International Standard

ISO 12439

Mixing water for concrete

Eau de gâchage pour béton

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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This document was prepared by Technical Committee ISO/TC 71, *Concrete, reinforced concrete and pre-stressed concrete*, Subcommittee SC 3, *Concrete production and execution of concrete structures*.

This second edition cancels and replaces the first edition (ISO 12439:2010), which has been technically revised.

The main changes are as follows:

— addition of some new normative references;

— addition of the definition of water types;

— inclusion of requirements regarding radioactive testing (subclause 4.3.4).

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Introduction

The quality of the mixing water for production of concrete can influence the setting time, the strength development of concrete and the protection of the reinforcement against corrosion.

When assessing the suitability of water of unknown quality for the production of concrete, both the composition of the water and the application of the concrete being produced must be considered.

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Mixing water for concrete

1 Scope

This document specifies requirements for the treatment of water that is suitable for making concrete in accordance with ISO 22965 (all parts) and describes methods for assessing its suitability.

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 1920-3, *Testing of concrete — Part 3: Making and curing test specimens*

ISO 1920-4, *Testing of concrete — Part 4: Strength of hardened concrete*

ISO 23696-1, *Water quality — Determination of nitrate in water using small-scale sealed tubes — Part 1: Dimethylphenol colour reaction*

ISO 6878, *Water quality — Determination of phosphorus — Ammonium molybdate spectrometric method*

ISO 13163, *Water quality — Lead-210 — Test method using liquid scintillation counting*

ISO 29581-1, *Cement — Test methods — Part 1: Analysis by wet chemistry*

ISO 9597, *Cement — Test methods — Determination of setting time and soundness*

ISO 22965-2, *Concrete — Part 2: Specification of constituent materials, production of concrete and compliance of concrete*

ISO 10523, *Water quality — Determination of pH*

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
potable water
water intended for human consumption

Note 1 to entry: This water is generally considered as suitable for use in concrete. The water shall not be further tested, if already tested and certified by concerned authorities. Otherwise, the water shall be tested and shall conform to the requirements specified in 4.3.

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