

Installations and equipment for LNG — Suitability testing of gaskets designed for flanged joints used on LNG piping

The European Standard EN 12308:1998 has the status of a
British Standard

ICS 23.040.80; 75.200

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National foreword

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Summary of pages

This document comprises a front cover, an inside front cover, the EN title page, pages 2 to 12, an inside back cover and a back cover.

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English version

Installations and equipment for LNG — Suitability testing of gaskets designed for flanged joints used on LNG piping

Installations et équipements relatifs au GNL —
Essais d'aptitude à l'emploi des joints destinés aux
assemblages par brides des tuyauteries GNL

Anlagen und Ausrüstung für Flüssigerdgas —
Eignungsprüfung von Flachdichtungen für
Flanschverbindungen in Flüssigerdgas —
Rohrleitungen

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CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

Central Secretariat: rue de Stassart 36, B-1050 Brussels

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Foreword

This European Standard has been prepared by Technical Committee CEN/TC 282, Installation and equipment for LNG, the Secretariat of which is held by AFNOR.

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of an identical text or by endorsement, at the latest by December 1998 and conflicting national standards shall be withdrawn at the latest by December 1998.

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

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1 Scope

This European Standard specifies the tests carried out in order to assess the suitability of gaskets designed for flanged joints used on LNG pipes.

This European Standard is applicable for gaskets with:

- nominal pressure range from PN 16 to PN 100;
- nominal diameter range from DN 10 to DN 1 000;
- class range from Class 150 to Class 900;
- nominal diameter range for Class flanges from NPS 1/4 to NPS 42.

2 Normative references

This European Standard incorporates provisions from other publications, by dated or undated reference. These normative 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 shall apply to this European Standard only when incorporated hereto by amendment or revision. For undated references, the latest edition of the publication referred to applies.

EN 764, *Pressure equipment — Terminology and symbols — Pressure, temperature, volume.*

EN 1160, *Installations and equipment for liquefied natural gas — General characteristics of liquefied natural gas.*

EN 1333, *Pipework components — Definition and selection of PN.*

EN 1514-1, *Flanges and their joints — Dimensions of gaskets for PN-designated flanges — Part 1: Non-metallic flat gaskets with or without inserts.*

EN 1514-2, *Flanges and their joints — Dimensions of gaskets for PN-designated flanges — Part 2: Spiral wound gaskets for use with steel flanges.*

EN 1514-3, *Flanges and their joints — Dimensions of gaskets for PN-designated flanges — Part 3: Non-metallic PTFE envelope gaskets.*

EN 1514-4, *Flanges and their joints — Dimensions of gaskets for PN-designated flanges — Part 4: Corrugated, flat or grooved metallic and filled metallic gaskets for use with steel flanges.*

prEN 1515-1, *Flanges and their joints — Bolting — Part 1: Selection of bolting.*

prEN 1515-2, *Flanges and their joints — Bolting — Part 2: Combination of flange and bolting materials for steel flanges — PN designated.*

EN ISO 6708, *Pipework components — Definition and selection of DN (nominal size).* (ISO 6708:1995)

3 Definitions

For the purposes of this standard, the following definitions and those given in EN 764, EN 1160, EN 1333 and EN ISO 6708 apply:

3.1

liquefied natural gas (LNG)

see EN 1160

3.2

nominal diameter (DN)

see EN ISO 6708

3.3

nominal pressure (PN)

see EN 1333

3.4

NPS

a numerical designation of size used only in association with metricated flanges of ANSI origin, which is common to all components in a piping system other than those designated by outside diameter; it is a convenient round number for reference purposes which is normally only loosely related to the manufacturing dimensions in inches

NOTE 1 It is designated by the letters NPS followed by a number.

NOTE 2 The NPS cannot be subject to measurement and cannot be used for the purpose of calculation.

3.5

class

a numerical designation for reference purposes, used only for metricated flanges of ANSI origin

NOTE 1 It is designated by the word "Class", followed by the appropriate reference number.

NOTE 2 The number following the word "Class" does not represent a measurable value and therefore cannot be used in calculations or followed by a unit.

NOTE 3 The maximum allowable pressure depends upon the Class number, the material and design of the component. The corresponding allowable temperature etc. is given in the tables of the p/T-ratings in the appropriate standards.

3.6

class of pressure

the PN or class of a component

3.7

allowable pressure (p_s)

see EN 764

3.8

required bolting load (F_a)

the load to be applied to ensure the tightness of the joint in normal operating conditions

4 Design specifications of tested gaskets

The gasket subjected to the suitability tests defined in this standard shall fulfil the requirements of EN 1514-1 to EN 1514-4, prEN 1515-1 and prEN 1515-2 and wherever necessary, the requirements of EN 1515-3.