



**NSAI**  
Standards

Irish Standard  
I.S. 328:2015

# Gas transmission pipelines and pipeline installations (Edition 4)

## I.S. 328:2015

*Incorporating amendments/corrigenda/National Annexes issued since publication:*  
I.S. 328:2015/AC1:2015

The National Standards Authority of Ireland (NSAI) produces the following categories of formal documents:

I.S. xxx: Irish Standard – national specification based on the consensus of an expert panel and subject to public consultation.

S.R. xxx: Standard Recommendation - recommendation based on the consensus of an expert panel and subject to public consultation.

SWiFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

<p><i>This document replaces:</i> I.S. 328:2003</p>	<p><i>This document is based on:</i> I.S. 328:2015 I.S. 328:2003</p>	<p><i>Published:</i> 15 May, 2015 4 April, 2003</p>			
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<table> <tr> <td data-bbox="228 1738 459 1861"> <p><b>NSAI</b> 1 Swift Square, Northwood, Santry Dublin 9</p> </td> <td data-bbox="571 1767 826 1890"> <p>T +353 1 807 3800 F +353 1 807 3838 E standards@nsai.ie W NSAI.ie</p> </td> <td data-bbox="900 1738 1129 1861"> <p><b>Sales:</b> T +353 1 857 6730 F +353 1 857 6729 W standards.ie</p> </td> </tr> </table>			<p><b>NSAI</b> 1 Swift Square, Northwood, Santry Dublin 9</p>	<p>T +353 1 807 3800 F +353 1 807 3838 E standards@nsai.ie W NSAI.ie</p>	<p><b>Sales:</b> T +353 1 857 6730 F +353 1 857 6729 W standards.ie</p>
<p><b>NSAI</b> 1 Swift Square, Northwood, Santry Dublin 9</p>	<p>T +353 1 807 3800 F +353 1 807 3838 E standards@nsai.ie W NSAI.ie</p>	<p><b>Sales:</b> T +353 1 857 6730 F +353 1 857 6729 W standards.ie</p>			
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**I.S. 328:2015 - Gas transmission pipelines and pipeline installations**

**Corrigendum 1**

This corrigendum becomes effective on 2015-10-21.

**Page 24, Figure 2**

*Replace the values for C2 for rows B and C with the following:*

		C2
B	Wall thickness $\geq 9,52$ mm	"5"
C	Wall thickness $\geq 11,91$ mm	"3"

Please note that these changes have been included in the text of the standard for convenience.

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**DECLARATION**

OF

SPECIFICATION

ENTITLED

GAS TRANSMISSION PIPELINES AND PIPELINE INSTALLATIONS –

(EDITION 4)

AS

THE IRISH STANDARD SPECIFICATION FOR

GAS TRANSMISSION PIPELINES AND PIPELINE INSTALLATIONS –

(EDITION 4)

---

NSAI in exercise of the power conferred by section 16 (5) of the National Standards Authority of Ireland Act, 1996 (No. 28 of 1996) and with the consent of the Minister for Jobs, Enterprise and Innovation, hereby declare as follows:

1. This instrument may be cited as the Standard Specification (Gas transmission pipelines and pipeline installations – (Edition 4)) Declaration, 2015.

2. (1) The Specification set forth in the Schedule to this declaration is hereby declared to be the standard specification for Gas transmission pipelines and pipeline installations – (Edition 4).

(2) The said standard specification may be cited as Irish Standard 328:2015 or as I.S. 328:2015.

3. (1) The Standard Specification (Code of practice for gas transmission pipelines and pipeline installations – (Edition 3.1) Declaration 2003 is hereby revoked.

(2) Reference in any other standard specification to the Instrument hereby revoked and to Irish Standard 328:2003 thereby prescribed, shall be construed, respectively, as references to this Instrument and to Irish Standard 328:2015.

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## Foreword

This Standard has been formulated by Technical Committee TC 5, of the Gas Technical Standards Committee under whose direction it has been prepared. This Standard defines the minimum requirements and procedures to be used for steel pipelines for the transmission of gas at maximum operating pressure over 16 bar. The upper pressure limit is not defined but in current general practice this ranges up to 100 bar. For maximum operating pressures less than or equal to 16 bar, see I.S. 329.

This Standard is divided into two parts:

- Part 1: Pipelines;
- Part 2: Pipeline installations.

The Standard, by definition, is a general specification and should, therefore, be accompanied by, or form part of, a detailed project or contract specification. The Standard where it sets out options or alternatives facilitates the use of discretion particularly in the planning and design of a pipeline so as to ensure that optimum solutions can be developed with particular regard for safety.

The Standard does not supersede, or take precedence over, the requirements of legislation or statutory enactments, and it is imperative that due regard be taken of such requirements. In this latter context, particular attention is drawn to a requirement for consultation and liaison with government departments and local authorities in the planning, design, construction, operation, maintenance and decommissioning of a pipeline.

This Standard supersedes I.S. 328:2003 as amended.

This Standard relates to conditions and practices currently in use in the transmission of gas. However materials and techniques of construction and operation are constantly being improved. It is intended to keep these factors under continuous review. As a result amendments and supplements may be issued by the National Standards Authority of Ireland (NSAI) from time to time, and their publication will be announced in Iris Oifigiuil.

Existing pipelines and associated installations that comply with Editions 1, 2 or 3.1 of I.S. 328 may continue to be operated in accordance with their respective Edition, although surveillance, inspection and maintenance shall be undertaken in accordance with Edition 4, where appropriate. Operating conditions are not allowed to pass outside the limits of Editions 1, 2 or 3.1 as appropriate, unless the new conditions are consistent with Edition 4.

It is intended that this Standard should be applied in conjunction with the European Standards for gas pipelines and installations.

Thanks are expressed to the Institution of Gas Engineers and Managers (IGEM) for permission to reproduce figures.

In line with international standards practice the decimal point is shown as a comma ( , ) throughout this document.
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## **Schedule**

### **Gas transmission pipelines and pipeline installations (Edition 4)**

#### **PART 1 PIPELINES**

## **1 Scope**

Part 1 of this Standard applies to the design, construction, inspection, testing, operation, maintenance and decommissioning of steel pipelines for the transmission of processed, non-toxic and non-corrosive 1<sup>st</sup> and 2<sup>nd</sup> family gases as defined in I.S. EN ISO 13686 [1] i.e. natural gas and substitute natural gas, at maximum operating pressures over 16 bar and temperatures between – 25 °C and + 120 °C. The upper pressure limit is not defined but in current general practice this extends up to 100 bar.

This Standard sets out engineering requirements for the safe design, construction and operation of pipelines and associated equipment in accordance with current knowledge. In this context a pipeline is to be regarded as safe if all reasonable steps are taken to protect members of the public and the personnel of the pipeline constructors and operators from possible hazards, and the security of the gas supply is adequately maintained.

These requirements are applicable to conditions normally encountered in the transmission of gas. Additional design considerations may be necessary where unusual conditions are encountered e.g. unstable ground including the possibility of mining subsidence; mechanical or sonic vibrations; long self-supported spans; special attachments; or thermal forces other than seasonal.

These requirements apply to onshore pipelines including water crossings. They are not intended for pipelines the greater part of whose length is offshore.

Part 2 of this Standard applies to the design, construction, inspection, testing, operation and maintenance of pipeline installations used for the transmission of 1<sup>st</sup> and 2<sup>nd</sup> family gases, i.e. natural gas and substitute natural gas at maximum operating pressures over 16 bar and temperatures between - 25 °C and + 120 °C. Part 1 of this Standard also applies to installations where relevant.

Pipeline installations are mainline valves and line bypass facilities including associated piping, telemetry and pig trap installations.

This Standard does not apply to pressure regulating installations. It specifies that the design construction, inspection, testing, operation and maintenance of these installations shall be in accordance with I.S. EN 12186 and that the design construction, inspection, testing, operation and maintenance of heating systems shall be in accordance with IGEM/TD/13.

Compressor stations and compressed natural gas (CNG) filling stations are excluded.

All activities covered by this Standard in relation to gas transmission pipelines and installations should comply with the requirements of all relevant safety, planning and environmental legislation.

## **2 References**

This Standard incorporates, by dated or undated reference, provisions from other publications. These references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

I.S. 329, *Gas distribution mains*

I.S. EN 1515-3, *Flanges and their joints - Bolting - Part 3: classification of bolt materials for steel flanges, class designated*

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