



Institut luxembourgeois de la normalisation
de l'accréditation, de la sécurité et qualité
des produits et services

ILNAS-EN ISO 18674-3:2017

Geotechnical investigation and testing - Geotechnical monitoring by field instrumentation - Part 3: Measurement of displacements across a line:

Reconnaissance et essais géotechniques
- Surveillance géotechnique par
instrumentation in situ - Partie 3:
Mesurages des déplacements

Geotechnische Erkundung und
Untersuchung - Geotechnische
Messungen - Teil 3:
Verschiebungsmessungen quer zu einer

12/2017



National Foreword

This European Standard EN ISO 18674-3:2017 was adopted as Luxembourgish Standard ILNAS-EN ISO 18674-3:2017.

Every interested party, which is member of an organization based in Luxembourg, can participate for FREE in the development of Luxembourgish (ILNAS), European (CEN, CENELEC) and International (ISO, IEC) standards:

- Participate in the design of standards
- Foresee future developments
- Participate in technical committee meetings

<https://portail-qualite.public.lu/fr/normes-normalisation/participer-normalisation.html>

THIS PUBLICATION IS COPYRIGHT PROTECTED

Nothing from this publication may be reproduced or utilized in any form or by any mean - electronic, mechanical, photocopying or any other data carries without prior permission!

ILNAS-EN ISO 18674-3:2017

EUROPEAN STANDARD **EN ISO 18674-3**

NORME EUROPÉENNE

EUROPÄISCHE NORM

December 2017

ICS 13.080.20; 93.020

English Version

**Geotechnical investigation and testing - Geotechnical
monitoring by field instrumentation - Part 3: Measurement
of displacements across a line: Inclinometers (ISO 18674-
3:2017)**

Reconnaissance et essais géotechniques - Surveillance
géotechnique par instrumentation in situ - Partie 3:
Mesurages des déplacements perpendiculairement à
une ligne par inclinomètre (ISO 18674-3:2017)

Geotechnische Erkundung und Untersuchung -
Geotechnische Messungen - Teil 3:
Verschiebungsmessungen senkrecht zu einer Linie mit
Inklinometern (ISO 18674-3:2017)

This European Standard was approved by CEN on 3 September 2017.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Contents	Page
European foreword.....	3

European foreword

This document (EN ISO 18674-3:2017) has been prepared by Technical Committee ISO/TC 182 "Geotechnics" in collaboration with Technical Committee CEN/TC 341 "Geotechnical Investigation and Testing" the secretariat of which is held by BSI.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by June 2018, and conflicting national standards shall be withdrawn at the latest by June 2018.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Endorsement notice

The text of ISO 18674-3:2017 has been approved by CEN as EN ISO 18674-3:2017 without any modification.

**Geotechnical investigation and
testing — Geotechnical monitoring by
field instrumentation —**

**Part 3:
Measurement of displacements across
a line: Inclinometers**

*Reconnaissance et essais géotechniques — Surveillance géotechnique
par instrumentation in situ —*

*Partie 3: Mesurages des déplacements perpendiculairement à une
ligne par inclinomètre*



**COPYRIGHT PROTECTED DOCUMENT**

© ISO 2017, Published in Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Ch. de Blandonnet 8 • CP 401
CH-1214 Vernier, Geneva, Switzerland
Tel. +41 22 749 01 11
Fax +41 22 749 09 47
copyright@iso.org
www.iso.org

Contents

Page

Foreword	iv
1 Scope	1
2 Normative references	1
3 Terms and definitions	2
4 Symbols	3
5 Instruments	4
5.1 General.....	4
5.2 Probe inclinometers.....	5
5.3 In-place inclinometers.....	6
5.4 Inclinometer casing.....	8
5.5 Measuring range, accuracy and repeatability.....	9
6 Installation and measuring procedure	9
6.1 General.....	9
6.2 Installation of guide tubes at accessible surfaces and in concrete.....	9
6.3 Installation of guide tubes in boreholes.....	10
6.3.1 Drilling of boreholes.....	10
6.3.2 Installation of guide tubes.....	10
6.3.3 Securing borehole measuring locations.....	12
6.4 Installation of in-place inclinometers.....	12
6.5 Carrying out the measurement.....	13
6.5.1 Instrumentation check and calibration.....	13
6.5.2 Measurement.....	13
7 Data processing and evaluation	14
8 Reporting	15
8.1 Installation report.....	15
8.2 Monitoring report.....	15
Annex A (normative) Measuring and evaluation procedure	16
Annex B (normative) Deflectometers	20
Annex C (informative) Backfill materials	24
Annex D (informative) Geo-engineering applications	26
Annex E (informative) Measuring examples	27
Bibliography	38