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

**Part 1:
Materials and systems**

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

Partie 1: Matériaux et systèmes



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ISO copyright office
Ch. de Blandonnet 8 • CP 401
CH-1214 Vernier, Geneva, Switzerland
Tel. +41 22 749 01 11
Fax +41 22 749 09 47
copyright@iso.org
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).

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

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

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

Introduction

ISO 17738 comprises three parts: this document deals with the material performance of exterior insulation and finish systems (EIFS), ISO 17738-2¹⁾ provides guidance on installation and ISO 17738-3¹⁾ gives guidance on the design of an EIFS system.

1) Under preparation.

Thermal insulation products — Exterior insulation and finish systems —

Part 1: Materials and systems

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. It also outlines the requirements for water resistive barrier systems that are to be used with EIFS.

The EIFS wall cladding system is comprised of liquid-applied water resistive barrier, an adhesive for attachment of the thermal insulation boards to the substrate, rigid thermal insulation boards, a glass fibre reinforcing mesh embedded in a base coat on the face of the thermal insulation boards and a finish coat.

The use of mechanical fasteners is outside the scope of this document, but is acceptable as a complement and/or as an alternate to adhesive for attachment where the substrate will not support adhesive attachment of the EIFS.

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.

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 consult the appropriate authorities and to establish health and safety practices, in conjunction with any existing applicable regulatory requirements, prior to its use.

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 1663:2007, *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 4628:2016, *Paints and varnishes — Evaluation of degradation of coatings — Designation of quantity and size of defects, and of intensity of uniform changes in appearance — Part 4: Assessment of degree of cracking*

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

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

ISO 8145, *Thermal insulation — Mineral wool board for overdeck insulation of roofs — Specification*

ISO 15148, *Hygrothermal performance of building materials and products — Determination of water absorption coefficient by partial immersion*

ISO 15821, *Doorsets and windows — Water-tightness test under dynamic pressure — Cyclonic aspects*

ISO 16474-3, *Paints and varnishes — Methods of exposure to laboratory light sources — Part 3: Fluorescent UV lamps*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 7345 and ISO 9229 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 <http://www.iso.org/obp>

3.1 adhesive

product for adhering the thermal insulation board (3.21) to the water resistive barrier system (3.23)

3.2 base coat

polymer-based coating, either *factory-blended* (3.10) or *field-mixed* (3.11), applied directly to the *thermal insulation board* (3.21), fully embedding the *reinforcing mesh* (3.17) providing the primary barrier to water penetration

3.3 cure

develop the ultimate properties of an initial wet state material by a chemical process

3.4 drainage cavity

space between the WRB and *thermal insulation board* (3.21) that allows for the free drainage of water that penetrates the *EIFS* (3.9)

3.5 dry

develop the ultimate properties of an initial wet state material solely by evaporation of volatile ingredients

3.6 durability

ability of a building or any of its components to perform its required functions in its service environment over a period of time without unforeseen cost for maintenance or repair

3.7 EIFS manufacturer

producer of the materials and components forming a proprietary *EIFS* (3.9)

3.8 embed

press into and encapsulate the *reinforcing mesh* (3.17) in the wet *base coat* (3.2)