



NSAI
Standards

Irish Standard
I.S. EN ISO 19900:2013

Petroleum and natural gas industries - General requirements for offshore structures (ISO 19900:2013)

I.S. EN ISO 19900:2013

Incorporating amendments/corrigenda/National Annexes issued since publication:

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Erdöl- und Erdgasindustrie - Allgemeine Anforderungen an Offshore-Bauwerke (ISO 19900:2013)

This European Standard was approved by CEN on 19 October 2013.

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EN ISO 19900:2013 (E)

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Foreword

This document (EN ISO 19900:2013) 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 12 "Materials, equipment and offshore structures for petroleum, petrochemical and natural gas industries" 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of an identical text or by endorsement, at the latest by June 2014, and conflicting national standards shall be withdrawn at the latest by June 2014.

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

This document supersedes EN ISO 19900:2002.

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Endorsement notice

The text of ISO 19900:2013 has been approved by CEN as EN ISO 19900:2013 without any modification.

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**INTERNATIONAL
STANDARD**

**ISO
19900**

Second edition
2013-12-15

**Petroleum and natural gas
industries — General requirements
for offshore structures**

*Industries du pétrole et du gaz naturel — Exigences générales pour
les structures en mer*



Reference number
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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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.

ISO 19900 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 19900:2002), which has been technically revised.

ISO 19900 is one of a series of standards for offshore structures. The full series consists of the following International Standards:

- ISO 19900, *Petroleum and natural gas industries — General requirements for offshore structures*
- ISO 19901 (all parts), *Petroleum and natural gas industries — Specific requirements for offshore structures*
- ISO 19902, *Petroleum and natural gas industries — Fixed steel offshore structures*
- ISO 19903, *Petroleum and natural gas industries — Fixed concrete offshore structures*
- ISO 19904 (all parts), *Petroleum and natural gas industries — Floating offshore structures*
- ISO 19905 (all parts), *Petroleum and natural gas industries — Site-specific assessment of mobile offshore units*
- ISO 19906, *Petroleum and natural gas industries — Arctic offshore structures*

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Introduction

The series of International Standards applicable to types of offshore structure, ISO 19900 to ISO 19906, constitutes a common basis covering those aspects that address design requirements and assessments of all offshore structures used by the petroleum and natural gas industries worldwide. Through their application, the intention is to achieve reliability levels appropriate for manned and unmanned offshore structures, whatever the nature or combination of the materials used.

It is important to recognize that structural integrity is an overall concept comprising models for describing actions, structural analyses, design rules, safety elements, workmanship, quality control procedures and national requirements, all of which are mutually dependent. The modification of one aspect of design in isolation can disturb the balance of reliability inherent in the overall concept or structural system. The implications involved in modifications, therefore, need to be considered in relation to the overall reliability of all offshore structural systems.

The offshore structures International Standards are intended to provide wide 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 International Standards.

ISO 19900 applies to offshore structures and is in accordance with the principles of ISO 2394. ISO 19900 includes, where appropriate, additional provisions that are specific to offshore structures.

[Figure 1](#) gives a general indication of the relationship among the various International Standards applicable to types of offshore structure. ISO 19900 is the core of this set.

The ISO 19901 series of parts provides provisions on particular aspects of the design, construction, and operation of offshore platforms for the petroleum and natural gas industries, whose provisions can be applicable to platforms of different types, materials and operating environments. ISO 19901-7 has specific relevance to floating structures.

In addition to the relationship among the specific provisions of the parts of ISO 19901 and the International Standards for bottom-founded, floating, or Arctic structures, there is also some interdependence among these latter International Standards, in that one International Standard can reference the design provisions of one of the other International Standards in this set. Users need to be aware of these cross-references when using any member of this set of International Standards.

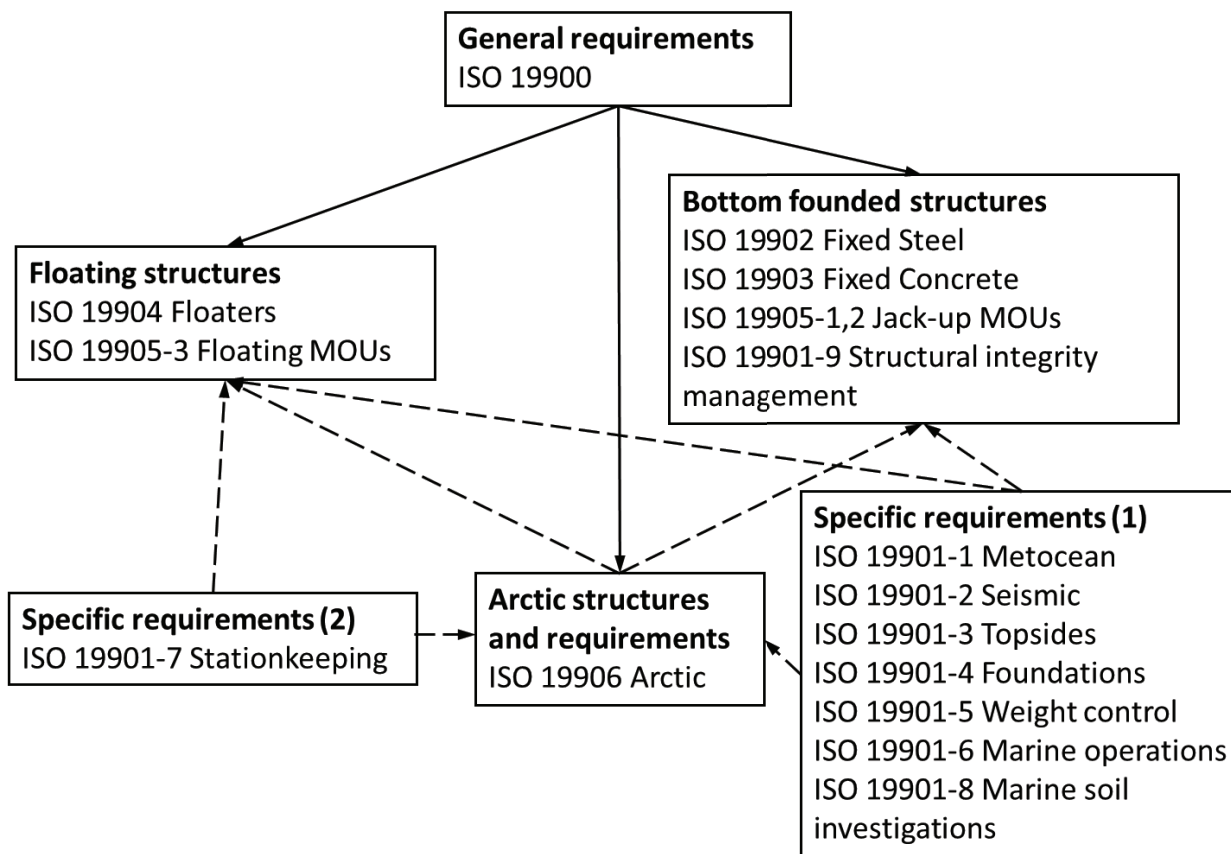


Figure 1 — Relationship among standards

Petroleum and natural gas industries — General requirements for offshore structures

1 Scope

This International Standard specifies general principles for the design and assessment of offshore structures subjected to known or foreseeable types of actions. These general principles are applicable worldwide to all types of offshore structures, including, bottom-founded structures as well as floating structures, and to all types of materials used including steel, concrete and aluminium.

This International Standard specifies design principles that are applicable to:

- the successive stages in the construction of the structure (i.e. fabrication, transportation and installation);
- use during its intended life; and
- its decommissioning.

The principles are also generally applicable to the assessment or modification of existing structures. Aspects related to quality control are also addressed.

This International Standard is applicable to the design of complete structures, including substructures, topsides structures, vessel hulls, foundations and mooring systems.

2 Normative references

The following referenced documents are indispensable for the application 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 2394:1998, *General principles on reliability for structures*

ISO 19901-1, *Petroleum and natural gas industries — Specific requirements for offshore structures — Part 1: Metocean design and operating considerations*

ISO 19901-2, *Petroleum and natural gas industries — Specific requirements for offshore structures — Part 2: Seismic design procedures and criteria*

ISO 19901-4, *Petroleum and natural gas industries — Specific requirements for offshore structures — Part 4: Geotechnical and foundation design considerations*

ISO 19901-5, *Petroleum and natural gas industries — Specific requirements for offshore structures — Part 5: Weight control during engineering and construction*

ISO 19901-6, *Petroleum and natural gas industries — Specific requirements for offshore structures — Part 6: Marine operations*

ISO 19901-7, *Petroleum and natural gas industries — Specific requirements for offshore structures — Part 7: Stationkeeping systems for floating offshore structures and mobile offshore units*

ISO 19906, *Petroleum and natural gas industries — Arctic offshore structures*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

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