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Geotechnical investigation and testing — Laboratory testing of rock —

Part 1: Determination of water content

Reconnaissance et essais géotechniques — Essais de laboratoire sur les roches —

Partie 1: Détermination de la teneur en eau

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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 document 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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Any feedback or questions on this document should be directed to the user’s national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

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Introduction

This document covers areas in the international field of geotechnical engineering never previously standardized internationally. It is intended that this document presents broad good practice throughout the world and significant differences with national documents is not anticipated. It is based on international practice (see Reference [1]).

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Geotechnical investigation and testing — Laboratory testing of rock —

Part 1: Determination of water content

1 Scope

This document specifies a method of determining the water content of rocks.

This document is applicable to the laboratory determination of the water content of a rock test specimen by oven-drying within the scope of geotechnical investigations. The oven-drying method is the definitive procedure used in usual laboratory practice.

The practical procedure for determining the water content of a rock is to determine the mass loss on drying the test specimen to a constant mass in a drying oven controlled at a given temperature. The mass loss is assumed to be due to free water and is referenced to the remaining dry mass of the test specimen.

NOTE This document fulfils the requirements of the determination of water content of rock for geotechnical investigation and testing according to EN 1997-2.

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 14689, *Geotechnical investigation and testing — Identification, description and classification of rock*

3 Terms and definitions

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

ISO and IEC maintain terminology 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/

3.1
water content
w
ratio of the mass of free water to the mass of the dry test specimen.

3.2
constant mass
mass regarded as the point at which there is less than 0,1 % further change in mass of the dry rock test specimen over three consecutive measurements taken at least 1 h apart, m', m'', m''' according to Figure 1.

Note 1 to entry: When the specimen is weighed in hot state, an insulation shall be provided between the specimen and the scale. The mass of the insulation device shall be accounted for.

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