

ISO 3421:2022-06 (E)

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

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
	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