Gaasivarustussüsteemid. Torustikud maksimaalse töörõhuga üle 16 bar. Talituslikud nõuded

Gas supply systems - Pipelines for maximum operating pressure over 16 bar - Functional requirements

EESTI STANDARDIKESKUS
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NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 1594:2009 sisaldab Euroopa standardi EN 1594:2009 ingliskeelset teksti.	This Estonian standard EVS-EN 1594:2009 consists of the English text of the European standard EN 1594:2009.
Standard on kinnitatud Eesti Standardikeskuse 23.02.2009 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.	This standard is ratified with the order of Estonian Centre for Standardisation dated 23.02.2009 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.
Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 21.01.2009.	Date of Availability of the European standard text 21.01.2009.
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Gas supply systems - Pipelines for maximum operating pressure over 16 bar - Functional requirements

Systèmes d'alimentation en gaz - Canalisations pour pression maximale de service supérieure à 16 bar - Prescriptions fonctionnelles

Gasversorgungssysteme - Rohrleitungen für einen maximal zulässigen Betriebsdruck über 16 bar - Funktionale Anforderungen

This European Standard was approved by CEN on 8 December 2008.

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. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN Management Centre or to any CEN member.

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 Management Centre has the same status as the official versions.

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Foreword

This document (EN 1594:2009) has been prepared by Technical Committee CEN/TC 234 “Gas infrastructures”, 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 July 2009, and conflicting national standards shall be withdrawn at the latest by July 2009.

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 supersedes EN 1594:2000.

There is a complete suite of functional standards prepared by CEN/TC 234 "Gas Supply" 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.

A list of the relevant functional standards prepared by CEN/TC 234 is included in Clause 2 and the Bibliography of this document.

CEN/TC 234 will continue its work updating this European Standard to the latest developments at regular intervals.

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

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 member countries. These detailed statements embrace recognised standards of gas engineering and specific requirements imposed by legal structures of these member countries.

This European Standard has been prepared under mandate M/017 given to CEN by the Commission of the European Communities and the European Free Trade Association.

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, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

Introduction

This European Standard describes the general functional requirements for gas supply through pipe systems and covers the pressure range greater than 16 bar maximum operating pressure (MOP) for steel systems. It gives normative and informative references for safe and secure gas supply systems. 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.

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.

Managers with responsibilities for the design, construction and operation of gas supply systems should have regard to the guidance given in this European Standard and to other relevant standards. It is the responsibility of these managers and engineers to apply these functional requirements, supplemented with other proven good practice to the particular circumstances of each gas supply system.

The designer, constructor or operator of 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.

In preparing this European Standard 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.

1 Scope

This European Standard is applicable to pipelines with a maximum operating pressure (MOP) over 16 bar for the carriage of processed, non-toxic and non-corrosive natural gas according to EN ISO 13686 in onland gas supply systems, where:

— pipeline elements are made of unalloyed or low-alloyed carbon steel;

— pipeline elements are joined by welds, flanges or mechanical couplings;

— the pipeline is not located within commercial or industrial premises as an integral part of the industrial process on these premises except for any pipelines and facilities supplying such premises;

— the design temperature of the system is between -40 ˚C and 120 ˚C inclusive.

The standard applies to onshore pipeline systems from the point where the pipeline first crosses what is normally accepted as battery limit between on and offshore, e.g.:

— first isolation valve;

— the base of steep sea shelf;

— above the high water/low water mark onto mainland;

— an island.

The pipeline standard also applies to a pipeline system with a starting point onshore, also when parts of the pipeline system on the mainland subsequently cross fjords, lakes etc.

This European Standard does not apply to existing pipelines, in use prior to the publication of this European Standard, nor to modifications to existing pipelines.

Gas supply systems covered by this European Standard begin after the gas producer's metering station. The functional demarcation of the pipeline system within a plant area will be determined from case to case. Generally speaking, this will be directly after the first isolating valve of the installation.

This standard also describes the mechanical requirements for pipework in stations with a maximum operating pressure greater than 16 bar. Welding requirements are described in a special application standard on welding for gas supply systems EN 12732. Functional requirements for stations are given in:

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

EN 1918-5, *Gas supply systems - Underground gas storage - Part 5: Functional recommendations for surface facilities*

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

EN 12583, *Gas supply systems - Compressor stations - Functional requirements*

This European Standard specifies common basic principles for gas supply systems. Users of this European Standard should be aware that there may exist more detailed national standards and codes of practice 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 principles.

In the event of conflicts in terms of more restrictive requirements in the national legislation/regulation with the requirements of this European Standard, the national legislation/regulation shall take precedence.

Reference is made in this European Standard to relevant European and other recognized standards for products used to construct and operate gas supply systems.

A schematic representation of pipelines for gas transmission is given in Figure 1.