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**Road vehicles — Spark-plugs and  
their cylinder head housings — Basic  
characteristics and dimensions**

*Véhicules routiers — Bougies d'allumage et leur logement dans la  
culasse — Caractéristiques élémentaires et dimensions*



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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](http://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](http://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 on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

The committee responsible for this document is ISO/TC 22, *Road vehicles*, Subcommittee SC 1, *Ignition equipment*.

This second edition cancels and replaces the first edition (ISO 28741:2009), which has been technically revised. It also incorporates the Technical Corrigendum ISO 28741:2009/Cor1:2009.

## Introduction

The purpose of this International Standard is to provide a compact and concise specification on spark-plugs and their cylinder head housings, which replaces the large number of existing individual International Standards on each type of spark-plug.

It is intended to specify the main properties, the design requirements, and the dimensions of most of the existing types of spark-plugs and their cylinder head housings. In this way, the user can work with one comprehensive International Standard valid for most types of spark-plugs, instead of a number of International Standards, each of which is specified for one type only.

The testing of spark-plugs is covered in ISO 11565.



# Road vehicles — Spark-plugs and their cylinder head housings — Basic characteristics and dimensions

## 1 Scope

This International Standard specifies the main properties and dimensions of spark-plugs, including the terminals and the dimensions of their cylinder head housings, for use with spark-ignition engines.

This International Standard does not cover screened and waterproof spark-plugs (see ISO 3412, ISO 3895, and ISO 3896).

## 2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 68-1, *ISO general purpose screw threads — Basic profile — Part 1: Metric screw threads*

ISO 261, *ISO general purpose metric screw threads — General plan*

ISO 965-1, *ISO general-purpose metric screw threads — Tolerances — Part 1: Principles and basic data*

ISO 965-3, *ISO general purpose metric screw threads — Tolerances — Part 3: Deviations for constructional screw threads*

ISO 4095, *Aerospace — Bihexagonal drives — Wrenching configuration — Metric series*

ISO 6518-1, *Road vehicles — Ignition systems — Part 1: Vocabulary*

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 6518-1 and the following apply.

### 3.1

#### **installed height**

*l*

distance from the contact point of the cylinder head to the top of the spark-plug terminal, including the compressed gasket thickness with the spark-plug installed at the specified installation torque

Note 1 to entry: For conical seating, the contact point is defined from the gauge point of the seat.

### 3.2

#### **spark-plug thread size**

nominal size of the spark-plug thread used to interface between the spark-plug and the cylinder head thread

Note 1 to entry: These are standard metric threads, with the exception of the M14 × 1,25 thread.

### 3.3

#### **hexagon/bi-hexagon**

feature of the spark-plug shell that is used to install the spark-plug into the cylinder head, interfacing with the installation socket while the spark-plug is installed into the cylinder head

Note 1 to entry: A bi-hexagon is a 12-point installation feature, which requires that a 12-point socket wrench be used to install the spark-plug.