

# DIN EN 1997-2:2022-10 (E)

Erscheinungsdatum: 2022-09-16

## Eurocode 7 - Geotechnical design - Part 2: Ground properties; English version prEN 1997-2:2022

---

### Contents

Page

European foreword.....	6
0 Introduction.....	7
1 Scope.....	9
1.1 Scope of prEN 1997-2.....	9
1.2 Assumptions.....	9
2 Normative references.....	9
3 Terms, definitions, and symbols.....	10
3.1 Terms and definitions.....	10
3.2 Symbols and abbreviations.....	18
4 Ground Model.....	23
4.1 General.....	23
4.2 Derived values.....	23
5 Ground investigation.....	24
5.1 General.....	24
5.2 Contents of ground investigation.....	25
5.3 Ground investigation techniques.....	27
5.4 Planning of preliminary and design investigations.....	29
6 Description and classification of the ground.....	34
6.1 General.....	34
6.2 Discontinuities and weathered zones.....	34
7 State, physical, and chemical properties.....	35
7.1 State properties.....	35
7.2 Physical properties.....	40
7.3 Chemical properties.....	45
8 Strength.....	49
8.1 Strength envelopes and parameters for soils and rocks.....	49
8.2 Soil strength.....	52
8.3 Rock strength.....	56
8.4 Interface strengths.....	59
9 Stiffness, compressibility and consolidation.....	59
9.1 Ground stiffness.....	59
9.2 Ground compressibility and consolidation.....	64
10 Cyclic, dynamic, and seismic properties.....	67
10.1 General.....	67
10.2 Measurement of cyclic response.....	68
10.3 Secant modulus and damping ratio curves.....	69
10.4 Very small strain moduli and wave velocities.....	70
10.5 Excess pore water pressure.....	72
10.6 Cyclic shear strength.....	72
10.7 Additional parameters for seismic site response evaluation.....	73
11 Groundwater and geohydraulic properties.....	74
11.1 General.....	74
11.2 Groundwater pressure and pressure head.....	74
11.3 Geohydraulic properties.....	76

<b>12</b>	<b>Geothermal properties .....</b>	<b>79</b>
<b>12.1</b>	<b>General .....</b>	<b>79</b>
<b>12.2</b>	<b>Frost susceptibility .....</b>	<b>80</b>
<b>12.3</b>	<b>Thermal conductivity .....</b>	<b>80</b>
<b>12.4</b>	<b>Heat capacity .....</b>	<b>80</b>
<b>12.5</b>	<b>Thermal diffusivity .....</b>	<b>81</b>
<b>12.6</b>	<b>Thermal linear expansion .....</b>	<b>81</b>
<b>12.7</b>	<b>Direct determination of geothermal properties .....</b>	<b>81</b>
<b>13</b>	<b>Reporting.....</b>	<b>81</b>
<b>13.1</b>	<b>Ground Investigation Report.....</b>	<b>81</b>
	<b>Annex A (normative) Ground Investigation Report.....</b>	<b>83</b>
	<b>Annex B (informative) Suitability and applicability of test methods .....</b>	<b>86</b>
	<b>Annex C (informative) Desk study and site inspection .....</b>	<b>105</b>
	<b>Annex D (informative) Information to be obtained from ground investigation.....</b>	<b>111</b>
	<b>Annex E (informative) Methods for determining density index and strength properties.</b>	<b>114</b>
	<b>Annex F (informative) Methods for determining stiffness and consolidation properties of soils.....</b>	<b>120</b>
	<b>Annex G (informative) Indirect methods for determining cyclic, dynamic, and seismic properties of soils.....</b>	<b>126</b>
	<b>Bibliography .....</b>	<b>134</b>