
**Road vehicles — Liquefied natural gas
(LNG) fuel system components —**

**Part 1:
General requirements and definitions**

*Véhicules routiers — Équipements pour véhicules utilisant le gaz
naturel liquéfié (GNL) comme combustible —*

Partie 1: Exigences générales et définitions



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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).

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).

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 25, *Vehicles using gaseous fuels*.

ISO 12614 consists of the following parts, under the general title *Road vehicles — Liquefied natural gas (LNG) fuel system components*:

- *Part 1: General requirements and definitions*
- *Part 2: Performance and general test methods*
- *Part 3: Check valve*
- *Part 4: Manual valve*
- *Part 5: Tank pressure gauge*
- *Part 6: Overpressure regulator*
- *Part 7: Pressure relief valve*
- *Part 8: Excess flow valve*
- *Part 9: Gas-tight housing and ventilation hose*
- *Part 10: Rigid fuel line in stainless steel*
- *Part 11: Fittings*
- *Part 12: Rigid fuel line in material other than stainless steel*
- *Part 13: Pressure control regulator*
- *Part 14: Differential pressure fuel content gauge*
- *Part 15: Capacitance fuel content gauge*

- *Part 16: Heat exchanger - vaporizer*
- *Part 17: Natural gas detector*
- *Part 18: Gas temperature sensor*

Road vehicles — Liquefied natural gas (LNG) fuel system components —

Part 1: General requirements and definitions

1 Scope

This part of ISO 12614 specifies general requirements and definitions of liquefied natural gas fuel system components, intended for use on the types of motor vehicles as defined in ISO 3833. It also provides general design principles and specifies requirements for instructions and marking.

This part of ISO 12614 is not applicable to the following:

- a) fuel containers;
- b) stationary gas engines;
- c) container mounting hardware;
- d) electronic fuel management;
- e) fuelling receptacles.

NOTE 1 It is recognized that miscellaneous components, not specifically covered herein can be examined to meet the criteria of this part of ISO 12614 and tested according to the appropriate functional tests.

NOTE 2 All references to pressure in this part of ISO 12614 are to be considered gauge pressures unless otherwise specified.

NOTE 3 This part of ISO 12614 is based upon a working pressure for natural gas as fuel of 1,6 MPa [16 bar¹⁾]. Other working pressures can be accommodated by adjusting the pressure by the appropriate factor (ratio). For example, a 2 MPa (20 bar) working pressure system will require pressures to be multiplied by 1,25.

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 3833:1977, *Road vehicles — Types — Terms and definitions*

ISO 6722 (all parts), *Road vehicles — 60 V and 600 V single-core cables*

ISO 15500:2012, *Road vehicles — Compressed natural gas (CNG) fuel system components*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1

burst pressure

pressure which causes failure and consequential fluid loss through the component envelope

1) 1 bar = 0,1 MPa = 105 Pa; 1 MPa = 1 N/mm².