

Road vehicles — Unscreened high-voltage ignition cables — General specifications, test methods and requirements

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National foreword

This British Standard reproduces verbatim ISO 3808:2002 and implements it as the UK national standard.

The UK participation in its preparation was entrusted to Technical Committee MCE/9, Vehicle ignition equipment, which has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible international/European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

A list of organizations represented on this committee can be obtained on request to its secretary.

Cross-references

The British Standards which implement international publications referred to in this document may be found in the *BSI Catalogue* under the section entitled “International Standards Correspondence Index”, or by using the “Search” facility of the *BSI Electronic Catalogue* or of British Standards Online.

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Road vehicles — Unscreened high-voltage ignition cables — General specifications, test methods and requirements

*Véhicules routiers — Câbles d'allumage haute tension non blindés —
Spécifications générales, méthodes d'essai et exigences*



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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.

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 3808 was prepared by Technical Committee ISO/TC 22, *Road vehicles*, Subcommittee SC 1, *Ignition equipment*.

This first edition of ISO 3808 cancels and replaces ISO 3808-1:1979 and ISO 3808-2:1980, which have been technically revised.

Annex A forms a normative part of this International Standard.

Road vehicles — Unscreened high-voltage ignition cables — General specifications, test methods and requirements

1 Scope

This International Standard specifies the classes, types and dimensions of, and test methods and requirements for, unscreened high-voltage ignition cables used in spark-ignited engines for road vehicles.

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 1817:1999, *Rubber, vulcanized — Determination of the effect of liquids*

ISO 4926:1978, *Road vehicles — Hydraulic brake systems — Non-petroleum base reference fluids*

3 General cable specifications

3.1 Cable classes

Depending on the test temperature for the thermal overload test (see 4.9) six cable classes are specified. See Table 1.

Table 1 — Cable classes and thermal overload test temperatures

Cable class	A	B	C	D	E	F
Thermal overload test temperature, °C ± 2	105	120	155	180	220	250

3.2 Cable types

The type of cable depends on the conductor used. See Table 2.

Table 2 — Cable types

Cable type	Conductor
1	Stranded copper
2	Other stranded metal
3A	Resistive
3B	
4	Reactive

3.3 Cable outside diameter

The outside diameter of the finished cable shall be

- $(5^{+0,3}_0)$ mm,
- $(7 \pm 0,3)$ mm, or
- $(8 \pm 0,3)$ mm.

4 Tests and requirements

4.1 General test conditions

Unless otherwise specified:

- all tests shall be performed at an ambient temperature (room temperature) of $(23 \pm 5) ^\circ\text{C}$;
- each test shall be started with an unused sample.

Samples for all tests shall be preconditioned for at least 16 h at room temperature.

When an oven is required, it shall be a hot air oven. The air contained in the oven shall be completely changed at least eight times per hour, but not more than 20 times per hour, at the specified temperature.

4.2 Cable dimensions

4.2.1 Measurements

The outside diameter of the cable shall be determined by taking five sets of measurements along a 1 m length of the cable. Each set of measurements shall consist of the determination of the maximum and minimum diameters at the point of measurement.

4.2.2 Requirement

No single value shall be outside the tolerance given in 3.3.

4.3 Cable resistance

4.3.1 Measurement

The standard sample shall be 1 m in length, plus a stripped length necessary for connections. Other lengths may be used, provided that the resistance reading is adjusted using the procedure given in 4.3.3.

4.3.2 Resistance measuring device

The accuracy of the resistance measuring device shall be $\pm 0,5 \%$ of the measured value.

4.3.3 Procedure

Measure the length of the sample, plus a stripped length necessary for connections. Connect the resistance measuring device to the cable ends. Care should be taken to ensure the connections are secure. Measure the resistance of the sample and then calculate to express the result in ohms per metre.