

DIN EN 12715:2021-01 (E)

Execution of special geotechnical work - Grouting

Contents		Page
	European foreword	4
	Introduction	5
1	Scope	6
2	Normative references	7
3	Terms and definitions	8
4	Information needed for the execution of work	10
4.1	General	10
4.2	Specific information	11
5	Ground investigation	12
5.1	General	12
5.2	Specific requirements	12
5.3	Field grouting trials and field tests	13
6	Materials and products	13
6.1	General	13
6.2	Grout materials	13
6.2.1	Cement and hydraulic binders	13
6.2.2	Clay materials	13
6.2.3	Sands, gravels and fillers	14
6.2.4	Water	14
6.2.5	Chemical products and admixtures	14
6.3	Grouts	14
6.3.1	General	14
6.3.2	Suspensions	15
6.3.3	Solutions	15
6.3.4	Mortars	16
7	Execution design	16
7.1	General	16
7.2	Execution design basis and objectives	16
7.3	Grouting principles and methods	17
7.3.1	Grouting without ground displacement (non-displacement grouting)	17
7.3.2	Grouting with ground displacement (displacement grouting)	18
7.4	Grout	20
7.4.1	Type and composition	20
7.4.2	General considerations	20
7.4.3	Parameters and criteria	21
7.4.4	Applicability	21
7.5	Grout placement	21
7.5.1	General	21
7.5.2	Drilling layout and borehole design	22
7.5.3	Grouting sequence	23
7.5.4	Grouting pressure	23
7.6	Monitoring and control criteria	23
8	Execution	24

8.1	General	24
8.2	Drilling	24
8.3	Grout preparation	25
8.3.1	Storage	25
8.3.2	Batching and mixing	25
8.3.3	Pumping and delivery	25
8.4	Grout placement	26
8.4.1	General	26
8.4.2	Packers	27
8.4.3	Special conditions	27
8.5	Grouting sequences	27
9	Supervision, testing and monitoring	28
9.1	General	28
9.2	Testing	28
9.3	Monitoring and control	29
9.3.1	General	29
9.3.2	Environmental impact	29
9.3.3	Validation of the grouting works	29
9.3.4	Monitoring of displacement	30
9.3.5	Drilling	30
9.3.6	Grout	30
10	Records	30
10.1	General	30
10.2	Documents produced on site	31
11	Special requirements (environment, site safety)	32
11.1	General	32
11.2	Health and safety	32
11.3	Environmental protection	33
	Annex A(informative) Glossary	34
	Annex B(informative) Grout types -- Processes and their characterizing	43
	Annex C(informative) Measurement of grout parameters	46
	Bibliography	51