Irish Standard
I.S. EN ISO 20257-1:2020

Installation and equipment for liquefied natural gas - Design of floating LNG installations - Part 1: General requirements (ISO 20257-1:2020)

I.S. EN ISO 20257-1:2020

Incorporating amendments/corrigenda/National Annexes issued since publication:

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This document is based on:	*Published:*
EN ISO 20257-1:2020	2020-05-06

This document was published under the authority of the NSAI and comes into effect on:	ICS number:
2020-06-04	75.200
	NOTE: If blank see CEN/CENELEC cover page

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National Foreword

I.S. EN ISO 20257-1:2020 is the adopted Irish version of the European Document EN ISO 20257-1:2020, Installation and equipment for liquefied natural gas - Design of floating LNG installations - Part 1: General requirements (ISO 20257-1:2020)

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 20257-1

May 2020

ICS 75.200

English Version

Installation and equipment for liquefied natural gas - Design of floating LNG installations - Part 1: General requirements (ISO 20257-1:2020)

Installations et équipements de gaz naturel liquéfié - Conception des installations flottantes de GNL - Partie 1: Exigences générales (ISO 20257-1:2020)

Anlagen und Ausrüstung für Flüssigerdgas - Auslegung von schwimmenden Flüssigerdgas-Anlagen - Teil 1: Allgemeine Anforderungen (ISO 20257-1:2020)

This European Standard was approved by CEN on 7 March 2020.

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

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Ref. No. EN ISO 20257-1:2020 E

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European foreword

This document (EN ISO 20257-1:2020) has been prepared by Technical Committee ISO/TC 67 "Materials, equipment and offshore structures for petroleum, petrochemical and natural gas industries" in collaboration with 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of an identical text or by endorsement, at the latest by November 2020, and conflicting national standards shall be withdrawn at the latest by November 2020.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

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The text of ISO 20257-1:2020 has been approved by CEN as EN ISO 20257-1:2020 without any modification.

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INTERNATIONAL STANDARD

ISO 20257-1

First edition
2020-04

Installation and equipment for liquefied natural gas — Design of floating LNG installations —

Part 1: General requirements

Installations et équipements de gaz naturel liquéfié — Conception des installations flottantes de GNL —

Partie 1: Exigences générales

Reference number
ISO 20257-1:2020(E)

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Published in Switzerland

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 67, *Materials, equipment and offshore structures for petroleum, petrochemical and natural gas industries*, Subcommittee SC 9, *Liquefied natural gas installations and equipment*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 282, *Installation and equipment for LNG*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

A list of all parts in the ISO 20257 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

This document provides a non-exhaustive list of potential concepts. When a novel concept is proposed, the general principles in this document can be applied as far as applicable. Such design will result in a concept with equivalent level of safety and environmental friendliness to those currently considered as standard solutions. Guidance on the assessment of novel technology is provided in Annex F.

In case a part of the installation, such as hull, vessel or structure, is already covered by another International Standard, including IMO, this document will only complement that applicable standard where necessary in order to ensure global safety, stability and integrity of the overall floating LNG installation.

This document assumes that a floating LNG installation is also designed to meet IMO and classification society requirements. It is not intended to preclude the use of a 'barge' solution. This document neither specifies the shape of the installation nor specifies the need for propulsion or an installation to fall within a particular regulatory regime. A barge can either be subject to exactly the same considerations as a unit designed as a non-propelled ship or not. This will depend on aspects such as whether a barge is located offshore or at shore, how it is transported, whether it stores LNG or not, the level of manning, the regulatory regime imposed on it. In this respect, the user of this document is expected to take hull structure design, means of external communications, and evacuation, escape and rescue arrangements, etc. into consideration.

Additional requirements by the Flag process, Shelf or Coastal Regulations can be applicable, that will vary depending on the type of floating LNG installation.

LNG as fuel bunkering applications is covered in ISO 20519 and in publications by the Society for Gas as a Marine Fuel.

Installation and equipment for liquefied natural gas — Design of floating LNG installations —

Part 1: General requirements

1 Scope

This document provides requirements and guidance for the design and operation of floating liquefied natural gas (LNG) installations, including installations for the liquefaction, storage, vaporisation, transfer and handling of LNG, in order to have a safe and environmentally acceptable design and operation of floating LNG installations.

This document is applicable to:

— floating LNG liquefaction installations (plant) — FLNG;

— floating LNG regasification installations (plant) — FSRU;

— floating storage units — FSU.

This document is applicable to offshore, near-shore or docked floating LNG installations.

This document includes any jetty in the scope in case of docked floating LNG installations with regards to the mooring. This document briefly describes floating LNG mooring concepts.

This document is applicable to both newbuilt and converted floating LNG installations, and addresses specific requirements.

This document is not applicable to:

— onshore LNG storage, liquefaction and/or regasification installations/plants, except for docked FSRU and/or FLNG installations;

— offshore LNG plants based on non-floating structure (such as gravity based structure [GBS] principle); and

— support onshore based facilities (such as support vessels, tugs, etc.).

This document is not intended for design floating power generation facilities though relevant parts of this document can be used.

This document is not intended to cover LNG as fuel bunkering applications.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

ISO 834 (all parts), *Fire resistance tests — Elements of building construction*

ISO 1460, *Metallic coatings — Hot dip galvanized coatings on ferrous materials — Gravimetric determination of the mass per unit area*