SLOVENSKI STANDARD
SIST EN 12007-5:2014

01-julij-2014

Infrastruktura za plin - Cevovodni sistemi za najvišji delovni tlak do vključno 16 bar - 5. del: Priključni cevovodi - Posebne funkcionalne zahteve

Gas infrastructure - Pipelines for maximum operating pressure up to and including 16 bar - Part 5: Service lines - Specific functional requirements

Gasinfrastruktur - Rohrleitungen mit einem maximal zulässigen Betriebsdruck bis einschließlich 16 bar - Teil 5: Hausanschlussleitungen - Spezifische funktionale Anforderungen

Infrastructures gazières - Canalisations pour pression maximale de service inférieure ou égale à 16 - Partie 5: Branchements - Recommandations fonctionnelles spécifiques

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Gas infrastructure - Pipelines for maximum operating pressure up to and including 16 bar - Part 5: Service lines - Specific functional requirements

Infrastructures gazières - Canalisations pour pression maximale de service inférieure ou égale à 16 bar - Partie 5: Branchements - Recommandations fonctionnelles spécifiques

Gasinfrastruktur - Rohrleitungen mit einem maximal zulässigen Betriebsdruck bis einschließlich 16 bar - Teil 5: Hausanschlussleitungen - Spezifische funktionale Anforderungen

This European Standard was approved by CEN on 8 February 2014.

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COMITÉ EUROPÉEN DE NORMALISATION
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Foreword

This document (EN 12007-5:2014) has been prepared by Technical Committee CEN/TC 234 “Gas infrastructure”, the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by October 2014 and conflicting national standards shall be withdrawn at the latest by October 2014.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

This European Standard is part of the series EN 12007 "Gas infrastructure — Pipelines for maximum operating pressure up to and including 16 bar" which comprises the following parts:

— *Part 1 General functional requirements*;

— *Part 2 Specific functional requirements for polyethylene (MOP up to and including 10 bar)*;

— *Part 3 Specific functional requirements for steel*;

— *Part 4 Specific functional requirements for renovation*;

— *Part 5 Specific functional recommendations of new service lines.*

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Introduction

This European Standard describes the general functional requirements for gas supply through service line pipe systems and covers the pressure range up to and including 16 bar maximum operating pressure (MOP). It gives normative and informative references for safe and secure gas infrastructures. It applies to their design, construction, operation and the related aspects of safety, environment and public health, all in order to provide a safe and secure supply of gas.

This European Standard is intended to be used in addition to the EN 12007 series of European Standards.

The requirements of this European Standard are based on safe gas engineering practice under conditions normally encountered in the gas industry. Requirements for all unusual conditions cannot be specifically provided for, nor are all engineering and construction details prescribed.

Existing industrial safety regulations applying to work areas, safety devices and safe work practices are not intended to be supplanted by this European Standard.

Persons responsible for the design, construction and operation of gas infrastructures should have regard to the guidance given in this European Standard, the EN 12007 series of European Standards and to other relevant standards. It is the responsibility of these persons to apply these functional requirements, supplemented with other proven good practice to the particular circumstances of each gas infrastructure.

The recommendations in this European Standard are intended to be applied by competent persons who have suitable knowledge and experience. Notes in the text are informative.

The designer, constructor or operator of service line and pipeline systems is cautioned that this European Standard is not a design handbook or code of practice. Additional national or company standards describing the details are needed. These detailed standards should be in line with the basic principles of this European Standard.

All pressures are gauge pressure unless stated otherwise.

In preparing this European Standard it was recognised that the suite of relevant European Standards is incomplete. Reference may be made where appropriate to international, national or other standards until relevant European Standards are available.

1 Scope

This European Standard describes the specific functional requirements for service lines in addition to the general functional requirements of EN 12007-1 for:

a) a maximum operating pressure (MOP) up to and including 16 bar;

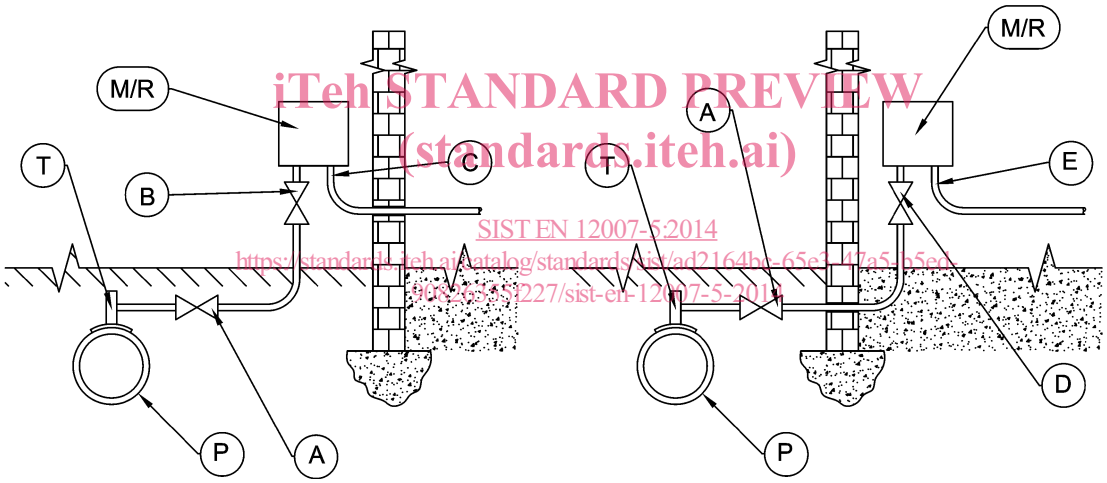
b) an operating temperature between -20 °C and +40 °C.

It applies to their design, construction, commissioning, decommissioning, operation, maintenance, extension and other associated works. The service line is the physical asset comprising of pipework from the gas main branch saddle or top tee to the outlet of the distribution system operator's nominated point(s) of delivery (for example: isolation valve, regulator, meter connection or combination of regulator and isolation valve).

The ownership and operation responsibility can vary between member states. The extent of the service line can differ in each member state. To illustrate this, the various points of deliveries are indicated in Figure 1. Consult Figure 1 (A/B/C/D/E) and member state regulations and standards.

NOTE The valve at point A is not necessarily utilised by each member state.

National preference for points of deliveries should be stated in the national foreword.



Key

P	gas main	Distribution system operator nominated Point(s) of Delivery:	
T	Top Tee / Branch Saddle	A	outlet of below ground service line valve outside the building
M/R	Meter and/or Regulator	B	outlet of above ground service line valve outside the building
		C	outlet of meter/regulator outside the building
		D	outlet of above ground service line valve inside the building
		E	outlet of meter/regulator inside the building

Figure 1 — Distribution system operator nominated point of delivery

Specific functional requirements for:

— polyethylene pipelines are given in EN 12007-2.

— steel pipelines are given in EN 12007-3.

— pipework for buildings are given in EN 1775.

— pressure regulating installations are given in EN 12279 or EN 12186.

— pressure testing, commissioning and decommissioning are given in EN 12327.

This European Standard represents the recommendations at the time of its preparation. It does not apply retrospectively to installations before the publication date unless specifically stated.

This European Standard specifies common basic principles for gas infrastructure. 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.

In the event of conflicts in terms of more restrictive requirements in national legislation/regulation with the requirements of this European Standard, the national legislation/regulation takes precedence as illustrated in CEN/TR 13737 (all parts).

CEN/TR 13737 (all parts) gives:

— clarification of all legislations/regulations applicable in a member state;

— if appropriate, more restrictive national requirements;

— a national contact point for the latest information.

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 751-1, *Sealing materials for metallic threaded joints in contact with 1st, 2nd and 3rd family gases and hot water - Part 1: Anaerobic jointing compounds*

EN 751-2, *Sealing materials for metallic threaded joints in contact with 1st, 2nd and 3rd family gases and hot water - Part 2: Non-hardening jointing compounds*

EN 751-3, *Sealing materials for metallic threaded joints in contact with 1st, 2nd and 3rd family gases and hot water - Part 3: Unsintered PTFE tapes.*

EN 1057, *Copper and copper alloys - Seamless, round copper tubes for water and gas in sanitary and heating applications*

EN 1254 (all parts), *Copper and copper alloys — Plumbing fittings*

EN 1775:2007, *Gas supply - Gas pipework for buildings - Maximum operating pressure less than or equal to 5 bar - Functional recommendations*

EN 1776, *Gas supply systems - Natural gas measuring stations - Functional requirements*

EN 10226-1, *Pipe threads where pressure tight joints are made on the threads - Part 1: Taper external threads and parallel internal threads - Dimensions, tolerances and designation*

EN 10226-2, *Pipe threads where pressure tight joints are made on the threads - Part 2: Taper external threads and taper internal threads - Dimensions, tolerances and designation*

EN 10241, *Steel threaded pipe fittings*

EN 10242, *Threaded pipe fitting in malleable cast iron*

EN 12007-1:2012, *Gas infrastructure - Pipelines for maximum operating pressure up to and including 16 bar - Part 1: General functional requirements*

EN 12007-2:2012, *Gas infrastructure - Pipelines for maximum operating pressure up to and including 16 bar - Part 2: Specific functional requirements for polyethylene (MOP up to and including 10 bar)*

EN 12007-3, *Gas infrastructure - Pipelines for maximum operating pressure up to and including 16 bar - Part 3: Specific functional recommendations for steel*

EN 12186, *Gas supply systems - Gas pressure regulating stations for transmission and distribution - Functional requirements*

EN 12279, *Gas supply systems - Gas pressure regulating installations on service lines - Functional requirements*

EN 12327, *Gas infrastructure - Pressure testing, commissioning and decommissioning procedures - Functional requirements*

3 Terms and definitions

3.1 General terminology

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

3.1.1
gas infrastructure
pipeline systems including pipework and their associated stations or plants for the transmission and distribution of gas

3.1.2
gas main
pipework in a gas infrastructure to which service lines are connected

3.1.3
service line
pipework from the gas main to the point of delivery of the gas into the installation pipework

3.1.4
casing
protection by means of a construction around the pipeline in order to prevent external loads, or third party interference

3.1.5
sleeve
protective pipe through which a gas pipe passes

3.1.6
point of delivery
point of a gas network where the gas is transferred to the user

Note 1 to entry: This can be at a means of isolation (e.g. at the outlet of a LPG storage vessel) or at a meter connection.

Note 2 to entry: For this European Standard, the point of delivery is typically nominated by the distribution system operator and can be defined in National Regulations or Codes of Practice, see Figure 1.

3.1.7
authorised person
competent person who is appointed to fulfil a given task on gas infrastructure

3.1.8
competent person
person who is trained, experienced and approved to perform activities relating to gas infrastructures or installation pipework

Note 1 to entry: Means of approval, if any, will be determined within each member country.

3.1.9
flow limiting device
purpose manufactured self-actuating device which can limit or stop uncontrolled excess flow of gas

3.1.10
installation pipework
pipework 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.

3.1.11
purging
process for safely removing air or inert gas from pipework and/or pipeline components and replacing it with gas, or the reverse process

Note 1 to entry: A distinction is made between the following methods:

— direct purging is the displacement of air by gas or vice versa;

— indirect purging is the displacement of air by inert gas followed by the displacement by gas or vice versa.

Note 2 to entry: Alternatively by means of a barrier (a slug of inert gas or a pig) between the air and the gas or vice versa.

3.1.12
pipeline components
elements from which the pipeline is constructed

Note 1 to entry: The following are distinct pipeline elements:

— pipes, including cold formed bends;

— fittings;

— ancillaries;

— pressure vessels.

EXAMPLE 1 Reducers, tees, factory-made elbows and bends, flanges, caps, welding stubs, mechanical joints.

EXAMPLE 2 Valves, expansion joints, insulating joints, pressure regulators, pumps, compressors.

3.1.13
strength test
specific procedure to verify that the pipework and/or station meets the requirements for mechanical strength