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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 21412.7-2018

**Petroleum and natural gas industries -- Design and operation of
subsea production systems -- Part 7: Completion/workover
riser systems**

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3.1 Terms and definitions

Foreword

GB/T 21412 "Design and Operation of Underwater Production System for Oil and Gas Industry" is divided into fifteen parts.

- Part 1. General requirements and recommended practices;
- Part 2. Flexible pipe systems for subsea and offshore;
- Part 3. Over-the-out pipe (TFL) system;
- Part 4. Underwater wellhead installations and tree equipment;
- Part 5. Underwater umbilical cable;
- Part 6. Underwater production control system;
- Part 7. Completion or workover riser system;
- Part 8. Underwater robot (ROV) interface for underwater production systems;
- Part 9. Remote Operation Tool (ROT) Maintenance System;
- Part 10. Adhesive flexible pipe specifications;
- Part 11. Flexible pipe systems for seabed and ocean;
- Part 12. Dynamic production riser;
- Part 13. Remote operation tools and interfaces for underwater production systems;
- Part 14. Underwater high integrity pressure protection system;
- Part 15. Underwater structures and manifolds.

This part is part 7 of GB/T 21412.

This part is drafted in accordance with the rules given in GB/T 1.1-2009.

This section uses the translation method equivalent to ISO 13628-7:2005 "Design and

operation of the underwater production system of the oil and gas industry.

Part 7. Completion or workover riser system (English version).

The documents of our country that have a consistent correspondence with the international documents referenced in this part are as follows.

---GB/T 20972 (all parts) Oil and gas industry oil and gas mining for materials containing hydrogen sulfide

[ISO 15156 (all parts)]

---GB/T 22513-2013 Oil and gas industry drilling and production equipment wellhead facilities and tree equipment

(ISO 10423.2009, MOD)

---GB/T 28259-2012 Oil and gas industry downhole equipment downhole safety valve equipment (ISO 10432.2004, MOD)

This part is proposed and managed by the National Oil and Gas Standardization Technical Committee (SAC/TC355).

This section drafted by. CNOOC Research Institute.

1 Scope

This part of GB/T 21412 specifies the design, analysis, materials, manufacturing, testing and design of underwater completion or workover (C/WO) riser systems.

Requirements and recommendations for installation from floating installations.

This section applies to all new completion or workover riser systems, as well as adjustments and operations for existing systems, as well as

Reuse of locations and different floating installations. This section is limited to risers made of low alloy carbon steel. Made of special materials such as titanium and composite materials

The riser made of flexible pipe is outside the scope of this section.

This section includes the following equipment.

---Water pipe single root;

---Connector;

---Workover control system;

--- Ground flow test tree;

- Ground test tree lifting frame;
- The lower workover riser assembly;
- Blowout valve;
- Conduit valve;
- Underwater test tree;
- Cut short section;
- Tubing hanging positioning system;
- Drilling faucet;
- Annulus circulation hose;
- Water separator chuck;
- Umbilical cord cable clamp;
- Installation and testing tools;
- The tree hat is placed under the tool.

The relevant equipment not included in this section is as follows.

- Tubing hanging;
- The inner and outer caps of the tree;
- Tubing hanging into the tool;
- Ground coiled tubing system;
- Ground cable operating system;
- Ground test tree killing and production of jumper.

2 Normative references

The following documents are indispensable for the application of this document. For dated references, only dated versions apply to this article.

Pieces. For undated references, the latest edition (including all amendments) applies to this document.

IEC 60089-0 Electrical equipment for explosive atmospheres - Part 0. General requirements, fourth edition (Electricalapparatusfor

explosivegasatmospheres-Part0.GeneralRequirements,FourthEdition)

ISO 148 steel Charpy impact test (V-shaped cut) [Steel-Charpyimpacttest (V-notch)]

ISO 377 Steel and Steel Products Mechanical Properties Test Sampling Location and Sample Preparation (Steel and steel products-Location

And preparation of samples and test pieces for mechanical testing)

ISO 783 metal material high temperature tensile test
(Metallic materials-Tensile testing at elevated temperature)

Carbon steel and cast steel - Casting fasteners - Mechanical properties - Part 1. Bolts, screws and studs (Mechanical proper-

ties of fasteners made of carbon steel and alloy steel-Part 1. Bolts, screws and studs)

Mechanical properties of fasteners - Part 2. Nuts with specified test load values - coarse thread (Mechanical

properties of fasteners-Part 2. Nuts with specified proof load values-Coarse thread)

ISO 1461 Specification for hot dip galvanized coatings and test methods for iron and steel preforms (Hot dip galvanized coatings on fabri-

cated iron and steel articles-Specifications and test methods)

ISO 2566-1 Conversion of steel elongation values Part 1. Carbon steel and low alloy steel (Steel-Conversion of elongation

values-Part 1. Carbon and low alloy steels)

ISO 3183 (all parts) Oil and gas industry pipeline steel pipe supply technical conditions (Petroleum and natural gas

industries-Steel pipe for pipelines-Technical delivery conditions)

ISO 4885 Iron Products Heat Treatment Vocabulary (Ferrous products-Heat treatment-Vocabulary)

ISO 6507-1 Metallic materials - Vickers hardness test - Part 1 . Test method (Metallic materials-Vickers

hardness test-Part 1. Test method)

ISO 6892 metal material ambient temperature tensile test (Metallic materials-Tensile testing at ambient temper-

Nature)

Steel forgings and rolled or forged pipes for pressure applications - Part 1 . General requirements (Steel

forgings and rolled or forged bars for pressure purposes-Technical delivery conditions-Part 1. General requirements)