Ships and marine technology - Specification for bunkering of liquefied natural gas fuelled vessels (ISO 20519:2021)

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN ISO 20519:2022 sisaldab Euroopa standardi EN ISO 20519:2022 ingliskeelset teksti.	This Estonian standard EVS-EN ISO 20519:2022 consists of the English text of the European standard EN ISO 20519:2022.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 18.05.2022.	Date of Availability of the European standard is 18.05.2022.
Standard on kättesaadav Eesti Standardimis-ja Akrediteerimiskeskusest.	The standard is available from the Estonian Centre for Standardisation and Accreditation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 20519

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English Version

Ships and marine technology - Specification for bunkering of liquefied natural gas fuelled vessels (ISO 20519:2021)

Navires et technologie maritime - Spécification pour le soutage des navires fonctionnant au gaz naturel liquéfié (ISO 20519:2021)

Schiffe und Meerestechnik - Spezifikation für das Bunkern flüssigerdgasbetriebener Schiffe (ISO 20519:2021)

This European Standard was approved by CEN on 23 February 2022.

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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 CEN-CENELEC Management Centre has the same status as the official versions.

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

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Ref. No. EN ISO 20519:2022 E

European foreword

This document (EN ISO 20519:2022) has been prepared by Technical Committee ISO/TC 8 "Ships and marine technology" 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 2022, and conflicting national standards shall be withdrawn at the latest by November 2022.

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.

This document supersedes EN ISO 20519:2017.

Any feedback and questions on this document should be directed to the users’ national standards body/national committee. A complete listing of these bodies can be found on the CEN website.

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

Endorsement notice

The text of ISO 20519:2021 has been approved by CEN as EN ISO 20519:2022 without any modification.

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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).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

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 8, *Ships and marine technology*, 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).

This second edition cancels and replaces the first edition (ISO 20519:2017), which has been technically revised.

The main changes are as follows:

— in 5.5.5, dry connect and disconnect couplings, if used, are required to meet the applicable requirements of ISO 21593, however, it is permitted to use, under specified conditions, couplings manufactured before the publication of ISO 21593;

— in 6.2.2 a), if flowmeters are used to measure LNG being bunkered, the LNG provider to inform the party receiving the LNG if the flowmeter conforms to ISO 21903.

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 has been produced to meet an industry need identified by the International Maritime Organization (IMO). It has been designed to support the IMO International Code of Safety for Ships using Gases or other Low-flashpoint Fuels (IGF Code).

Due to numerous economic and environmental factors, the use of liquefied natural gas (LNG) as a vessel's fuel has increased. While LNG fuelled ships and vessels have been in service since the early 2000s, most of these vessels have operated within small defined areas using LNG bunkering operations designed for that particular vessel service. The increase in LNG fuelled vessels corresponds with an increase in the number of the regions that these vessels service. Therefore, there is a need to standardize LNG bunkering operations internationally to a reasonable degree so that vessel operators have the tools to select vessel fuel providers that meet set safety and fuel quality standards for LNG bunkering operations to be conducted safely.

This document can be applied in many situations and under various regulatory regimes. Existing regulations can cover the topics addressed in this document.

Ships and marine technology — Specification for bunkering of liquefied natural gas fuelled vessels

1 Scope

This document specifies requirements for LNG bunkering transfer systems and equipment used to bunker LNG fuelled vessels, which are not covered by the IGC Code. This document is applicable to vessels involved in international and domestic service regardless of size, and addresses the following five elements:

a) hardware: liquid and vapour transfer systems;

b) operational procedures;

c) requirement for the LNG provider to provide an LNG bunker delivery note;

d) training and qualifications of personnel involved;

e) requirements for LNG facilities to meet applicable ISO standards and local codes.

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 16904, *Petroleum and natural gas industries — Design and testing of LNG marine transfer arms for conventional onshore terminals*

ASME B16.5, *Pipe flanges and flanged fittings: NPS 1/2 through NPS 24 metric/inch standard*

BS 4089, *Specification for metallic hose assemblies for liquid petroleum gases and liquefied natural gases*

EN 1474-2, *Installation and equipment for liquefied natural gas — Design and testing of marine transfer systems — Design and testing of transfer hose*

EN 1474-3, *Installation and equipment for liquefied natural gas — Design and testing of marine transfer systems — Offshore transfer systems*

EN 12434, *Cryogenic vessels — Cryogenic flexible hoses*

IEC 60079-10-1, *Explosive atmospheres — Part 10-1: Classification of areas — Explosive gas atmospheres*

IMO, *International Code of Safety for Ships using Gases or other Low-flashpoint Fuels* (IGF Code)

IMO, *International Code of the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk* (IGC Code)

Oil Companies International Marine Forum, *Design and Construction Specification for Marine Loading Arms*. Third edition, 1999. London, England: Oil Companies International Marine Forum

Society of International Gas Tanker and Terminal Operators (SIGTTO), *ESD Arrangements & Linked Ship/Shore Systems for Liquefied Gas Carriers* [online]. First edition, 2009. Scotland, UK: Witherby Seamanship International Ltd