
**Thermal insulating products for
building equipment and industrial
installations — Determination of trace
quantities of water-soluble chloride,
fluoride, silicate, sodium ions and pH**

*Produits isolants thermiques pour les équipements de bâtiments et
les installations industrielles — Détermination des faibles quantités
d'ions chlorure, fluorure, silicate et sodium solubles dans l'eau et
mesure du pH*



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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.

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).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

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For an explanation of 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 www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 163, *Thermal performance and energy use in the built environment*, Subcommittee SC 1, *Test and measurement methods*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 88, *Thermal insulating materials and products*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This second edition cancels and replaces the first edition (ISO 12624:2011), which has been technically revised.

The main changes are as follows:

- EN 13468:2001 and ISO 12624:2011 have been merged into one document;
- [Clause 3](#), Terms and definitions, has been added and the numbering of the following clauses has been changed accordingly;
- editorial revisions.

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.

Thermal insulating products for building equipment and industrial installations — Determination of trace quantities of water-soluble chloride, fluoride, silicate, sodium ions and pH

1 Scope

This document specifies the equipment and procedures for determining trace quantities of the water-soluble chloride, fluoride, silicate and sodium ions in an aqueous extract of the product. It also describes a procedure for the determination of the pH of the aqueous extract. It is applicable to thermal insulating products.

NOTE The determination of these parameters can be relevant for thermal insulating products intended for application to stainless austenitic steel surfaces. The presence of chloride, fluoride, silicate and sodium ions under certain conditions can influence the risk of stress corrosion cracking. See [Annex B](#) for further information on general use of this document.

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 10136-1, *Glass and glassware — Analysis of extract solutions — Part 1: Determination of silicon dioxide by molecular absorption spectrometry*

ISO 10136-2, *Glass and glassware — Analysis of extract solutions — Part 2: Determination of sodium oxide and potassium oxide by flame spectrometric methods*

3 Terms and definitions

No terms and definitions are listed in this document.

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/>

4 Principle

Test specimens of the insulating product are boiled or heated in deionized water to leach out soluble ions. Tests to determine water-soluble chloride, fluoride, silicate and sodium ions are performed on aliquots of the filtered aqueous extract. A pH value is determined on one of the aliquots.

5 Apparatus

5.1 General information

All equipment and working instruments used for this purpose shall be free of soluble chloride, fluoride, silicate, sodium ions and grease. Chloride-free solvents shall be used to clean equipment and working