# SLOVENSKI STANDARD
# SIST EN 14408-1:2005

**01-januar-2005**

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**Cevni sistemi iz polimernih materialov za obnovo podzemnih omrežij za oskrbo s plinom - 1. del: Splošno**

Plastics piping systems for renovation of underground gas supply networks - Part 1: General

Kunststoff-Rohrleitungssysteme für die Renovierung von erdverlegten Gasversorgungsnetzwerken - Teil 1: Allgemeines



Systemes de canalisations plastiques pour la rénovation des réseaux de gaz enterrés - Partie 1 : Généralités



**Ta slovenski standard je istoveten z:** **EN 14408-1:2004**

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**ICS:**

| | | |
|---|---|---|
| 83.140.30 | Cevi, fitingi in ventili iz polimernih materialov | Plastics pipes, fittings and valves |
| 91.140.40 | Sistemi za oskrbo s plinom | Gas supply systems |

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EUROPEAN STANDARD

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**EN 14408-1**

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English version

# Plastics piping systems for renovation of underground gas supply networks - Part 1: General

Systèmes de canalisations plastiques pour la rénovation des réseaux de gaz enterrés - Partie 1 : Généralités

Kunststoff-Rohrleitungssysteme für die Renovierung von erdverlegten Gasversorgungsnetzwerken - Teil 1: Allgemeines

This European Standard was approved by CEN on 29 July 2004.

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 Central Secretariat 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 Central Secretariat has the same status as the official versions.



CEN members are the national standards bodies of Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.



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

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## Foreword

This document (EN 14408-1:2004) has been prepared by Technical Committee CEN/TC 155 "Plastics piping systems and ducting systems", the secretariat of which is held by NEN.

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 March 2005, and conflicting national standards shall be withdrawn at the latest by March 2005.

This document is a part of a System Standard for plastics piping systems of various materials used for renovation of existing pipelines in a specified application area. System standards for renovation dealing with the following applications are either available or in preparation:

— Plastics piping systems for renovation of underground non-pressure drainage and sewerage networks;

— Plastics piping systems for renovation of underground water supply networks;

— **Plastics piping systems for renovation of underground gas supply networks (this application);**

— Plastics piping systems for renovation of underground drainage and sewerage networks under pressure;

— Plastics piping systems for renovation of industrial pipelines.

These System Standards are distinguished from those for conventionally installed plastics piping systems by setting requirements for certain characteristics in the as-installed condition, after site processing. This is in addition to specifying requirements for system components as manufactured.



Each of the System Standards comprises a:

— Part 1: General (this document)



and all applicable renovation technique family related parts from the following list:

— Part 2: Lining with continuous pipes

— Part 3: Lining with close-fit pipes

— Part 4: Lining with cured-in-place pipes

— Part 5: Lining with discrete pipes (not envisaged for this application)

— Part 6: Lining with inserted hoses (not envisaged for this application)

— Part 7: Lining with spirally-wound pipes (not envisaged for this application)

A consistent structure of clause headings has been adopted for all parts to facilitate direct comparisons across renovation technique families.

Figure 1 shows the common part and clause structure and the relationship between EN 14408 and the system standards for other application areas.

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

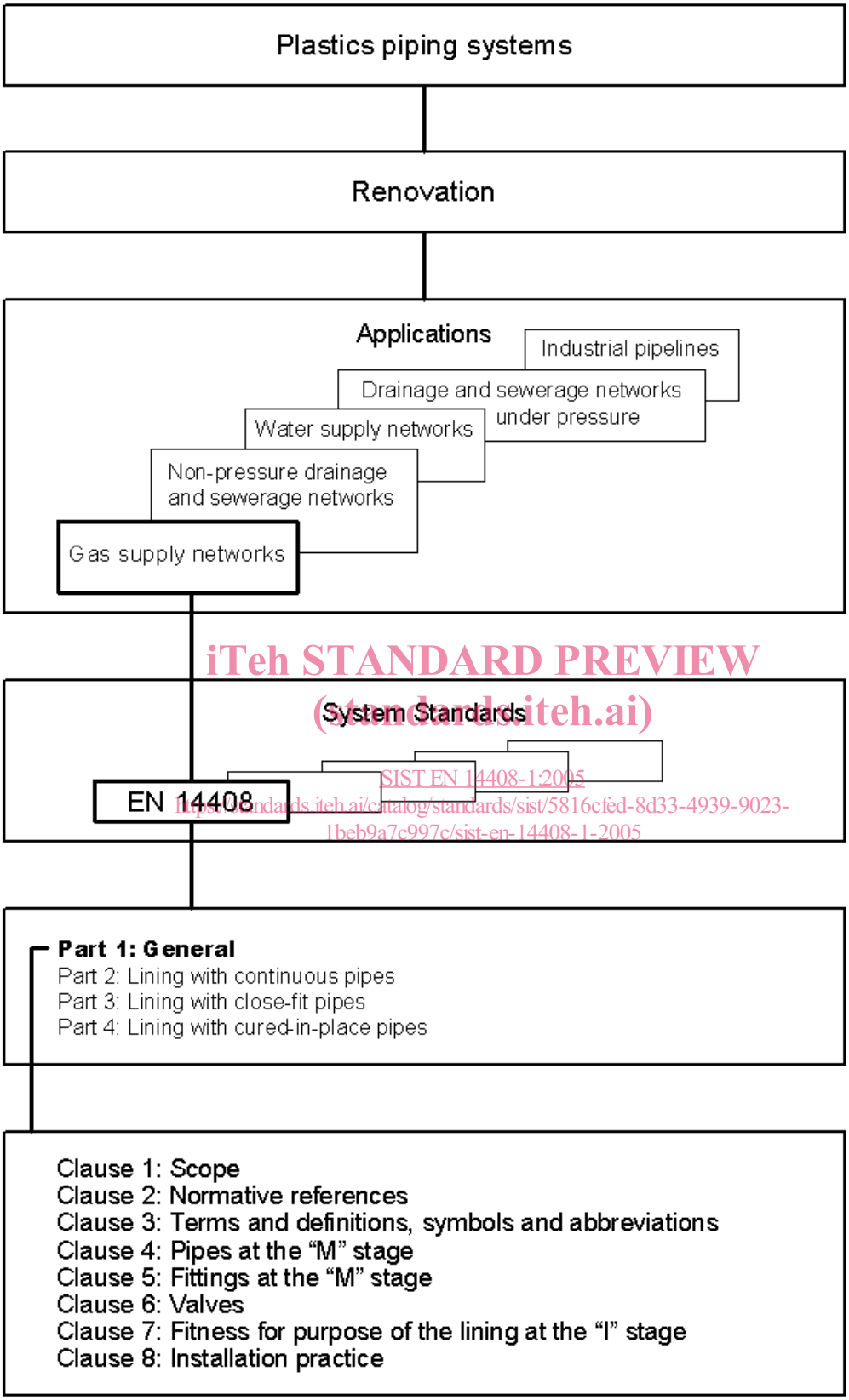




**Figure 1 — Format of the renovation system standard**

## Introduction

The requirements for any given renovation technique family are covered by *Part 1: General*, applied in conjunction with the relevant other part. For example, for the requirements relating to *Lining with continuous pipes*, it is necessary to refer to both parts 1 and 2. Complementary information is contained in ISO/TR 11295[7] and by supporting standard EN 13689[1], listed in the bibliography.

Not all technique families are applicable to every area of application, and this is reflected in the part numbers actually included in each System Standard. For the present document the parts 1, 2 [1)], 3 and 4 [1)] of EN 14408 apply.

Recommended schemes for assessment of conformity of the plastics piping system with all relevant requirements are provided by way of informative annexes to each part.



1) At the date of publication of this document, the standardization work on prEN 14408-2 and prEN 14408-4 has not started.

# 1 Scope

This document specifies the requirements and test methods for plastics piping systems used for renovation of underground gas supply networks. It is applicable to pipes and fittings as manufactured as well as to the installed lining system; it does not cover sprayed coatings, the existing pipeline or any annular filler.

Functional recommendations on this subject are covered by EN 12007 parts 1 and 4.

This part of EN 14408 deals with the general requirements common to all relevant renovation techniques as defined in 3.2.

# 2 Normative references

The following referenced documents are indispensable for the application 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 12007-1, *Gas supply systems — Pipelines for maximum operating pressure up to and including 16 bar — Part 1: General functional recommendations*

EN 12007-2, *Gas supply systems — Pipelines for maximum operating pressure up to and including 16 bar — Part 2: Specific functional recommendations for polyethylene (MOP up to and including 10 bar)*



EN 12007-4, *Gas supply systems — Pipelines for maximum operating pressure up to and including 16 bar — Part 4: Specific functional recommendations for renovation*



EN 12327, *Gas supply systems — Pressure testing, commissioning and decommissioning procedures — Functional requirements*

EN 14408-3, *Plastics piping systems for renovation of underground gas supply networks — Part 3: Lining with close-fit pipes*

EN ISO 472:2001, *Plastics - Vocabulary (ISO 472:1999)*

EN ISO 1043-1:2001, *Plastics — Symbols and abbreviated terms — Part 1: Basic polymers and their special characteristics (ISO 1043-1:2001)*

# 3 Terms, definitions, symbols and abbreviations

For the purposes of this document, the terms, definitions, symbols and abbreviations given in EN ISO 472:2001 and EN ISO 1043-1:2001 and the following apply.

## 3.1 General terms and definitions

**3.1.1**
**pipeline system**
interconnecting pipe network for the conveyance of fluids

**3.1.2**
**rehabilitation**
all measures for restoring or upgrading the performance of an existing pipeline system

**3.1.3**
**renovation**
work incorporating all or part of the original fabric of the pipeline by means of which its current performance is improved

**3.1.4**
**replacement**
rehabilitation of an existing pipeline system by the installation of a new pipeline system, without incorporating the original fabric

**3.1.5**
**maintenance**
keeping an existing pipeline system operational without the installation of additional fabric

**3.1.6**
**repair**
rectification of local damage

**3.1.7**
**lining pipe**
pipe to be inserted for renovation purposes

**3.1.8**
**liner**
lining pipe after installation



**3.1.9**
**lining system**
lining pipe and all relevant fittings for insertion into an existing pipeline for the purposes of renovation



**3.1.10**
**renovated pipeline system**
the existing pipeline system plus the installed lining system used to renovate it, plus any grout or annular filling material used

**3.1.11**
**characteristic**
property, dimension or other feature of a material or component

**3.1.12**
**declared value**
limiting value of a characteristic declared in advance by lining system supplier which becomes the requirement for the purposes of assessment of conformity

**3.1.13**
**annular filler**
material for grouting annular space between existing pipeline and lining system

**3.1.14**
**grouting**
process of filling voids around the lining system

**3.1.15**
**"M" stage**
stage as manufactured, before any subsequent site processing of components associated with the particular renovation technique

**3.1.16**
**"I" stage**
stage as installed, i.e. in final configuration after any site processing associated with the particular renovation technique

**3.1.17**
**simulated installation**
installation of a lining system into a simulated host pipeline, using representative equipment and processes, to provide samples for testing which are representative of an actual installation

**3.1.18**
**simulated host pipeline**
section of pipeline, which is not part of an operational network, but which replicates the environment of an operational network

**3.1.19**
**technique family**
group of renovation techniques which are considered to have common characteristics for standardisation purposes

**3.1.20**
**independent pressure pipe liner**
liner which is capable on its own of resisting without failure all applicable internal loads throughout its design life



**3.1.21**
**interactive pressure pipe liner**

liner which relies on the host pipe for some measure of radial support in order to resist without failure all applicable internal loads throughout its design life



**3.1.22**
**service line**
pipework from the main to the point of delivery of the gas into the installation pipework

### 3.2 Terms and definitions related to techniques

The various techniques for renovation of underground gas supply networks are shown schematically in Figure 2.

NOTE For definitions of renovation techniques shown in Figure 2 but outside the scope of this document see EN 13689 [1].

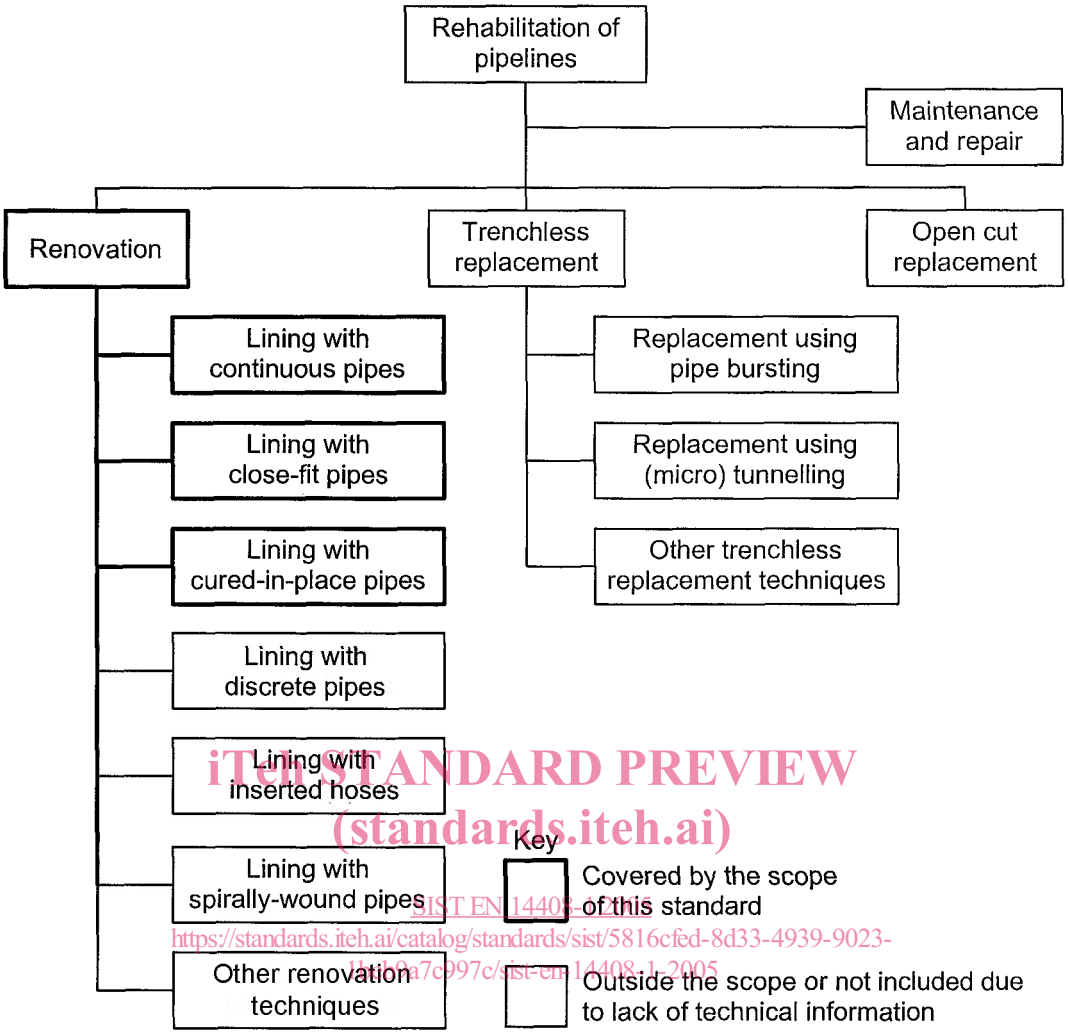




**Figure 2 — Technique families for renovation of underground gas supply networks using plastics pipes within the scope of pipeline rehabilitation techniques.**

The technique families within the scope of this document are defined as follows:

**3.2.1**
**lining with continuous pipes**
lining with pipe made continuous for the length of the section to be renovated prior to insertion, and which has not been shaped to give it a cross-sectional diameter smaller than its final diameter after installation