BS EN 12007-5:2024

BSI Standards Publication

Gas infrastructure — Pipelines for maximum operating pressure up to and including 16 bar

Part 5: Service lines — Specific functional requirements

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National foreword

This British Standard is the UK implementation of EN 12007-5:2024. It supersedes BS EN 12007-5:2014, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee GSE/33, Gas supply.

A list of organizations represented on this committee can be obtained on request to its committee manager.

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

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November 2024

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Supersedes EN 12007-5:2014

English Version

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 de service maximale 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: Netzanschlussleitungen - Spezifische funktionale Anforderungen

This European Standard was approved by CEN on 1 August 2024.

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This European Standard exists 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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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
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European foreword

This document (EN 12007-5:2024) 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of an identical text or by endorsement, at the latest by May 2025, and conflicting national standards shall be withdrawn at the latest by May 2025.

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

This document supersedes EN 12007-5:2014.

EN 12007-5:2024 includes the following significant technical changes with respect to EN 12007-5:2014:

— revision to scope;

— introduction of definition of gas to include hydrogen rich and methane rich gases, dimethyl ether (DME) and propane and butanes;

— introduction of definitions for pressed joints terminology;

— revision of subclause 5.1;

— introduction of new Annex A, Material, component and joint selection;

— revision to Annex B, Jointing methods.

This document has been prepared under a standardization request addressed to CEN by the European Commission. The Standing Committee of the EFTA States subsequently approves these requests for its Member States.

This document 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 requirements of new service lines;

— Part 6 (CEN/TS): Specific functional recommendations for unplasticized polyamide (PA-U).

Any feedback and questions on this document should be directed to the users’ national standards body. A complete listing of these bodies can be found on the CEN website.

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland,

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Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

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Introduction

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

The requirements of this document 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 superseded by this document.

Persons responsible for the design, construction and operation of gas infrastructures should have regard to the guidance given in this document, 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 document 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 document 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 document.

All pressures are gauge pressure unless stated otherwise.

In preparing this document it was recognized 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.

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 utilized by each member state.

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

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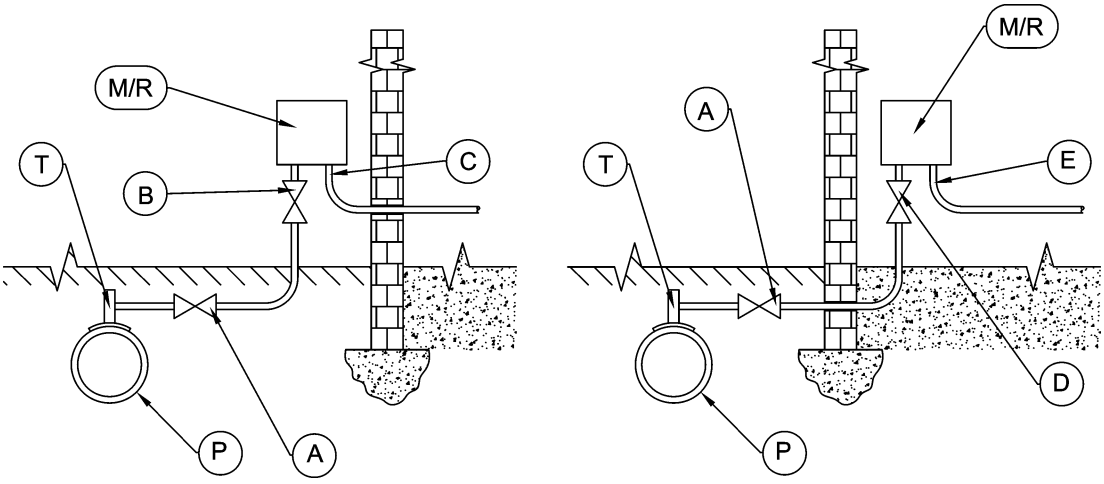

Key

P	gas main	Distribution system operator nominated Point(s) of Delivery:	
T	Top Tee / Branch Saddle / Equal Tee	A	outlet of below ground service line valve outside the building
M/R	Meter and/or Pressure Regulating installation	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

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1 Scope

This document describes the specific functional requirements for the transportation of gases (gaseous energy carriers) through 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;

c) gases and blends of gases which are in the gaseous state when conveyed in the gas pipeline infrastructure such as hydrogen, hydrogen rich, and methane rich gases, dimethyl ether (DME) and propane and butanes used for combustion and/or as feedstock, excluding steam and compressed air, where technical evaluation has ensured that operating conditions, constituents and properties of the gas do not affect the safe operation and maintenance of the service line.

It applies to their design, construction, commissioning, decommissioning, operation, maintenance, extension and other associated works including safety and environmental aspects. 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).

This document does not apply retrospectively to installations before the publication date unless specifically stated.

Specific functional requirements for:

— polyethylene pipelines are given in EN 12007-2;

— steel pipelines are given in EN 12007-3;

— polyamide (PA-U) pipelines are given in CEN/TS 12007-6;

— 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;

— safety management system (SMS) and pipeline integrity management system (PIMS) are given in EN 17649.

This document specifies common basic principles for gas infrastructure. Users of this document are expected to be aware that there can exist more detailed national standards and/or codes of practice in the CEN member countries. This document 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 terms of additional requirements in legislation/regulation than in this document, CEN/TR 13737 (all parts) illustrates these terms.

CEN/TR 13737 gives:

— description of legislations/regulations applicable in a member state;

— if appropriate, more restrictive national requirements;

— a national contact point for the latest information.

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2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. 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 and PTFE strings*

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 infrastructure — Gas measuring systems — 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, *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 requirements for steel*

CEN/TS 12007-6, *Gas infrastructure — Pipelines for maximum operating pressure up to and including 16 bar — Part 6: Specific functional recommendations for unplasticized polyamide (PA-U)*

EN 12186, *Gas infrastructure — 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*

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