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Thermal insulation for building equipment and industrial installations — Aluminosilicate wool products — Specification

Isolation thermique pour les équipements du bâtiment et les installations industrielles — Produits en laine d'aluminosilicate — Spécifications

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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).

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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 163, *Thermal performance and energy use in the built environment*, Subcommittee SC 3, *Thermal insulation products*.

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Thermal insulation for building equipment and industrial installations — Aluminosilicate wool products — Specification

1 Scope

This document specifies the classification, requirements and test methods for factory-made aluminosilicate wool products which are used for thermal insulation of industrial installations and building equipment, for non-refractory applications. The products are delivered as blanket, module, felt, board, paper, textile and other forms.

This document describes product characteristics and testing methods, marking and labelling.

This document does not specify the required level of a given property to be achieved by a product to demonstrate fitness for purpose in a particular application.

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 836, *Terminology for refractories*

ISO 8302, *Thermal insulation — Determination of steady-state thermal resistance and related properties — Guarded hot plate apparatus*

ISO 8894-1, *Refractory materials — Determination of thermal conductivity — Part 1: Hot-wire methods (cross-array and resistance thermometer)*

ISO 9229, *Thermal insulation — Vocabulary*

ISO 10635, *Refractory products — Methods of test for ceramic fibre products*

ISO 13787, *Thermal insulation products for building equipment and industrial installations — Determination of declared thermal conductivity*

ISO 29465, *Thermal insulating products for building applications — Determination of length and width*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 9229, ISO 836 and the following 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 https://www.iso.org/obp

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3.1
aluminosilicate wool
ASW
amorphous High Temperature Insulating Wool (HTIW) manufactured predominantly from molten raw minerals

Note 1 to entry: The main ingredients are Al_2O_3 and SiO_2, and may contain ZrO_2 and Cr_2O_3.

3.2
aluminosilicate module
aluminosilicate wool (3.1) blanket formed into thick sections by needling, stacking or folding sheets, compressed to a higher density and typically supplied with integral anchoring systems

3.3
aluminosilicate paper
thin and flexible insulating material formed on a paper-making machine

4 Symbols and abbreviated terms

4.1 Symbols

b	width	mm
d	thickness	mm
l	length	mm
d_N	nominal thickness of the product	mm
λ	thermal conductivity	W/(m · K)
λ_D	declared thermal conductivity	W/(m · K)
ρ_a	apparent density	kg/m^3
ρ_D	nominal apparent density	kg/m^3

4.2 Abbreviated terms

ITT initial type test

FPC factory production control

5 Requirements

5.1 General

Product properties shall be tested in accordance with Clause 6. To comply with this document, products shall meet the requirements of 5.2 to 5.8, where applicable.

The test methods to be used for determination of each property are given in Table 5, which also shows the required test specimen dimensions and the minimum number of test specimens required to give one test result.

One test result for a product property is the average of the measured values on the number of test specimens given in Table 5.

For FPC, see Annex A.

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