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**Industrija za predelavo nafte in zemeljskega plina - Načrtovanje in delovanje podvodnih proizvodnih sistemov - 15. del: Podmorske strukture in razdelilniki (ISO 13628-15:2011)**

Petroleum and natural gas industries - Design and operation of subsea production systems - Part 15: Subsea structures and manifolds (ISO 13628-15:2011)

Erdöl- und Erdgasindustrie - Auslegung und Betrieb von Unterwasser-Produktionssystemen - Teil 15: Unterwasser-Aufbauten und Verteilerstücke (ISO 13628-15:2011)

Industries du pétrole et du gaz naturel - Conception et exploitation des systèmes de production immergés - Partie 15: Structures et manifolds immergés (ISO 13628-15:2011)

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75.180.10	Oprema za raziskovanje in odkopavanje	Exploratory and extraction equipment
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Industries du pétrole et du gaz naturel - Conception et  
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15: Structures immergées et manifolds (ISO 13628-  
15:2011)

Erdöl- und Erdgasindustrie - Auslegung und Betrieb von  
Unterwasser-Produktionssystemen - Teil 15: Unterwasser-  
Aufbauten und Verteilerstücke (ISO 13628-15:2011)

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## Foreword

This document (EN ISO 13628-15:2011) 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of an identical text or by endorsement, at the latest by March 2012, and conflicting national standards shall be withdrawn at the latest by March 2012.

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**Petroleum and natural gas industries —  
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**Part 15:  
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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 13628-15 was prepared by Technical Committee ISO/TC 67, *Materials, equipment and offshore structures for petroleum, petrochemical and natural gas industries*, Subcommittee SC 4, *Drilling and production equipment*.

ISO 13628 consists of the following parts under the general title *Petroleum and natural gas industries — Design and operation of subsea production systems*:

- Part 1: *General requirements and recommendations*
- Part 2: *Unbonded flexible pipe systems for subsea and marine applications*
- Part 3: *Through flowline (TFL) systems*
- Part 4: *Subsea wellhead and tree equipment*
- Part 5: *Subsea umbilicals*
- Part 6: *Subsea production control systems*
- Part 7: *Completion/workover riser systems*
- Part 8: *Remotely operated tools and interfaces on subsea production systems*
- Part 9: *Remotely Operated Tool (ROT) intervention systems*
- Part 10: *Specification for bonded flexible pipe*
- Part 11: *Flexible pipe systems for subsea and marine applications*
- Part 15: *Subsea structures and manifolds*

A Part 12, dealing with dynamic production risers, a Part 14, dealing with high-integrity pressure protection systems (HIPPS), a Part 16, dealing with specification for flexible pipe ancillary equipment, and a Part 17, dealing with recommended practice for flexible pipe ancillary equipment, are under preparation.

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# Petroleum and natural gas industries — Design and operation of subsea production systems —

## Part 15: Subsea structures and manifolds

### 1 Scope

This part of ISO 13628 addresses recommendations for subsea structures and manifolds, within the frameworks set forth by recognized and accepted industry specifications and standards. As such, it does not supersede or eliminate any requirement imposed by any other industry specification.

This part of ISO 13628 covers subsea manifolds and templates utilized for pressure control in both subsea production of oil and gas, and subsea injection services. See Figure 1 for an example of such a subsea system.

Equipment within the scope of this part of ISO 13628 is listed below:

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- a) the following structural components and piping systems of subsea production systems:
- production and injection manifolds,
  - modular and integrated single satellite and multiwell templates,
  - subsea processing and subsea boosting stations,
  - flowline riser bases and export riser bases (FRB, ERB),
  - pipeline end manifolds (PLEM),
  - pipeline end terminations (PLET),
  - T- and Y-connection,
  - subsea isolation valve (SSIV);
- b) the following structural components of subsea production system:
- subsea controls and distribution structures,
  - other subsea structures;
- c) protection structures associated with the above.

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The following components and their applications are outside the scope of this part of ISO 13628:

- pipeline and manifold valves;
- flowline and tie-in connectors;
- choke valves;
- production control systems.

NOTE General information regarding these topics can be found in additional publications, such as ISO 13628-1 and API Spec 2C.



### Key

- A tree
- B cluster manifold
- C PLEM
- D PLET
- E inline tee
- F multi-phase pump skid

Figure 1 — Example of some typical subsea structures

## 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 3183, *Petroleum and natural gas industries — Steel pipe for pipeline transportation systems*

ISO 3834-2, *Quality requirements for fusion welding of metallic materials — Part 2: Comprehensive quality requirements*

ISO 9606 (all parts), *Qualification test of welders — Fusion welding*

ISO 9712, *Non-destructive testing — Qualification and certification of NDT personnel — General principles*

ISO 10423, *Petroleum and natural gas industries — Drilling and production equipment — Wellhead and christmas tree equipment*

ISO 10474, *Steel and steel products — Inspection documents*

ISO 13628-1:2005, *Petroleum and natural gas industries — Design and operation of subsea production systems — Part 1: General requirements and recommendations*

ISO 13628-1:2005/Amd 1:2010, *Petroleum and natural gas industries — Design and operation of subsea production systems — Part 1: General requirements and recommendations — Amendment 1: Revised Clause 6*

ISO 13628-4, *Petroleum and natural gas industries — Design and operation of subsea production systems — Part 4: Subsea wellhead and tree equipment*

ISO 13628-8, *Petroleum and natural gas industries — Design and operation of subsea production systems — Part 8: Remotely operated tools and interfaces on subsea production systems*

ISO 14731:2006, *Welding coordination — Tasks and responsibilities*

ISO 15156 (all parts), *Petroleum and natural gas industries — Materials for use in H<sub>2</sub>S-containing environments in oil and gas production*

ISO 15590-1, *Petroleum and natural gas industries — Induction bends, fittings and flanges for pipeline transportation systems — Part 1: Induction bends*

ISO 15609 (all parts), *Specification and qualification of welding procedures for metallic materials — Welding procedure specification*

ISO 15614 (all parts), *Specification and qualification of welding procedures for metallic materials — Welding procedure test*

EN 473, *Non-destructive testing — Qualification and certification of NDT personnel — General principles*

EN 1418, *Welding personnel — Approval testing of welding operators for fusion welding and resistance weld setters for fully mechanized and automatic welding of metallic materials*

EN 10228-3, *Non-destructive testing of steel forgings — Part 3: Ultrasonic testing of ferritic or martensitic steel forgings*

ASME B31.3, *Process Piping*

ASME V, 2007, *Boiler and Pressure Vessel Code (BPVC), Section V, Nondestructive Examination*