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Thermal insulation products — Exterior insulation and finish systems (EIFS) —

Part 2: Installation

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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 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*.

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.

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Introduction

This document provides minimum installation requirements for an exterior insulation and finish system where the materials meet the requirements of ISO 17738-1, and where the installation meets the requirements for design in accordance with ISO 17738-3.

Exterior insulation and finish systems (EIFS) are a unique insulated cladding that consists of a water resistive barrier system (WRB) over the substrate, a drained cavity and an insulated cladding that is bonded adhesively to the WRB, covered with a base coat, mesh and a finish material.

A risk management process may recommend additional requirements for the establishment of a site quality assurance programme (SQAP). Additional information related to a SQAP is included in Annex B.

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Thermal insulation products — Exterior insulation and finish systems (EIFS) —

Part 2: Installation

1 Scope

This document specifies requirements for the installation of exterior insulation and finish systems (EIFS) for wall applications using material which meet the materials requirements of ISO 17738-1 and the design requirements of ISO 17738-3. This document further includes installation requirements for the EIFS materials that include a water resistive barrier (WRB) and decorative projections as part of the cladding system for walls.

This document does not include requirements for the structural design of the substrate/building structural members or for the integrity of the substrate/building structural members to which the EIFS is to be attached, nor the requirements for installation or repair of the substrate/building structural members before installation commences.

This document does not include requirements for the competence that an EIFS installer needs for installation of the system.

The installation of EIFS on horizontal surfaces exposed to direct precipitation is outside the scope 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 7345, *Thermal performance of buildings and building components — Physical quantities and definitions*

ISO 4624, *Paints and varnishes — Pull-off test for adhesion*

ISO 8873-1, *Rigid cellular plastics — Spray-applied polyurethane foam for thermal insulation — Part 1: Material specifications*

ISO 8873-2, *Rigid cellular plastics — Spray-applied polyurethane foam for thermal insulation — Part 2: Application*

ISO 9229, *Thermal Insulation — Vocabulary*

ISO 17738-1, *Thermal insulation products — Exterior insulation and finish systems — Part 1: Materials and systems*

ISO 17738-3, *Thermal insulation products — Exterior insulation and finish systems — Part 3: Design requirements*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 7345, ISO 9229 and ISO 17738-1 and the following apply.

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ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at http://www.electropedia.org/

3.1
aesthetic reveal
groove cut into the thermal insulation board for decorative purposes only

3.2
back-wrap
encapsulate the exposed edge of the thermal insulation board by securing a strip of *glass fibre reinforcing mesh* (3.9) to the substrate and embedding it in base coat around the board edge onto the face of the insulation

3.3
edge-wrap
encapsulate the edge of thermal insulation board by embedding a strip of *glass fibre reinforcing mesh* (3.9) in base coat and lapping it onto the face of the insulation board and onto the edge of an opening

3.4
EIFS contractor
legal entity (corporate or personal) responsible for the site installation of EIFS

3.5
EIFS moulding
insulation profile that is mounted on or incorporated into the thermal insulation boards, covered by the lamina integrated into EIFS

3.6
expansion joint
joint designed to permit movement due to expansion and contraction of any part of the system

Note 1 to entry: See ISO 9229.

3.7
flashing
continuous material(s) that stops the vertical flow of water within a wall assembly or system and directs the water, via gravity, to the exterior of the cladding

3.8
pot-life
period of time that a material maintains its workable properties after it has been mixed

3.9
glass fibre reinforcing mesh
woven or non-woven glass fibre fabric material of EIFS that is encapsulated in the base coat to strengthen EIFS

3.10
pre-wrap
encapsulate the exposed edge of the thermal insulation board with base coat and mesh, lapping onto the front and back of the insulation board before installation

3.11
transition membrane
component of the *WRBA* (3.12) that maintains continuity of the WRB at joints and openings in the substrate that cannot be bridged with the LA-WRB

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3.12
water resistive barrier assembly
WRBA
materials possessing water resistant properties that are installed over substrates to create a continuous drainage plane preventing water penetration into the wall assembly and draining that water to the exterior of the wall cladding

EXAMPLE LA-WRB, *transition membranes* (3.11), *flashing* (3.7).

4 General requirements

4.1 For each project, the EIFS contractor shall obtain all the materials and components required for the EIFS cladding from a single EIFS manufacturer.

4.2 The EIFS contractor shall incorporate the design requirements outlined in ISO 17738-3 into the EIFS installation.

4.3 The EIFS contractor shall obtain information, in written or electronic form, from the EIFS manufacturer, and shall keep this information at the project site:

a) Detailed description of the EIFS materials and components to be used for the specific project installation.

b) Instructions for safe handling, use and disposal of the materials or components.

c) EIFS manufacturer's installation instructions.

4.4 The EIFS contractor shall follow the EIFS manufacturer's installation instructions throughout the EIFS installation process.

4.5 Before commencing installation, the EIFS contractor shall verify that the materials and components on site comprise the EIFS declared by the manufacturer as meeting the requirements of ISO 17738-1. This can be accomplished by reference to a materials list or other documentation.

4.6 EIFS shall not be used at locations where the continuous service temperature exceeds +75 °C.

NOTE Service temperatures more than +75 °C can occur in proximity to chimneys, heater vents, steam pipes, and materials of a dark colour that absorb solar radiation.

4.7 Materials and surfaces shall be protected from staining or damage by wet EIFS materials during installation.

4.8 The installed EIFS shall be protected from water for a period required by the EIFS manufacturer.

4.9 EIFS shall be applied when:

a) the ambient temperature or surface temperature of the material is 4 °C or greater;

b) the ambient temperature or surface temperature of the material 40 °C or less.

4.10 When conditions are outside the requirements of 4.9 and protection (tenting, shading and supplemental heat) is used, this protection shall be maintained:

a) for a minimum period of 24 h before installation,

b) during the installation of EIFS, and

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