Irish Standard
I.S. 328:2021

Gas transmission — Pipelines and pipeline installations

I.S. 328:2021

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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.

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Údarás um Chaighdeáin Náisiúnta na hÉireann

DECLARATION

OF

SPECIFICATION

ENTITLED

GAS TRANSMISSION - PIPELINES AND PIPELINE INSTALLATIONS

(EDITION 5)

AS

THE IRISH STANDARD SPECIFICATION FOR

GAS TRANSMISSION - PIPELINES AND PIPELINE INSTALLATIONS

(EDITION 5)

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 Enterprise, Trade and Employment, hereby declare as follows:

1. This instrument may be cited as the Standard Specification (Gas transmission - pipelines and pipeline installations – (Edition 5)) Declaration, 2021.

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 5).

(2) The said standard specification may be cited as Irish Standard 328:2021 or as I.S. 328:2021.

3. (1) The Standard Specification (Gas transmission pipelines and pipeline installations – (Edition 4) Declaration 2015 is hereby revoked.

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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 processes and procedures to be used for steel pipelines and associated installations 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.

NOTE For maximum operating pressures less than or equal to 16 bar, see I.S. 329.

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.

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.

Users of this standard should be aware of any requirements of legislation or statutory enactments. In this latter context, particular attention is drawn to a requirement for consultation and liaison with government departments, state bodies and local authorities in the planning, design, construction, operation, maintenance and decommissioning of a pipeline.

This Standard supersedes I.S. 328:2015 as amended.

This Standard relates to conditions and practices currently in use in the transmission of gas. In addition, 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.

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

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.

Schedule

Gas transmission – pipelines and pipeline installations (Edition 5)

1 Scope

This Standard applies to the design, construction, inspection, testing, operation, maintenance and decommissioning of steel pipelines and pipeline installations for the transmission of 1st and 2nd family gases, natural gas and substitute natural gas, (e.g. Bio-methane 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 applies to onshore pipelines including water crossings.

This standard excludes pipelines, the greater part of whose length is offshore.

Further requirements for pressure regulating stations are detailed in Annex A.

NOTE 1 For service lines at the inlet pipework of the pressure regulating station with a maximum upstream operating pressure not exceeding 16 bar and a design flow rate equal to or less than 200 m^3/h under normal conditions, see I.S. EN 12279.

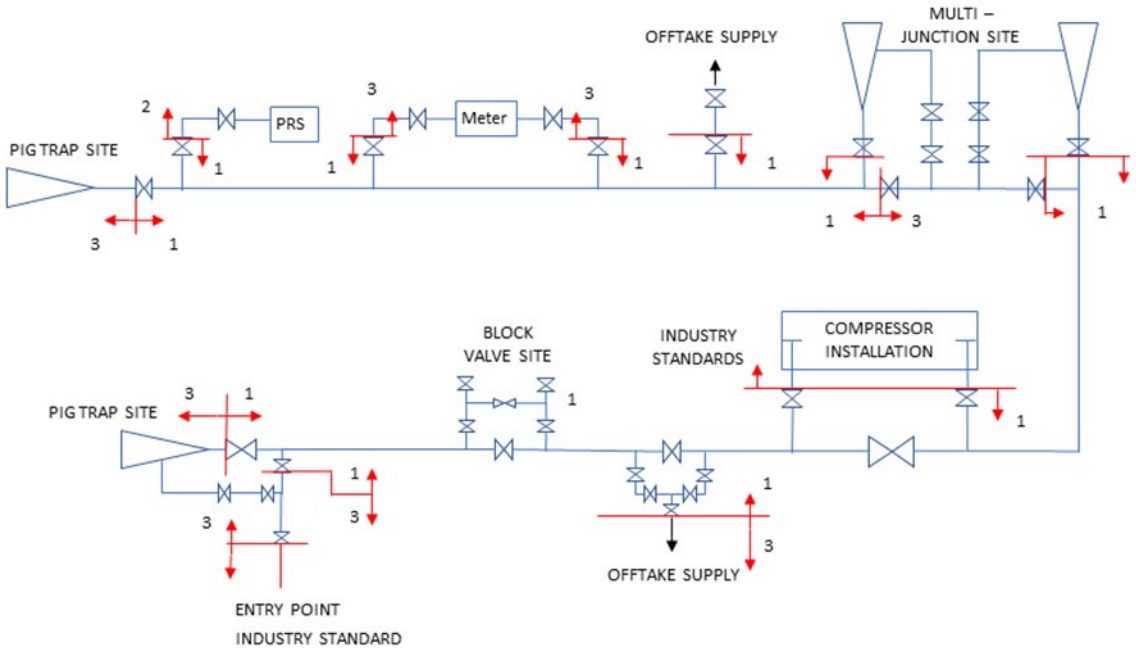
Further requirements for pipeline installations other than pressure regulating stations are detailed in Annex B.

Abandonment of pipeline installations is excluded from this standard.

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

NOTE 2 For any pipe or pipework of MOP not exceeding 16 bar, see I.S. 329.

Figure 1 illustrates the demarcation boundaries between pipelines, pressure regulating stations (PRS) and other pipeline installations.



Key

1	Pipelines (I.S. 328 main text)
2	PRS (I.S. 328 Annex A)
3	Other pipeline installations (I.S. 328 Annex B)

Figure 1 — Demarcation between pipelines, PRS and other pipeline installations

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.

I.S. 329, *Gas distribution mains*

I.S. EN 334, *Gas pressure regulators for inlet pressure up to 10 MPa (100 bar)*

I.S. EN 14291, *Foam producing solutions for leak detection on gas installations*

I.S. EN 1127-1, *Explosive atmospheres - Explosion prevention and protection - Part 1: Basic concepts and methodology*

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

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

I.S. EN 1594, *Gas infrastructure – Pipelines for maximum operating pressure over 16 bar - Functional requirements*