

ISO 17628:2015-07 (E)

Geotechnical investigation and testing - Geothermal testing - Determination of thermal conductivity of soil and rock using a borehole heat exchanger

Contents		Page
Foreword		iv
1	Scope	1
2	Normative references	1
3	Terms and definitions	1
4	Symbols and abbreviations	3
5	Installation of borehole heat exchangers	4
5.1	Drilling rigs and ancillary equipment	4
5.1.1	General	4
5.1.2	Requirements for the drilling rigs and equipment	4
5.2	Borehole heat exchangers, filling, and annular space filling materials	5
5.2.1	Borehole heat exchanger material	5
5.2.2	Heat transfer fluid of the borehole heat exchanger tubes	5
5.2.3	Annular space filling material	5
5.3	General requirements prior to installation	6
5.3.1	Requirements on the drilling and installation site	6
5.3.2	Selection of drilling techniques and installation methods	6
5.3.3	Preliminary information needed before starting drilling and installation	6
5.3.4	Environmental requirements	7
5.3.5	Safety requirements	7
5.4	Execution	7
5.4.1	Drilling	7
5.4.2	Installation of borehole heat exchangers	8
5.4.3	Annular space filling	8
5.4.4	Functional testing	9
5.4.5	Site reinstatement	12
6	Geothermal response testing	12
6.1	General	12
6.2	Test equipment	13
6.3	Test procedure	13
6.4	Test results	15
6.5	Evaluation of the test results	15
7	Report	16
7.1	Field report	16
7.1.1	Record of the installation of the heat exchanger tubes	17
7.1.2	Annular space filling record	17
7.1.3	Checking record	18
7.1.4	Record of measured values and test results	18
7.1.5	Record of evaluated test results	18
7.2	Report of the results	18
Annex A (informative)	Example of a form for the preliminary information on the intended installation of heat exchanger	20
Annex B (informative)	Field reports	22

Annex C (informative) Example of the graphical presentation of the installed borehole heat exchanger and the geology along the borehole	27
Bibliography	28