DIN EN ISO 22477-5:2019-05 (E)

Geotechnical investigation and testing - Testing of geotechnical structures - Part 5: Testing of grouted anc hors (ISO 22477-5:2018)

Contents

Page

European foreword **4**

Foreword **5**

Introduction **6**

1 Scope **8**

2 Normative references **8**

3 Terms, definitions and symbols **8**

4 Equipment **11**
4.1 Test loading set-up 11
4.2 Reaction system 14
4.3 Loading device 14
4.4 Load measurement 15
4.5 Displacement measurement 15
4.6 Time and temperature measurement 15

5 Test types **15**
5.1 General 15
5.2 Investigation test 15
5.3 Suitability test 16
5.4 Acceptance test 16

6 Execution **16**
6.1 Test location 16
6.2 Test anchors 16
6.3 Time period between installation and test 16
6.4 Test preparation 17
6.5 Proof load 17
6.6 Datum load 17
6.7 Group testing 17
6.8 Alternating load testing 17

7 Test report **18**
7.1 Investigation and suitability tests 18
7.2 Acceptance test 19

8 Test Method 1 ..... **20**
8.1 General 20
8.2 Investigation test 20
8.2.1 General 20
8.2.2 Loading procedure 20
8.2.3 Measurements and checks 21
8.2.4 Test results 22
8.3 Suitability test 22
8.3.1 General 22
8.3.2 Loading procedure 22
8.3.3 Measurements and checks 23
8.3.4 Test results 24

8.4 Acceptance test ... 27
8.4.1 General ... 27
8.4.2 Loading procedure ... 27
8.4.3 Measurements and checks ... 28
8.4.4 Test results ... 28

9 Test Method 2 ... 29
9.1 General ... 29
9.2 Investigation test ... 29
9.2.1 General ... 29
9.2.2 Loading procedure ... 29
9.2.3 Measurements and checks ... 29
9.2.4 Test results ... 30
9.3 Suitability test ... 30
9.3.1 General ... 30
9.3.2 Loading procedure ... 31
9.3.3 Measurements and checks ... 32
9.3.4 Test results ... 32
9.4 Acceptance test ... 32
9.4.1 General ... 32
9.4.2 Loading procedure ... 33
9.4.3 Measurements and checks ... 34
9.4.4 Test results ... 34

10 Test Method 3 ... 35
10.1 General ... 35
10.2 Investigation test ... 35
10.2.1 General ... 35
10.2.2 Loading procedure ... 35
10.2.3 Measurements and checks ... 36
10.2.4 Test results ... 37
10.3 Suitability test ... 37
10.3.1 General ... 37
10.3.2 Loading procedure ... 37
10.3.3 Measurements and checks ... 38
10.3.4 Test results ... 39
10.4 Acceptance test ... 39
10.4.1 General ... 39
10.4.2 Loading procedure ... 39
10.4.3 Measurements and checks ... 40
10.4.4 Test results ... 40

Annex A (informative) **Determination of the creep rate α ... 42**

Annex B (informative) **Determination of the load loss k_l ... 43**

Annex C (informative) **Determination of the critical creep load P_c ... 44**

Annex D (informative) **Evaluation of the apparent tendon free length L_{app} ... 45**

Annex E (informative) **Yield stress and tensile strength for typical anchor steels ... 47**

Bibliography ... 48