
Industrija za predelavo nafte in zemeljskega plina - Vrtalna in proizvodna oprema - Načrtovanje plavajočih vodnikov, nastavitev globine in vgradnja (ISO 3421:2022)

Petroleum and natural gas industries - Drilling and production equipment - Offshore conductor design, setting depth and installation (ISO 3421:2022)

Erdöl- und Erdgasindustrie - Bohr- und Förderausrüstung - Offshore-Leiterauslegung, Setztiefe und Einbau (ISO 3421:2022)

Industries du pétrole et du gaz naturel - Équipements de forage et de production - Conception des tubes conducteurs en mer, profondeur de mise en place et installation (ISO 3421:2022)

Ta slovenski standard je istoveten z: EN ISO 3421:2022

ICS:

75.180.10	Oprema za raziskovanje, vrtanje in odkopavanje	Exploratory, drilling and extraction equipment
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SIST EN ISO 3421:2022

en,fr,de

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN ISO 3421

June 2022

ICS 75.180.10

English Version

**Petroleum and natural gas industries - Drilling and
production equipment - Offshore conductor design, setting
depth and installation (ISO 3421:2022)**

Industries du pétrole et du gaz naturel - Équipements
de forage et de production - Conception des tubes
conducteurs en mer, profondeur de mise en place et
installation (ISO 3421:2022)

Erdöl- und Erdgasindustrie - Bohr- und
Förderausrüstung - Offshore-Leiterauslegung, Setztiefe
und Einbau (ISO 3421:2022)

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Contents	Page
European foreword.....	3

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European foreword

This document (EN ISO 3421:2022) 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 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of an identical text or by endorsement, at the latest by December 2022, and conflicting national standards shall be withdrawn at the latest by December 2022.

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INTERNATIONAL STANDARD

**ISO
3421**

First edition
2022-06

Petroleum and natural gas industries — Drilling and production equipment — Offshore conductor design, setting depth and installation

*Industries du pétrole et du gaz naturel — Équipements de forage
et de production — Conception des tubes conducteurs en mer,
profondeur de mise en place et installation*

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Reference number
ISO 3421:2022(E)

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

Published in Switzerland

Contents

	Page
Foreword.....	v
Introduction.....	vi
1 Scope.....	1
2 Normative references.....	1
3 Terms and definitions.....	2
4 Symbols and abbreviated terms.....	3
4.1 Symbols.....	3
4.1.1 Symbols for conductor design.....	3
4.1.2 Symbols for setting depth.....	5
4.2 Abbreviated terms.....	7
5 General requirements.....	7
5.1 General.....	7
5.2 Limit states for conductor design.....	7
5.3 Setting depth requirements.....	8
5.4 Installation requirements.....	8
5.5 Design situations.....	8
6 Design parameters.....	8
6.1 General.....	8
6.2 Metocean parameters.....	8
6.3 Ice parameters.....	9
6.4 Seismic parameters.....	9
6.5 Soil parameters.....	9
6.6 Engineering design parameters.....	9
6.6.1 Platform parameters.....	9
6.6.2 Well operations parameters.....	10
7 Conductor design.....	11
7.1 General.....	11
7.2 Actions.....	11
7.2.1 General.....	11
7.2.2 Permanent actions (<i>G</i>).....	11
7.2.3 Variable actions (<i>Q</i>).....	12
7.2.4 Deformation actions (<i>D</i>).....	12
7.2.5 Accidental actions (<i>A</i>).....	12
7.2.6 Environmental actions.....	12
7.3 Partial factors for actions.....	13
7.4 Boundary restraints.....	14
7.4.1 General.....	14
7.4.2 Platform conductors.....	14
7.4.3 Jack-up supported conductors.....	15
7.4.4 Free-standing conductors.....	15
7.4.5 Subsea wellhead conductors.....	15
7.5 Strength and stability checks.....	15
7.5.1 General.....	15
7.5.2 Design method.....	15
7.5.3 Axial compression.....	15
7.5.4 Bending.....	17
7.5.5 Shear.....	18
7.5.6 Combined stress.....	18
7.6 Fatigue.....	19
8 Setting depth.....	20
8.1 General.....	20

ISO 3421:2022(E)

8.2	Setting depth for fluid circulation channel	20
8.3	Setting depth for wellbore structural foundation	21
8.3.1	General	21
8.3.2	Installation by driving, drilling and cementing	21
8.3.3	Installation by jetting	24
9	Installation	26
9.1	General	26
9.2	Driving	26
9.2.1	Applicability	26
9.2.2	Driveability analysis	26
9.2.3	Installation procedures	26
9.2.4	Pile group conductor driving sequence	27
9.2.5	Data documentation	27
9.2.6	Quality	27
9.3	Drilling and cementing	28
9.3.1	Applicability	28
9.3.2	Size match of bit and conductor	28
9.3.3	Wait on cement	28
9.3.4	Quality	28
9.4	Jetting	28
9.4.1	Applicability	28
9.4.2	Size match of bit and conductor	28
9.4.3	Jetting bottom hole assembly	29
9.4.4	Jetting procedure	29
9.4.5	Jetting operating parameters	29
9.4.6	Data recording	29
9.4.7	Quality	30
	Annex A (informative) Additional information and guidelines	31
	Bibliography	35

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).

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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 4, *Drilling and production equipment*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 12, *Materials, equipment and offshore structures for petroleum, petrochemical and natural gas industries*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

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 provides requirements and guidance on the design, setting depth, and installation of offshore conductors used by the petroleum and natural gas industries worldwide. Sound engineering judgment is necessary in the use of this document.

Conductor design addresses actions and action combinations, strength and stability checks, and fatigue checks. Setting depth provides calculation methodologies for different installation methods. Installation identifies relevant methods and their applicability together with corresponding procedures as well as documentation and quality control requirements.

Some background to and guidelines on the use of this document is provided in [Annex A](#).

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Petroleum and natural gas industries — Drilling and production equipment — Offshore conductor design, setting depth and installation

1 Scope

This document specifies the requirements and recommendations for the design, setting depth and installation of conductors for the offshore petroleum and natural gas industries. This document specifically addresses:

- design of the conductor, i.e. determination of the diameter, wall thickness, and steel grade;
- determination of the setting depth for three installation methods, namely, driving, drilling and cementing, and jetting;
- requirements for the three installation methods, including applicability, procedures, and documentation and quality control.

This document is applicable to:

- platform conductors: installed through a guide hole in the platform drill floor and then through guides attached to the jacket at intervals through the water column to support the conductor, withstand actions, and prevent excessive displacements;
- jack-up supported conductors: a temporary conductor used only during drilling operations, which is installed by a jack-up drilling rig. In some cases, the conductor is tensioned by tensioners attached to the drilling rig;
- free-standing conductors: a self-supporting conductor in cantilever mode installed in shallow water, typically water depths of about 10 m to 20 m. It provides sole support for the well and sometimes supports a small access deck and boat landing;
- subsea wellhead conductors: a fully submerged conductor extending only a few metres above the sea floor to which a BOP and drilling riser are attached. The drilling riser is connected to a floating drilling rig. The BOP, riser and rig are subject to wave and current actions while the riser can also be subject to VIV.

This document is not applicable to the design of drilling risers.

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 19900, *Petroleum and natural gas industries — General requirements for offshore structures*

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

ISO 19901-8, *Petroleum and natural gas industries — Specific requirements for offshore structures — Part 8: Marine soil investigations*

ISO 19902, *Petroleum and natural gas industries — Fixed steel offshore structures*

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