

This document is a preview generated by EVS

Earthworks - Geotechnical laboratory tests - Part 1:
Degradability test standard



EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 17542-1:2022 sisaldab Euroopa standardi EN 17542-1:2022 ingliskeelset teksti.	This Estonian standard EVS-EN 17542-1:2022 consists of the English text of the European standard EN 17542-1:2022.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 22.06.2022.	Date of Availability of the European standard is 22.06.2022.
Standard on kättesaadav Eesti Standardimis-ja Akrediteerimiskeskusest.	The standard is available from the Estonian Centre for Standardisation and Accreditation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

ICS 93.020

Standardite reprodutseerimise ja levitamise õigus kuulub Eesti Standardimis- ja Akrediteerimiskeskusele

Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonsesse süsteemi või edastamine ükskõik millises vormis või millisel teel ilma Eesti Standardimis- ja Akrediteerimiskeskuse kirjaliku loata on keelatud.

Kui Teil on küsimusi standardite autorikaitse kohta, võtke palun ühendust Eesti Standardimis- ja Akrediteerimiskeskusega: Koduleht www.evs.ee; telefon 605 5050; e-post info@evs.ee

The right to reproduce and distribute standards belongs to the Estonian Centre for Standardisation and Accreditation

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, without a written permission from the Estonian Centre for Standardisation and Accreditation.

If you have any questions about copyright, please contact Estonian Centre for Standardisation and Accreditation:

Homepage www.evs.ee; phone +372 605 5050; e-mail info@evs.ee

EUROPEAN STANDARD

EN 17542-1

NORME EUROPÉENNE

EUROPÄISCHE NORM

June 2022

ICS 93.020

English Version

Earthworks - Geotechnical laboratory tests - Part 1: Degradability test standard

Terrassements - Essais géotechniques en laboratoire -
Partie 1 : Essai de dégradabilité

Erdarbeiten - Geotechnische Laborversuche - Teil 1:
Prüfung der Abbaubarkeit

This European Standard was approved by CEN on 20 April 2022.

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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, 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
Introduction	4
1 Scope	5
2 Normative references	5
3 Terms and definitions	5
4 Symbols and abbreviated terms	5
5 Method A	6
5.1 Test principle	6
5.2 Equipment and test material	6
5.3 Preparing samples.....	6
5.4 Testing	6
5.5 Calculation and expression of results	7
5.6 Test report.....	7
6 Method B	8
6.1 Test principle	8
6.2 Equipment and test material	8
6.3 Operating procedure	9
6.3.1 Sample sizes.....	9
6.3.2 Sample preparation	10
6.3.3 Conduct of the test.....	11
6.3.4 Quantitative examination	11
6.3.5 Qualitative examination	11
6.4 Test report.....	12
Annex A (informative) Example of Test report Degradability coefficient of rocky material according to EN 17842-1: Method A	13
Annex B (informative) Example of Test report Degradability coefficient of rocky material according to EN 17842-1: Method B	15
Annex C (informative) Alternative size fractions for method A	17
Bibliography	18

European foreword

This document (EN 17542-1:2022) has been prepared by Technical Committee CEN/TC 396 “Earthworks”, the secretariat of which is held by AFNOR.

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 December 2022, and conflicting national standards shall be withdrawn at the latest by December 2022.

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.

Any feedback and questions on this document should be directed to the users’ national standards body. A complete listing of these bodies can be found on the CEN website.

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

Introduction

The degradability coefficient I_{DG} is an identification parameter adopted in the classification of materials for earthworks (EN 16907-2). This document refers to two methods to define the degradability behaviour, designated as French and Spanish methods in EN 16907-2. Those two methods are described as Method A and Method B, respectively.

This document is a preview generated by EVS

1 Scope

This document defines the principle and the methods for the determination of the “degradability coefficient” of rocky material.

The degradability coefficient I_{DG} distinguishes the behaviour of certain rocky material and is used to show the change in the geotechnical characteristics (particle size, clay content, plasticity, etc.) in relation to the characteristics seen immediately following excavation.

Changes in the particle size occur due to the combined action of climatic or geohydrological elements (frost, soaking-drying cycles) and mechanical stress to which it is subjected. In the case of degradable rocky material, this leads to a fairly significant and continuous reduction in the mechanical and geometric characteristics of the works in which they are used.

The two methods developed in this document for the determination of I_{DG} are not equivalent. The results obtained by this document refer to the method used.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 16907-2, *Earthworks — Part 2: Classification of materials*

ISO 3310-1, *Test sieves — Technical requirements and testing — Part 1: Test sieves of metal wire cloth*

ISO 3310-2, *Test sieves — Technical requirements and testing — Part 2: Test sieves of perforated metal plate*

EN ISO 17892-4, *Geotechnical investigation and testing — Laboratory testing of soil — Part 4: Determination of particle size distribution*

3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at <https://www.iso.org/obp>

— IEC Electropedia: available at <https://www.electropedia.org/>

4 Symbols and abbreviated terms

I_{DGa}	Degradability coefficient of a rocky material (in percent) obtained by method A (French test)
I_{DGb}	Degradability coefficient of a rocky material (in percent) obtained by method B (Spanish test)
D_{10}	Particle size (in millimeter) below which 10 % of the mass of a grainy material are found
d/D	Ratio reflecting material fraction retained by a sieve of mesh size d over material fraction passed through a sieve of a mesh size D
$D_{10\text{ bef}}$	D_{10} value of the material before the first soaking-drying cycle (in millimeter)
$D_{10\text{ aft}}$	D_{10} value of the material after the soaking-drying cycles (in millimeter)