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Petroleum and natural gas industries - Site-specific assessment of mobile offshore units - Part 3: Floating units (ISO 19905-3:2021)

Erdöl- und Erdgasindustrie - Beurteilung von mobilen Offshore-Einheiten bezüglich ihres Einsatzgebietes - Teil 3: Schwimmende Einheiten (ISO 19905-3:2021)

Industries du pétrole et du gaz naturel - Évaluation spécifique au site d'unités mobiles en mer - Partie 3: Unités flottantes (ISO 19905-3:2021)

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Oprema za raziskovanje,
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extraction equipment

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**Petroleum and natural gas industries - Site-specific
assessment of mobile offshore units - Part 3: Floating units
(ISO 19905-3:2021)**

Industries du pétrole et du gaz naturel - Évaluation
spécifique au site d'unités mobiles en mer - Partie 3:
Unités flottantes (ISO 19905-3:2021)

Erdöl- und Erdgasindustrie - Beurteilung von mobilen
Offshore-Einheiten bezüglich ihres Einsatzgebietes -
Teil 3: Schwimmende Einheiten (ISO 19905-3:2021)

This European Standard was approved by CEN on 6 June 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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COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

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European foreword

The text of ISO 19905-3:2021 has been prepared by Technical Committee ISO/TC 67 "Materials, equipment and offshore structures for petroleum, petrochemical and natural gas industries" of the International Organization for Standardization (ISO) and has been taken over as EN ISO 19905-3:2022 by Technical Committee CEN/TC 12 "Materials, equipment and offshore structures for petroleum, petrochemical and natural gas industries" the secretariat of which is held by NEN.

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of an identical text or by endorsement, at the latest by December 2022, and conflicting national standards shall be withdrawn at the latest by December 2022.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 19905-3:2019.

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Endorsement notice

The text of ISO 19905-3:2021 has been approved by CEN as EN ISO 19905-3:2022 without any modification.

INTERNATIONAL STANDARD

**ISO
19905-3**

Second edition
2021-03

Petroleum and natural gas industries — Site-specific assessment of mobile offshore units —

Part 3: Floating units

*Industries du pétrole et du gaz naturel — Évaluation spécifique au
site d'unités mobiles en mer —
Partie 3: Unités flottantes*

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ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

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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 67, *Materials, equipment and offshore structures for petroleum, petrochemical and natural gas industries*, Subcommittee SC 7, *Offshore structures*.

This second edition cancels and replaces the first edition (ISO 19905-3:2017), which has been technically revised.

The main changes compared to the previous edition are as follows:

- removed definitions of drift off and drive off in [Clause 3](#) and consolidated under loss of position;
- Table 1 in [Clause 5](#) removed and reference made to ISO 19900;
- FLS removed from [8.1.2](#) and [8.1.3](#);
- air gap requirements modified in [8.2](#);
- ISO 35104 referenced in [10.4](#);
- editorial revision.

A list of all parts in the ISO 19905 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.

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Introduction

The International Standards on offshore structures prepared by TC 67 (i.e. ISO 19900, the ISO 19901 series, ISO 19902, ISO 19903, ISO 19904-1, the ISO 19905 series, ISO 19906) constitute a common basis addressing design requirements and assessments of all types of offshore structures used by the petroleum and natural gas industries worldwide.

NOTE These are sometimes referred to as the ISO 19900 series on offshore structures.

Through their application, the intention is to achieve adequate structural integrity and performance based on reliability levels appropriate for manned and unmanned offshore structures, whatever the nature or combination of the materials used.

Structural integrity is an overall concept comprising: models for describing actions; structural analyses; design or assessment rules; safety elements; workmanship; quality management; and national requirements, all of which are mutually dependent. The modification of any of these elements in isolation can cause an imbalance or inconsistency, with possible impact on the reliability inherent in the offshore structure. The implications involved in modifying one element, therefore, are considered in relation to all the elements and the overall reliability of the offshore structure.

The International Standards on offshore structures prepared by TC 67 are intended to provide latitude in the choice of structural configurations, materials and techniques and to allow for innovative solutions. Sound engineering judgement is, therefore, necessary in the use of these documents.

This document states the general principles and basic requirements for the site-specific assessment of mobile floating units. The technical information used in the assessment primarily resides in documents referenced herein. This document is intended to be used for assessment and not for design.

Site-specific assessment is normally carried out when an existing mobile floating unit is to be installed at a specific site. The assessment is not intended to provide a full evaluation of the unit; it is assumed that aspects not addressed herein have been addressed at the design stage using other practices and standards.

The purpose of the site-specific assessment is to demonstrate the adequacy of the mobile floating unit, its stationkeeping system and any connected systems for the applicable assessment situations and defined limit states, taking into account the consequences of failure. The results of a site-specific assessment should be appropriately recorded and communicated to those persons required to know or act on the conclusions and recommendations. Alternative approaches to the site-specific assessment can be used provided that they have been shown to give a level of reliability equivalent, or superior, to that implicit in this document.

In this document, the following verbal forms are used:

- “shall” indicates a requirement;
- “should” indicates a recommendation;
- “can” indicates a possibility or a capability;
- “may” indicates a permission.