
**Thermal insulation products —
Exterior insulation finish systems —**

**Part 1:
Materials**

*Produits isolants thermiques — Systèmes de finition d'isolation
externe —*

Partie 1: Matériaux

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ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

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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).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

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 3, *Thermal insulation products, components and systems*.

This second edition cancels and replaces the first edition (ISO 17338-1:2017), which has been technically revised.

The main changes are as follows:

- The Introduction has been modified to include the three parts of the ISO 17738 series of standards, including ISO 17738-2 and ISO 17738-3.
- The definition of exterior insulation and finish systems (EIFS) has been clarified to include the function of the materials that comprise the system.
- The water resistive barrier definitions have been expanded to include the components that connect the EIFS water resistive barrier with adjacent components that offer the same function but are part of a different cladding assembly.
- Testing to determine the air flow rate of the water resistive barrier has been added.
- Testing to demonstrate the ability of EIFS to withstand wind loading ([Annex G](#)) has been expanded and changed from informative to normative.
- A new [Annex H](#) (normative) test method for pull-off strength of adhered air and water resistive barriers using adhesion tester has been added.

A list of all parts in the ISO 17738 series can be found on the ISO website.

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.

Introduction

Exterior insulation and finish systems (EIFS) is a wall cladding assembly consisting of six components:

- A water resistive barrier to protect the substrate; the substrate has a means for drainage to the exterior;
- a means of attaching the system to the substrate;
- a thermal insulation layer;
- a base coat material;
- a reinforcing mesh embedded into the base coat;
- a finish material to provide the aesthetic appearance of the cladding assembly.

The ISO 17738 series comprises three parts: ISO 17738-1 (this document) deals with the material performance of exterior insulation and finish systems (EIFS), ISO 17738-2 provides guidance on installation and ISO 17738-3 gives guidance on the design and detailing of a durable and resilient EIFS system.

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Thermal insulation products — Exterior insulation finish systems —

Part 1: Materials

WARNING — This document does not purport to address all the health and safety aspects associated with its use. Anyone using this document has the responsibility to establish health and safety practices for its use.

1 Scope

This document outlines requirements for exterior insulation and finish systems (EIFS), used in combination with a drained air space as an exterior wall cladding system. The document includes requirements for a water resistive barrier assembly that are used as part of EIFS.

This document outlines testing procedures with pass/fail criteria for an exterior insulation and finish system. The procedures cover the liquid applied water resistive barrier, which forms a second line of defense against water penetration, individual material components and the complete system to demonstrate durability.

The use of mechanical fasteners is outside the scope of this document.

In EIFS, the thermal insulation boards support the base coat with integral glass fibre reinforcing mesh. Systems where the reinforcement is the supporting element of the rendering, e.g. conventional stucco, are not covered by 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 846, *Plastics — Evaluation of the action of microorganisms*

ISO 1463, *Metallic and oxide coatings — Measurement of coating thickness — Microscopical method*

ISO 1663, *Rigid cellular plastics — Determination of water vapour transmission properties*

ISO 1926, *Rigid cellular plastics — Determination of tensile properties*

ISO 3451-1, *Plastics — Determination of ash — Part 1: General methods*

ISO 4606, *Textile glass — Woven fabric — Determination of tensile breaking force and elongation at break by the strip method*

ISO 4611, *Plastics — Determination of the effects of exposure to damp heat, water spray and salt mist*

ISO 4650, *Rubber — Identification — Infrared spectrometric methods*

ISO 4898, *Rigid cellular plastics — Thermal insulation products for buildings — Specifications*

ISO 6612, *Windows and door height windows — Wind resistance tests*

ISO 7345, *Thermal performance of buildings and building components — Physical quantities and definitions*