

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