of the engine. There should be no other electrical load on the generator during this test.

4.1.1.2 For sound signalling devices supplied with direct current, apply voltages of

6,5 ± 0,1 V,

13,0 ± 0,1 V, or

26,0 ± 0,1 V,

measured at the terminals of the source of energy, corresponding respectively to rated voltages of

6 V,

12 V, or

24 V.

The resistance in the system shall be

0,05 Ω for a rated voltage of 6 V,

0,10 Ω for a rated voltage of 12 V,

0,20 Ω for a rated voltage of 24 V,

the resistances at terminals and contacts being included in these values.

The alternating component of the supply voltage shall not exceed 0,1 V at the terminals when measured from peak to peak while the sound signalling device is operating.

4.1.1.3 Electropneumatic sound signalling devices shall be supplied with electric current following the indications of the manufacturer.

4.1.2 Mounting of apparatus

The apparatus to be tested shall be mounted in the manner specified by the manufacturer and in any case shall be fixed rigidly on a metallic base whose mass is more than ten times that of the apparatus to be tested, and at least equal to 30 kg.

The base shall be so designed that the reflections from its faces, and also its vibrations, are without any noticeable effect on the measurement results.

4.1.3 Sound pressure level

Use a sound level meter which conforms to IEC Publication 179.