SLOVENSKI STANDARD
oSIST prEN 15001-2:2017

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Sistemi oskrbe s plinom - Plinske napeljave z delovnim tlakom nad 0,5 bar za industrijsko uporabo in delovnim tlakom nad 5 bar za industrijsko in neindustrijsko uporabo - 2. del: Podrobne funkcionalne zahteve za začetek obratovanja, obratovanje in vzdrževanje

Gas supply systems - Gas installation pipework with an operating pressure greater than 0,5 bar for industrial installations and greater than 5 bar for industrial and non-industrial installations - Part 2: Detailed functional requirements for commissioning, operation and maintenance

Gasversorgungssysteme - Gas-Leitungsanlagen mit einem Betriebsdruck größer 0.5 bar für industrielle Installationen und größer 5 bar für industrielle und nicht-industrielle Installationen - Teil 2: Detaillierte funktionale Anforderungen an Inbetriebnahme, Betrieb und Instandhaltung

Alimentation en gaz - Installation intérieure de pression de service plus de 0.5 bar pour les installations industrielles et plus de 5 bar pour les installations industrielles et non-industrielles - Partie 2 : Prescriptions fonctionelles et détaillées pour la mise en service, l'exploitation et la maintenance

Ta slovenski standard je istoveten z: **prEN 15001-2**

ICS:

91.140.40 Sistemi za oskrbo s plinom Gas supply systems

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

DRAFT
prEN 15001-2

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ICS 91.140.40; 23.040.01

Will supersede EN 15001-2:2008

English Version

Gas supply systems - Gas installation pipework with an operating pressure greater than 0,5 bar for industrial installations and greater than 5 bar for industrial and non-industrial installations - Part 2: Detailed functional requirements for commissioning, operation and maintenance

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This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 234.

If this draft becomes a European Standard, CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

This draft European Standard was established by CEN in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

Warning : This document is not a European Standard. It [illegible] review and comments. It is subject to change without notice and shall not be referred to as a European Standard.

EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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European foreword

This document (prEN 15001-2:2017) has been prepared by Technical Committee CEN/TC 234 “Gas supply”, the secretariat of which is held by DIN.

This document is currently submitted to the CEN Enquiry.

This document will supersede EN 15001-2:2008.

A list of the significant changes compared to EN 15001-2:2008 can be found in Annex A, Table A.1.

The scope of this revised standard is extended with biomethane and vaporized LNG gases. This standard is not designed for various mixtures of natural gas and hydrogen which may be allowed in the different member states.

With respect to hydrogen there are proposals to inject hydrogen (H2) from renewable sources into the natural gas network. Investigations have been conducted to evaluate the impact. According to EN 16726 at present it is not possible to specify a limiting hydrogen value which would generally be valid for all parts of the European gas infrastructure.

There is a complete suite of functional standards prepared by CEN/TC 234 “Gas infrastructure” to cover all parts of the gas supply system from the input of gas to the transmission system up to the inlet connection of the gas appliances, whether for domestic, commercial or industrial purposes.

In preparing this standard, a basic understanding of gas supply by the user has been assumed.

In the event of conflicts in terms of more restrictive requirements in national legislation/regulation with the requirements of this standard, national legislation/regulation takes precedence as illustrated in CEN/TR 13737.

NOTE CEN/TR 13737 contains:

— clarification of relevant legislation/regulations applicable in a country;

— if appropriate, more restrictive national requirements;

— national contact point for the latest information.

Gas supply systems are complex and the importance on safety of their construction and use has led to the development of very detailed codes of practice and operating manuals in the member countries. These detailed statements embrace recognized standards of gas engineering and the specific requirements imposed by the legal structures of the member countries.

1 Scope

This European Standard specifies detailed functional requirements for the commissioning, operation and maintenance of

— industrial gas installations and assemblies with an operating pressure greater than 0,5 bar; and of

— non-industrial gas installations (residential and commercial) with an operating pressure greater than 5 bar,

starting from the outlet of the network operator's point of delivery up to the inlet connection to the gas appliance; normally the inlet isolation valve. This European Standard also covers the pipework to the inlet connection of a gas appliance that is not included within the scope of the appliance standard.

NOTE 1 The use of the term installation and pipework is interchangeable.

Apart from the exceptions stated below, this standard applies to gas installations operating at ambient temperatures between –20 °C and 40 °C and operating pressures up to and including 60 bar. For operating conditions outside these limitations, reference should additionally be made to EN 13480 for metallic pipework.

For industrial gas installations up to and including 0,5 bar and for non-industrial (residential and commercial) gas installations up to and including 5 bar EN 1775 applies.

For gas installations that do not fall within the scope of EN 1775 or other European Standards, this European Standard applies.

In this European Standard, the term "gas" refers to combustible gases, which are gaseous at 15 °C and 1 013 mbar absolute atmospheric pressure. These gases are commonly referred to as manufactured gas, natural gas or Liquefied Petroleum Gas (LPG). They are also referred to as first, second or third family gases as classified in EN 437:2003+A1:2009., Table 1. The given values are considered as normal conditions for all volumes given in this standard.

This European Standard is applicable to installation pipework for the carriage of:

— processed, non-toxic and non-corrosive natural gas according to EN 437:2003+A1:2009 and EN 16726 "Gas infrastructure - Quality of gas - Group H";

— vaporized LNG;

— biomethane, complying with EN 16723-1;

— vaporized LNG.

NOTE 2 The specification of vaporized LNG is equal to that of natural gas as classified in EN 437:2003+A1:2009.

This European Standard does not cover pipework for hydrogen rich gases that fall outside the definitions within EN 437:2003+A1:2009. LPG storage vessels (including all ancillaries fitted directly to storage vessels) are excluded. Also excluded are LPG installations and sections of LPG installations operating at vapour pressure (e.g. between the storage vessel and its pressure regulator).

In this European Standard, all pressures are gauge pressures unless otherwise stated.

This European Standard specifies common basic principles for gas supply systems. Users of this European Standard should be aware that more detailed national standards and/or code of practice may exist in the CEN member countries.

This European Standard is intended to be applied in association with these national standards and/or codes of practice setting out the above-mentioned basic principles.

For gas installations within the scope of this standard, national legislation and regulations are meant to be taken into account.

Functional requirements for design, selection of materials, construction, inspection and testing of industrial gas installations and assemblies with an operating pressure greater than 0,5 bar and of gas installations greater than 5 bar in buildings and areas intended for residential, commercial, public and mixed uses are described in EN 15001-1.

Generally, additional safety precautions may be necessary where non odorized gas is used. For non-industrial purposes, the gas should be odorized.

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.

EN 12954, *Cathodic protection of buried or immersed metallic structures - General principles and application for pipelines*

prEN 15001-1:2017, *Gas Infrastructure - Gas installation pipework with an operating pressure greater than 0,5 bar for industrial installations and greater than 5 bar for industrial and non-industrial installations - Part 1: Detailed functional requirements for design, materials, construction, inspection and testing*

EN 60079-14, *Explosive atmospheres - Part 14: Electrical installations design, selection and erection*

EN 60079-17, *Explosive atmospheres — Part 17: Electrical installations inspection and maintenance*

EN 60079-29-1, *Explosive atmospheres — Part 29-1: Gas detectors – Performance requirements of detectors for flammable gases*

3 Terms and definitions

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

3.1 Definitions relating to pressure

3.1.1
pressure
gauge pressure of the fluid inside the system, measured in static conditions

3.1.2
maximum allowable pressure
PS
maximum pressure for which pipework is designed in accordance with the strength requirements in this document

Note 1 to entry: For this standard, PS is equivalent to the design pressure (DP).

3.1.3
maximum incidental pressure
MIP
maximum pressure which pipework can experience during a short time, limited by the safety devices

3.1.4
operating pressure
OP
pressure which occurs within pipework under normal operating conditions

3.2 Definitions relating to the gas installation

3.2.1
pipework
assembly of pipes and fittings

3.2.2
component
item from which a gas supply system or installation is constructed and for which a distinction is drawn between the following groups of components:

— ancillaries (for example pressure regulators, valves, safety devices, expansion joints, and insulating joints);
— pipes, including bends made from pipe;
— instrumentation pipework;
— fittings (for example reducers, tees, factory-made elbows, flanges, dome ends, welding stubs, and mechanical joints)

3.2.3
point of delivery
point where the gas is transferred to the user

Note 1 to entry: This can be at a means of isolation or at the meter outlet connection and is normally at the point of transfer of ownership.

3.2.4
user
person responsible for the safety of the gas installation and associated risks on a site

Note 1 to entry: Normally the user will be the site occupier or owner. It should be assumed that every user has a responsibility for work performed on their site, whether or not the work is performed directly for the user or not. This does not mean that they cannot take advice from an independent specialist.

3.2.5
installation pipework
pipework including components and stations downstream of the point of delivery terminating at the appliance inlet connection

Note 1 to entry: This pipework is normally the property of the customer.

3.2.6
ventilated space
space where the air is continuously changed by natural or mechanical means

3.2.7
duct
space specifically designed and constructed for the passage of building services

EXAMPLE Building services include gas pipework, water systems, power and telecommunication cables

3.2.8
ventilation duct
duct forming part of the structure of the building and intended exclusively for ventilation purposes

3.3 Definitions relating to means of isolation

3.3.1
means of isolation
device that is intended to interrupt the gas flow in pipework

EXAMPLE a manually operable valve

3.4 Definitions relating to components

3.4.1
regulator
device which reduces the gas pressure to a set value and maintains it within prescribed limits

3.4.2
insulating joint
fitting installed to insulate electrically one section of pipework from another

3.4.3
sleeve
protective pipe through which a gas pipe passes

3.4.4
vent pipe
pipework connected to a safety or control device to release gas at a safe location

3.4.5
creep relief valve
device designed to release a limited flow of gas in the event of an unacceptable pressure being detected within the system it protects

3.4.6
instrumentation pipework
pipework required for the proper functioning of the ancillaries installed within the pressure regulating installation

EXAMPLES Sensing, measuring, auxiliary and sampling lines

3.5 Definitions relating to tests

3.5.1
strength test
specific procedure intended to verify that the pipework meets the requirements for mechanical strength

3.5.2
tightness test
specific procedure intended to verify that the pipework meets the requirements for tightness

3.5.3
leak detection fluid
specially formulated fluid and foaming product that gives a clear indication that a leak exists when applied to an element of pipework

3.6 Definitions relating to commissioning, operation and maintenance

3.6.1
admission of gas
operation of replacing the air or inert gas contained in pipework with distributed gas

3.6.2
purging from gas
operation of replacing the distributed gas in pipework with air or inert gas

3.6.3
purging
process for safety removing air or inert gas from pipework and/or pipeline components and replacing it with gas, or the reverse process

3.6.3.1
direct purging
displacement of air by gas or vice versa;

3.6.3.2
indirect purging
displacement of air by inert gas followed by the displacement by gas or vice versa: alternatively by means of a barrier (a slug of inert gas or a pig) between the air and the gas or vice versa

3.6.4
commissioning
activities required to fill and to pressurise pipework, stations, equipment and assemblies with gas and to put them into operation

3.6.5
decommissioning
activities required to take out of service any pipework, stations, equipment and assemblies filled with gas and to disconnect them from the rest of the system

3.6.6
competent person
person who is trained, experienced and approved to perform activities relating to gas pipework

Note 1 to entry: Means of approval are determined within each country.

3.6.7
hot tapping
procedure involving the safe use of heat, e.g. welding or fusion, to affix an attachment to a section of pipework containing gas at pressure