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## Road vehicles — Compressed natural gas (CNG) refuelling connector

*Véhicules routiers — Connecteur de remplissage en gaz naturel comprimé (GNC)*



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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. [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. [www.iso.org/patents](http://www.iso.org/patents)

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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 41, *Specific aspects for gaseous fuels*.

This first edition of ISO 14469:2016 cancels and replaces the first edition of ISO 14469-1:2004, ISO 14469-2:2007 and ISO 14469-3:2006, which have been technically revised.

## Introduction

This document was developed to use in the examination, testing and certification of newly produced compressed natural (CNG) gas vehicle fuelling nozzles and receptacles and, as such, applies only to the nozzles and receptacles used in CNG fuelling systems, and not to the system itself.

A nozzle certified to this International Standard will be functionally compatible from a safety and performance perspective with all listed receptacles of compatible profile and system pressure. Similarly, a certified receptacle will be functionally compatible from a safety and performance perspective with all listed nozzles of compatible profile and system pressure.

As there may eventually be many different kinds of nozzles and receptacles available from a variety of manufacturers which, for safety reasons, have to be all compatible with one another, this document specifies a series of receptacle profiles. These standard profiles incorporate the design specifications (mating materials, geometry and tolerances) which may be considered in the certification of a submitted nozzle or receptacle.

The construction and performance of nozzles and receptacles are based on the observation that three main parameters affect user safety and system compatibility.

### a) Service pressure

All nozzles and receptacles are designed to have a service pressure of either 20 MPa (200 bar) for B200 and C200 connectors or 25 MPa (250 Bar) for B250 and C250 connectors.

### b) Design life

Frequency of use is the second parameter to be considered. Since frequency of use will differ with the nozzle/receptacle application (i.e. public sector, fleet employee and residential), all receptacles will be tested at 10 000 connect/disconnect cycles for compliance with this document. In addition, all nozzles will be tested according to the following frequency use classifications, as applicable:

- Class A Nozzle, specifying high frequency use, with a cycle life of 100 000 cycles and equating to approximately 100 fills per day for three years;
- Class B Nozzle, specifying medium frequency use, with a cycle life of 20 000 cycles and equating to approximately 10 fills per day for five years.

### c) Training

Operator training required is in accordance with national requirements.