

# DIN EN ISO 19903:2007-04 (E)

Petroleum and natural gas industries - Fixed concrete offshore structures (ISO 19903:2006); English version EN ISO 19903:2006

---

Inhalt	Seite
Foreword .....	4
Introduction.....	5
1 Scope .....	6
2 Normative references.....	6
3 Terms and definitions .....	7
4 Symbols and abbreviated terms .....	13
4.1 Symbols.....	13
4.2 Abbreviated terms .....	15
5 General requirements .....	15
5.1 General .....	15
5.2 National requirements.....	16
5.3 Overall planning requirements .....	16
5.4 Functional requirements .....	17
5.5 Structural requirements.....	18
5.6 Design requirements.....	19
6 Actions and action effects.....	20
6.1 General .....	20
6.2 Environmental actions .....	21
6.3 Other actions .....	26
6.4 Partial factors for actions .....	31
6.5 Combinations of actions.....	32
6.6 Exposure levels .....	34
7 Structural analysis .....	35
7.1 General .....	35
7.2 General principles .....	35
7.3 Physical representation.....	38
7.4 Types of analyses.....	42
7.5 Analyses requirements.....	45
8 Concrete works.....	50
8.1 General .....	50
8.2 Design.....	51
8.3 Materials .....	54
8.4 Execution .....	61
8.5 Geometrical tolerances.....	73
8.6 Quality control — Inspection, testing and corrected actions .....	76
9 Foundation design .....	80
9.1 Introduction.....	80
9.2 General .....	80
9.3 Soil investigation.....	80
9.4 Representative soil properties .....	81
9.5 Partial factors for actions and materials.....	81
9.6 Geotechnical design principles .....	82
9.7 Bearing and sliding stability .....	83
9.8 Soil reactions on structures.....	84
9.9 Installation and removal .....	84
9.10 Scour.....	85

<b>10</b>	<b>Mechanical systems .....</b>	<b>85</b>
<b>10.1</b>	<b>Introduction .....</b>	<b>85</b>
<b>10.2</b>	<b>Permanent mechanical systems .....</b>	<b>86</b>
<b>10.3</b>	<b>Mechanical systems — Temporary .....</b>	<b>92</b>
<b>10.4</b>	<b>Attachments and penetrations .....</b>	<b>96</b>
<b>10.5</b>	<b>Mechanical systems — Special considerations .....</b>	<b>96</b>
<b>11</b>	<b>Marine operations and construction afloat .....</b>	<b>98</b>
<b>11.1</b>	<b>General .....</b>	<b>98</b>
<b>11.2</b>	<b>Engineering and planning .....</b>	<b>98</b>
<b>12</b>	<b>Corrosion control .....</b>	<b>98</b>
<b>12.1</b>	<b>Introduction .....</b>	<b>98</b>
<b>12.2</b>	<b>Design for corrosion control .....</b>	<b>100</b>
<b>12.3</b>	<b>Fabrication and installation of systems for corrosion control .....</b>	<b>105</b>
<b>13</b>	<b>Topsides interface design .....</b>	<b>105</b>
<b>13.1</b>	<b>Introduction .....</b>	<b>105</b>
<b>13.2</b>	<b>Basis for design .....</b>	<b>106</b>
<b>13.3</b>	<b>Deck/shaft structural connection .....</b>	<b>106</b>
<b>13.4</b>	<b>Topsides — Structure mating .....</b>	<b>107</b>
<b>13.5</b>	<b>Transportation, tow-to-field .....</b>	<b>107</b>
<b>14</b>	<b>Inspection and condition monitoring .....</b>	<b>107</b>
<b>14.1</b>	<b>General .....</b>	<b>107</b>
<b>14.2</b>	<b>Objective .....</b>	<b>107</b>
<b>14.3</b>	<b>Personnel qualifications .....</b>	<b>108</b>
<b>14.4</b>	<b>Planning .....</b>	<b>108</b>
<b>14.5</b>	<b>Documentation .....</b>	<b>109</b>
<b>14.6</b>	<b>Important items related to inspection and condition monitoring .....</b>	<b>110</b>
<b>14.7</b>	<b>Inspection and condition monitoring types .....</b>	<b>113</b>
<b>14.8</b>	<b>Marking .....</b>	<b>114</b>
<b>14.9</b>	<b>Guidance for inspection of special areas .....</b>	<b>114</b>
<b>15</b>	<b>Assessment of existing structures .....</b>	<b>117</b>
<b>15.1</b>	<b>General .....</b>	<b>117</b>
<b>15.2</b>	<b>Structural assessment initiators .....</b>	<b>117</b>
	<b>Annex A (informative) Regional information .....</b>	<b>119</b>
	<b>Bibliography .....</b>	<b>121</b>