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Irish Standard
I.S. EN ISO 14689:2018

Geotechnical investigation and testing - Identification, description and classification of rock (ISO 14689:2017)

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 14689

February 2018

ICS 93.020

Supersedes EN ISO 14689-1:2003

English Version

Geotechnical investigation and testing - Identification, description and classification of rock (ISO 14689:2017)

Reconnaissance et essais géotechniques - Identification, description et classification des roches (ISO 14689:2017)

Geotechnische Erkundung und Untersuchung - Benennung, Beschreibung und Klassifizierung von Fels - Teil 1: Benennung und Beschreibung (ISO 14689:2017)

This European Standard was approved by CEN on 20 November 2017.

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European foreword

This document (EN ISO 14689:2018) 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of an identical text or by endorsement, at the latest by August 2018, and conflicting national standards shall be withdrawn at the latest by August 2018.

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INTERNATIONAL STANDARD

ISO 14689

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Reconnaissance et essais géotechniques — Identification, description et classification des roches

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Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 182, *Geotechnics*.

This first edition of ISO 14689 cancels and replaces ISO 14689-1:2003, which has been technically revised.

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Introduction

This document gives details of the procedures to be followed in the identification and description of rocks which are to be used at all stages of ground investigation and geotechnical design. This comprises the description of the rock material and the rock mass characteristics in terms of the bedding and discontinuities.

The level of detail in a description will depend on the characteristics of the rock, the size and quality of the rock exposure or sample, and the needs of the particular project. The person carrying out the field identification and description should be suitably qualified, skilled and experienced to make a correct and appropriate description and experienced in the geological materials involved in the investigation.

Practice in rock identification and description varies from country to country, in part reflecting significant differences in geological conditions. In addition, the quality of samples available for description varies due to the investigation methods employed, as methods of investigation have been developed in response to the ground conditions present.

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Geotechnical investigation and testing — Identification, description and classification of rock

1 Scope

This document specifies the rules for the identification and description of rock material and mass on the basis of mineralogical composition, genetic aspects, structure, grain size, discontinuities and other parameters. It also provides rules for the description of other characteristics as well as for their designation.

This document applies to the description of rock for geotechnics and engineering geology in civil engineering. The description is carried out on cores and other samples of rock and on exposures of rock masses.

Rock mass classification systems using one or more descriptive parameters to suggest likely rock mass behaviour are beyond the scope of this document (see Bibliography).

NOTE Identification and classification of soil for engineering purposes are covered in ISO 14688-1 and ISO 14688-2. Identification and description of materials intermediate between soil and rock are carried out using the procedures in ISO 14688-1, ISO 14688-2 and this document, as appropriate.

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.

ISO 14688-1, *Geotechnical investigation and testing — Identification and classification of soil — Part 1: Identification and description*

ISO 14688-2, *Geotechnical investigation and testing — Identification and classification of soil — Part 2: Principles for a classification*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

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

— IEC Electropedia: available at http://www.electropedia.org/

— ISO Online browsing platform: available at http://www.iso.org/obp

3.1
discontinuity
break in the *rock material* (3.7) continuity that is open or can open under the stress increase or reduction as a result of the engineering works

3.2
duricrust
cemented zone occurring in weathered *rock* (3.5) or soil formed by the mobilization and deposition of minerals often due to pedogenic or evaporative processes

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