
**Road vehicles — Spark-plugs —
Test methods and requirements**

Véhicules routiers — Bougies d'allumage — Méthodes d'essai et exigences

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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.org
Web www.iso.org

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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 2.

The main task of technical committees is to prepare International Standards. 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 document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 11565 was prepared by Technical Committee ISO/TC 22, *Road vehicles*, Subcommittee SC 1, *Ignition equipment*.

This second edition cancels and replaces the first edition (ISO 11565:1998), which has been technically revised.

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Road vehicles — Spark-plugs — Test methods and requirements

1 Scope

This International Standard specifies the test methods and requirements for the mechanical and electrical performance of spark-plugs for use with spark ignition engines.

2 Normative references

The following referenced documents are indispensable for the application 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 1919, *Road vehicles — M14 × 1,25 spark-plugs with flat seating and their cylinder head housings*

ISO 2344, *Road vehicles — M14 × 1,25 spark-plugs with conical seating and their cylinder head housings*

ISO 2345, *Road vehicles — M18 × 1,5 spark-plugs with conical seating and their cylinder head housing*

ISO 2346, *Road vehicles — M14 × 1,25 compact spark-plugs with flat seating and 19 mm hexagon and their cylinder head housing*

ISO 2347, *Road vehicles — M14 × 1,25 compact spark-plugs with conical seating and their cylinder head housing*

ISO 2704, *Road vehicles — M10 × 1 spark-plugs with flat seating and their cylinder head housings*

ISO 2705, *Road vehicles — M12 × 1,25 spark-plugs with flat seating and their cylinder head housings*

ISO 6789, *Assembly tools for screws and nuts — Hand torque tools — Requirements and test methods for design conformance testing, quality conformance testing and recalibration procedure*

ISO 8470, *Road vehicles — M14 × 1,25 spark-plugs with flat seating and 16 mm hexagon and their cylinder head housings*

ISO 16246, *Road vehicles — M12 × 1,25 spark-plugs with flat seating and 14 mm hexagon and their cylinder head housing*

ISO 19812, *Road vehicles — M10 × 1 compact spark-plugs with flat seating and 16 mm hexagon and their cylinder head housings*

ISO 22977, *Road vehicles — M12 × 1,25 spark-plugs with flat seating and 14 mm bi-hexagon and their cylinder head housing*

IEC 60051-1, *Direct acting indicating analogue electrical measuring instruments and their accessories — Part 1: Definitions and general requirements common to all parts*

IEC 60068-2-6, *Environmental testing — Part 2: Tests — Test Fc: Vibration (sinusoidal)*

3 Test methods and requirements

3.1 General

The tests shall be carried out at an ambient temperature of $(23 \pm 5) ^\circ\text{C}$ and a relative humidity of $(65 \pm 20) \%$ unless otherwise specified.

For each test sample in Table 1, the test sequence is indicated by an X from top to bottom.

Each test sequence shall be started with unused samples.

Table 1 — Test sequences

Characteristic to be checked	In accordance with subclause	Test sample						
		A	B	C	D	E	F	G
General characteristics (visual examination)	3.2	X	X	X	X	X	X	X
Dimensions	3.3	X	X	X	X	X	X	X
Resistance of incorporated element for RF suppression	3.7.1	X						X
Loading life of the incorporated resistor	3.8	X	—					
Mechanical strength of the shell	3.4.1	X		—				
Tear-off resistance of the high-voltage terminal	3.4.2		X					
Bending resistance	3.4.3			X				
Gas tightness	3.5				X	—		
Withstand voltage of the insulator	3.7.2				X			
Vibration	3.4.4				X			—
Gas tightness	3.5				X			
Withstand voltage of the insulator	3.7.2	—	—	—	X			
Thermal shock, thermal resistance	3.6					X		
Insulation resistance at ambient temperature	3.7.3						X	
Insulation resistance at high temperature	3.7.4				—	—	X	
Thermal stability of incorporated resistor	3.9							X
General characteristics (visual examination)	3.2	X	X	X	X		X	X

3.2 General characteristics

3.2.1 Test method

Check the following characteristics specified in 3.2.2 by visual examination. Carry out the visual examination with the naked eye, at normal strength of vision and normal colour perception, at the most favourable viewing distance, and with suitable illumination.

Visual examination shall allow identification, appearance, workmanship and finish of the item to be checked against the relevant specification.