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

Part 1: 20 MPa (200 bar) connector

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

Partie 1: Connecteur 20 MPa (200 bar)



Reference number
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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 14469-1 was prepared by Technical Committee ISO/TC 22, *Road vehicles*, Subcommittee SC 25, *Road vehicles using natural gas*.

ISO 14469 consists of the following parts, under the general title *Road vehicles — Compressed natural gas (CNG) refuelling connector*:

— *Part 1: 20 MPa (200 bar) connector*

Size 2 and 25 MPa (250 bar) connectors will form the subjects of future parts 2 and 3.

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Introduction

This part of ISO 14469 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 part of ISO 14469 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, must all be compatible with one another, this part of ISO 14469 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. This part of ISO 14469 refers only to one working pressure and one application. Other working pressures and applications are under consideration for the future.

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

a) Working pressure

All nozzles and receptacles are designed to have a working pressure of 25 MPa (250 bar).

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 part of ISO 14469. In addition, all nozzles will be tested according to the following frequency use classifications, as applicable:

- 1) 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;
- 2) 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.