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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](http://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](http://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](http://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](http://www.iso.org/members.html).

## 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.

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

**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

c) for a minimum period of 24 h after installation.

## **5 Materials storage and handling**

**5.1** The EIFS contractor shall verify and record that all materials delivered to the project site are in packages, containers or bundles that are individually labelled with the EIFS manufacturer's name, product name, product description, ISO 17738-1, country of manufacture, and lot or date code identification for the materials and components.

**5.2** Materials that are visibly damaged, frozen, in any way defective, or that are past the EIFS manufacturer's shelf life shall not be used and shall be promptly removed from the site.

**5.3** Portland cement and other dry-mix components shall be protected, kept dry, kept off the ground, under cover (in addition to the product's packaging), and away from damp walls and surfaces.

**5.4** Thermal insulation boards shall be kept in their original packaging until installed. They shall be stacked flat, fully supported, off the ground, and under a cover designed to minimize water and ultraviolet radiation (UV) exposure, with care taken to avoid damage to edges, ends, or surfaces.

**5.5** All materials shall be protected from prolonged exposure to excessive heat or cold. Liquid materials shall be transported and stored such that the material temperature never falls below 4 °C or exceeds 65 °C.

## **6 Substrate**

**6.1** EIFS shall be installed on substrate consistent with the EIFS manufacturer's allowable substrates, as determined through ISO 17738-1 testing and specified in the contract documents.

**6.2** EIFS shall be installed on a substrate that is firm, structurally sound, and undamaged. EIFS shall not be installed on broken, cracked, rotted, decayed or delaminated substrate sheathing boards, nor on loose, spalling or crumbling concrete or masonry unless repaired before the installation starts.

**6.3** Newly constructed cast-in-place concrete and unit masonry substrates shall be allowed to cure according to the desired strength before the installation of EIFS. Unless otherwise specified, curing time shall be a minimum of 28 days. Repaired areas on existing (aged) walls shall cure for the 28 days, unless the material used to repair is specifically designed to cure rapidly.

**6.4** EIFS shall be installed on a substrate free of any surface contaminants that could affect the adhesion of the EIFS, such as oil or grease, dust, form-release agents, curing compounds, paint, wax, glazing, water, moisture, efflorescence, laitance, frost, etc. These contaminants shall be removed before commencing the installation of EIFS.

**6.5** All substrates shall be cleaned to remove loose dirt and dust using methods appropriate for the project.

**6.6** Efflorescence and laitance on concrete, masonry, stucco, or clay tile substrates shall be removed prior to the liquid-applied water resistive barrier (LA-WRB) installation. All loose particles and cleaner residue shall be removed by rinsing with tap water. The surface shall be allowed to dry prior to LA-WRB installation.

**6.7** Paint on concrete or masonry surfaces shall be removed.

**6.8** The EIFS shall only be installed on dry substrates with no visible moisture such as condensation, dew, or frost.

**6.9** EIFS shall not be installed on a concrete or masonry substrate where there are unrepaired cracks greater than 2 mm in width.

**6.10** EIFS shall be installed on a substrate that is true in all directions to within 6 mm over 2 400 mm.

**6.11** The substrate surface temperature shall be not less than 4 °C nor greater than 65 °C during the installation, drying and curing of the LA-WRB, unless having demonstrated tolerance to such conditions during ISO 17738-1 assessment.

**6.12** The EIFS contractor shall visually confirm and record that the substrate is acceptable prior to starting and throughout the installation of the LA-WRB. Installation of the LA-WRB shall not proceed if the EIFS contractor deems the substrate unacceptable.

## **7 Mixing**

**7.1** Clean containers, free of foreign residue and/or materials shall be used when mixing materials.

**7.2** Mixing shall be done with a clean, rust-free, corrosion-resistant paddle, mixing blade or other equipment that minimize air entrainment with a rotational speed less than 500 r/min.

**7.3** Determine the quantity of dry materials mixed by weight. Record the weight of the materials of each batch mixed on site.

**7.4** Use tap water that is free from deleterious materials.

**7.5** Mix factory-blended liquid materials (LA-WRB, base coat, finish coat and primers) prior to installation.

**7.6** Only additives supplied or specified by the EIFS manufacturer and tested in conformance with ISO 17738-1 shall be used.

**7.7** Mix and install materials that cure or dry within the pot-life limitations. Mixing containers shall be kept closed when not used.

## **8 Installation of the liquid-applied water resistive barrier system**

### **8.1 General**

**8.1.1** Gaps of 2 mm or less do not need to be treated. Treat gaps greater than 2 mm but not greater than 6 mm by filling with a caulking material supplied or approved by the EIFS manufacturer. Gaps greater than 6 mm shall have a transition membrane installed, supported by a backer rod, sealant foam or similar material. The transition membrane shall be of sufficient width to lap both sides of a gap by a minimum of 50 mm.

**8.1.2** The LA-WRB shall be installed in two coats over the entire substrate to result in the thickness specified. Allow the LA-WRB to dry before the installation of the second coat or installation of the thermal

insulation board, except where the second coat of LA-WRB is being used as an adhesive to secure the thermal insulation board.

Where the LA-WRB is returned into rough openings, the framing members should be made clean and free from any remnant surface residues of the manufacturing or packaging process.

NOTE Where the second coat of the LA-WRB is being used as an adhesive, the above provision requires that the first coat be allowed to dry before the second coat/adhesive is applied and the thermal insulation board installed.

**8.1.3** The EIFS contractor shall conduct a pull adhesion test in accordance with ISO 4624 to confirm that the LA-WRB has adhered after it has cured.

**8.1.4** When conditions are outside the parameters described in [4.9](#) and additional protection is required for installation ([4.10](#)), the substrate temperature shall be maintained at 4°C or higher.

NOTE If the interior of the building is below 4°C then installing insulation with adhesive will keep the substrate colder than the protected environment. Interior heating can be required to maintain substrate conditions.

## 8.2 Transition membrane

**8.2.1** The WRBA shall be made continuous at openings, penetrations, joints in the substrate, expansion joints, working joints, flashings, junctures to fenestration, other wall systems, and junctures with roofing membranes by using transition membranes.

**8.2.2** The WRBA shall maintain continuity at the interface with other cladding systems and/or cladding components to prevent moisture penetration inward of the WRBA plane.

**8.2.3** Where transmission membranes require primers, the primer shall be given sufficient time to cure before installation of the transition membrane. The primer surface shall not be left exposed beyond the time specified and the transition membranes shall be installed on the same day as priming. Primed surfaces not covered by transition membrane on the same day shall be re-primed.

**8.2.4** The transition membrane shall be rolled with a membrane roller (also called countertop roller, laminate roller or floor roller) immediately after placement to ensure continuous adhesion.

**8.2.5** Incorporate flashing into the WRBA in a ship-lapped, waterproof manner to direct water to the exterior of the cladding.

## 9 Thermal insulation boards

### 9.1 General

**9.1.1** The thermal insulation board shall be not less than 50 mm thick, not including the depth of a GDDC, prior to rasping.

**9.1.2** Some thermal insulation boards are required to be back-wrapped by installing base coat and glass fibre reinforcing mesh prior to the installation of the thermal insulation boards (see [10.2.2.3](#)).

**9.1.3** The thermal insulation board shall be installed with an adhesive or LA-WRB within the maximum time limit specified after the adhesive or LA-WRB has been installed.

**9.1.4** All terminations in the thermal insulation board shall be wrapped with base coat and glass fibre reinforcing mesh, as described in [10.2.2](#).

**9.1.5** EIFS mouldings projecting out from the wall's vertical plane shall be sloped a minimum of 1:2 to ensure that water drains from the surface, unless:

- a) the EIFS moulding is protected by metal flashing or other durable material; or
- b) there is an overhang above the EIFS moulding, where the vertical distance between the top of the EIFS moulding and the underside of the overhang is not more than one quarter of the horizontal overhang.

**9.1.6** EIFS at parapets shall be constructed to include structural blocking to accommodate the proper support of flashing.

## 9.2 Attachment of the thermal insulation boards

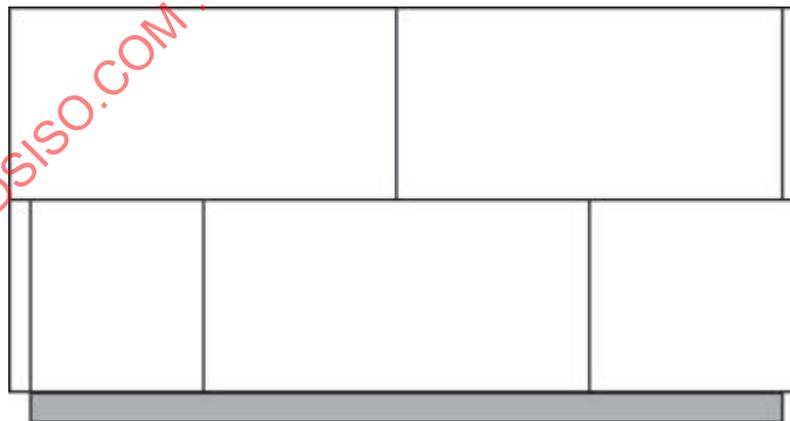
### 9.2.1 General

**9.2.1.1** Thermal insulation boards shall be installed in such a manner that the continuity of the drainage cavity is maintained.

**9.2.1.2** Thermal insulation boards shall be installed from a level base line with vertical joints staggered by a minimum of 75 mm, as shown in [Figure 1](#).

**9.2.1.3** Thermal insulation boards shall be butted tightly together to minimize gaps between the boards that would allow adhesive or base coat intrusion between the thermal insulation board edges. Where gaps occur, they shall be filled as specified in [9.3.1](#).

**9.2.1.4** Thermal insulation board joints at all inside and outside corners shall be interlocked, as shown in [Figure 1](#).



NOTE 1 [Figure 1](#) is not drawn to scale. It is a schematic only to demonstrate the configuration of the thermal insulation boards.

NOTE 2 Board edges are interlocked at corners.

**Figure 1 — Installation of thermal insulation boards**

**9.2.1.5** Window corners and similar re-entrant corners shall be cut out of a single thermal insulation board in an 'L' shape. Thermal insulation boards shall not be butted together to form a re-entrant corner at openings. Thermal insulation boards shall not be butted together at aesthetic reveals.

**9.2.1.6** Thermal insulation board joints shall be offset at least 150 mm from horizontal and vertical substrate sheathing board joints.

**9.2.1.7** Each thermal insulation board shall be installed by placing it tightly against the adjoining thermal insulation board without lateral repositioning and minimal vertical repositioning.

**9.2.1.8** Apply pressure over the entire surface of the thermal insulation board to achieve uniform contact and an overall level surface.

**9.2.1.9** Mechanical fasteners shall be used as a complement and/or as an alternate to adhesive for attachment where the substrate does not support adhesive attachment of EIFS.

NOTE Mechanical fastening of the thermal insulation board is outside the scope of this document but can be required for some conditions. Refer to [Annex A](#) for more information.

**9.2.1.10** The thermal insulation board shall be occasionally checked for proper contact with the substrate by removing a piece of thermal insulation board. Proper contact shall be achieved when approximately equal portions of the adhesive remain on both the substrate and the thermal insulation board. In cases where the adhesion has been checked, the adhesive shall be removed from the thermal insulation board and substrate, and reapplied.

**9.2.1.11** The thermal insulation board shall remain undisturbed for at least 24 h prior to proceeding with rasping. Cool, damp weather conditions extend the time necessary for the thermal insulation board to be bonded sufficiently that rasping will not disrupt the adhesive bond; in such situations, leave the thermal insulation board undisturbed for a longer period.

**9.2.1.12** Proprietary adhesive materials used to reduce the bond cure time shall have been tested to demonstrate compliance with ISO 17738-1.

**9.2.1.13** Architectural profiles shall be achieved using thicker thermal insulation boards or additional layers of thermal insulation boards bonded together with adhesive.

## **9.2.2 Clearances (spacing)**

**9.2.2.1** Thermal insulation boards, after the installation of the glass fibre reinforcing mesh and base coat, shall be installed such that clearances are provided as described in [9.2.2.2](#) to [9.2.2.5](#).

**9.2.2.2** Provide a minimum clearance of 13 mm around openings or penetrations that are to receive sealants.

**9.2.2.3** Provide a minimum clearance of 20 mm for expansion joints that are to receive sealants.

**9.2.2.4** Provide a minimum clearance of 50 mm from heat emitting devices or exhausts.

**9.2.2.5** Where EIFS are installed above projecting building elements, such as roofs, balconies, or other similar horizontal elements, the bottom edge of EIFS shall be terminated a minimum of 50 mm above such projecting building elements.

## **9.2.3 Rasping and surface preparation**

**9.2.3.1** Gaps exceeding 2 mm at thermal insulation board joints shall be filled either with slivers of thermal insulation board or sealant foam that meets the requirements of [9.2.3.2](#) to prevent intrusion of base coat material between the thermal insulation boards. Sealant foam shall penetrate at least 10 mm into the gap between the thermal insulation boards.

**9.2.3.2** Sealant foam used according to the requirements of [9.2.3.1](#) shall be a single component, moisture cure, low expansion rate foam that meets the requirements of ISO 8873-1. It shall be installed in accordance with ISO 8873-2.

**9.2.3.3** Subject to [9.2.1.11](#), the entire surface of the thermal insulation board shall be rasped (sanded) such that there is no planar difference between thermal insulation boards at joint locations and the surface does not vary more than  $\pm 3$  mm in 1 220 mm in any direction across flat wall areas. The minimum thermal insulation board thickness after rasping shall be 40 mm, excluding the thickness of the GDDC reveals.

**9.2.3.4** Debris from rasping, such as EPS beads and other airborne particles shall be contained through the use of protective scaffold netting or vacuum equipped rasping tools.

**9.2.3.5** Rasping shall be used for the removal of any visible UV surface degradation of thermal insulation board.

NOTE Visible UV degradation of foam plastic insulation is manifested by a yellow powder on the surface of the thermal insulation board.

**9.2.3.6** Remove all dust and debris from thermal insulation board rasping prior to installation of the base coat.

### 9.3 Aesthetic reveals

**9.3.1** Aesthetic reveals shall be cut into the thermal insulation board after rasping, but prior to applying the base coat.

**9.3.2** The thermal insulation board thickness as measured from the bottom of an aesthetic reveal to the back side of the thermal insulation board (not the substrate) shall not be less than 20 mm, excluding the thickness of the GDDC.

**9.3.3** The bottom surfaces of a horizontal aesthetic reveal shall provide an outward slope of 6:12 or greater below the horizontal plane for shedding of precipitation.

**9.3.4** Aesthetic reveals shall not occur coincident with thermal insulation board joints.

## 10 Installation of the base coat and glass fibre reinforcing mesh

### 10.1 Attachment of the glass fibre reinforcing mesh

**10.1.1** Prior to installation of the base coat, the surface of the thermal insulation board shall be inspected to ensure that it is clean, dry and free of visible UV degradation, foreign materials or damage of any type. Repair any damaged thermal insulation boards prior to the installation of the base coat. Any damaged thermal insulation board shall be replaced with undamaged thermal insulation board and rasped in accordance with [9.2.3](#).

NOTE Visible UV degradation of foam plastic insulation is manifested by a yellow powder on the surface.

**10.1.2** The base coat shall be uniformly spread over the surface of the thermal insulation board. Where the glass fibre reinforcing mesh is applied in sections, the base coat applied for each section shall cover an area greater than the size of glass fibre reinforcing mesh section to be embedded.

**10.1.3** When installing a single layer of glass fibre reinforcing mesh, the mesh shall be overlapped a minimum of 65 mm.

**10.1.4** Immediately embed the glass fibre reinforcing mesh into the wet base coat using a trowel. Excess base coat material shall be trowelled off to create a smooth surface.

**10.1.5** Where two layers of glass fibre reinforcing mesh are required in specific areas, first embed into the base coat a high impact glass fibre reinforcing mesh without overlapping the sections, butting them tightly together. Once the base coat is cured or dry, install the second layer of base coat and mesh in accordance with [10.1.4](#) and [10.1.6](#).

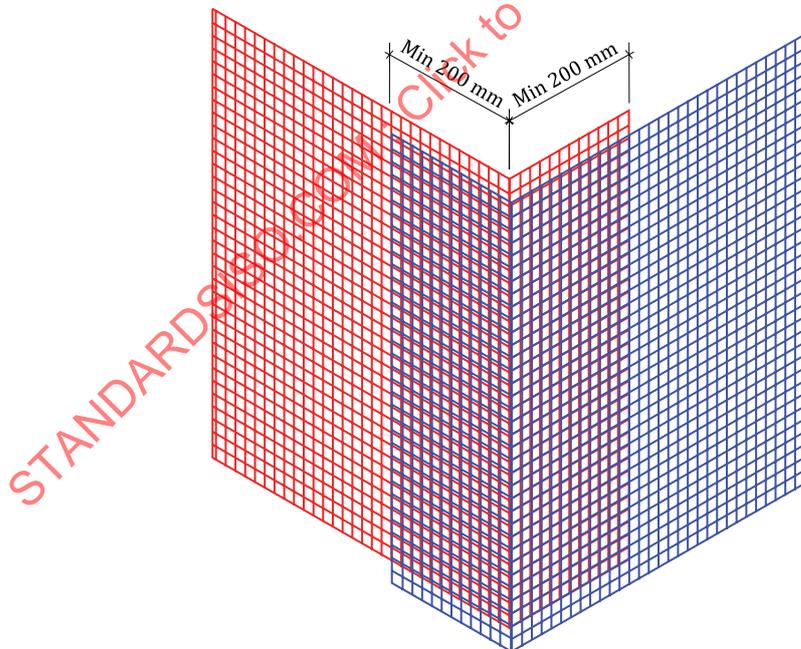
NOTE For aesthetic purposes, a reveal can be installed where the two layers of mesh ends and the single layer of mesh begins.

**10.1.6** Each single layer of glass fibre reinforcing mesh shall be:

- a) fully encapsulated in the base coat throughout the field of the wall, at corners, edges and joints;
- b) embedded into the wet base coat with sufficient pressure to ensure full embedment of the glass fibre reinforcing mesh;
- c) made smooth by trowelling, beginning at the centre of the glass fibre reinforcing mesh being installed and continuing by trowelling outward; and
- d) Free from wrinkles or any other anomalies that prevent the glass fibre reinforcing mesh from being flat to the thermal insulation board on all planes.

**10.1.7** Do not cut the glass fibre reinforcing mesh to remove a wrinkle, unless the cut area is then overlapped with undamaged glass fibre reinforcing mesh at least 65 mm on either side of the cut.

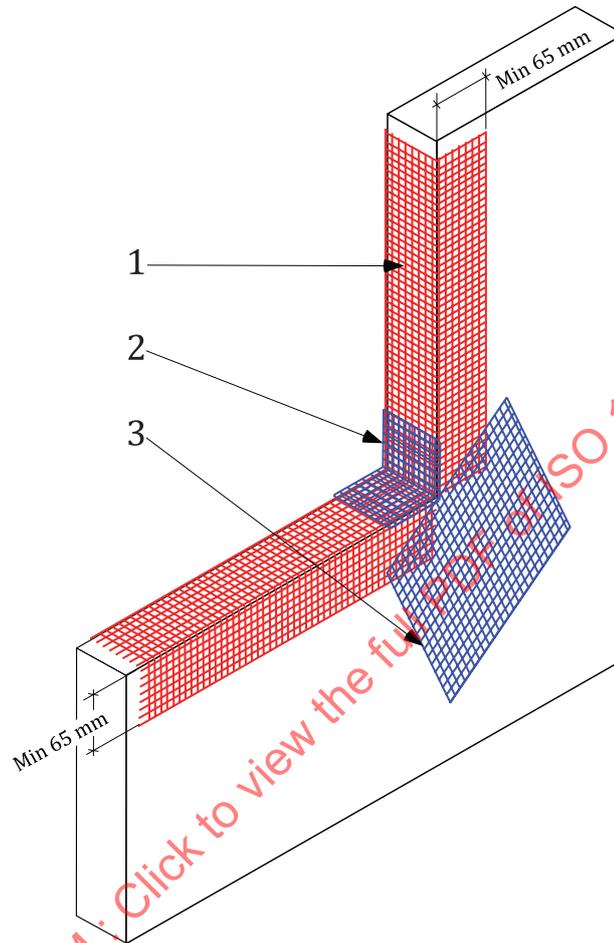
**10.1.8** Glass fibre reinforcing mesh shall be continuous at all wall corners and shall overlap 200 mm or greater onto each wall face, as shown in [Figure 2](#).



NOTE [Figure 2](#) is not drawn to scale. It is a schematic only to demonstrate the configuration of the reinforcing mesh.

**Figure 2 — Reinforcing mesh wrapped at inside and outside corners**

**10.1.9** The corners of wall openings, such as doors, windows, and HVAC penetrations, shall be diagonally reinforced with strips of reinforcing mesh not less than 250 mm wide × 300 mm long installed at 45° to the corners, as shown in [Figure 3](#). The mesh strips shall be embedded into the base coat and shall be trowelled from the centre to the edges of the glass fibre reinforcing mesh to avoid wrinkles.



**Key**

- 1 edge of insulation wrapped a minimum of 65mm onto face of insulation
- 2 corner reinforced with a single piece of mesh extending 65 mm onto each adjacent face
- 3 diagonal mesh minimum 250 mm × 300 mm installed at 45° at corner

NOTE 1 [Figure 3](#) is not drawn to scale. It is a schematic only to demonstrate the configuration of the reinforcing mesh.

NOTE 2 Mesh is embedded into the wet base coat. Base coat not illustrated for clarity.

NOTE 3 Only 'L' shaped pieces of insulation can be used at corners.

**Figure 3 — Reinforcing mesh attachment at openings**

**10.1.10** The corners of returns to windows, doors and similar wall openings shall have glass fibre reinforcing mesh the full width of the return and extending not less than 65 mm on both sides of the corner, as shown in [Figure 3](#).

## 10.2 Terminations and aesthetic reveals

### 10.2.1 General

**10.2.1.1** Wrap all edges of the thermal insulation board at system terminations, penetrations (windows, doors, HVAC, pipes, ducts, and electrical boxes), or expansion joints with base coat and glass fibre reinforcing mesh so that the wrapped mesh maintains a minimum contact of 65 mm with the LA-WRB.

**10.2.1.2** Confirm that system termination accessories, such as starter tracks (trims), conforms with ISO 17738-1 through marking or labelling of the materials before installing.

**10.2.1.3** The glass fibre reinforcing mesh shall be continuous through aesthetic reveals and shall be fully embedded in base coat within the aesthetic reveal. Do not cut the glass fibre reinforcing mesh during installation of the base coat (e.g. with the corner of a trowel).

### 10.2.2 Wrapped terminations

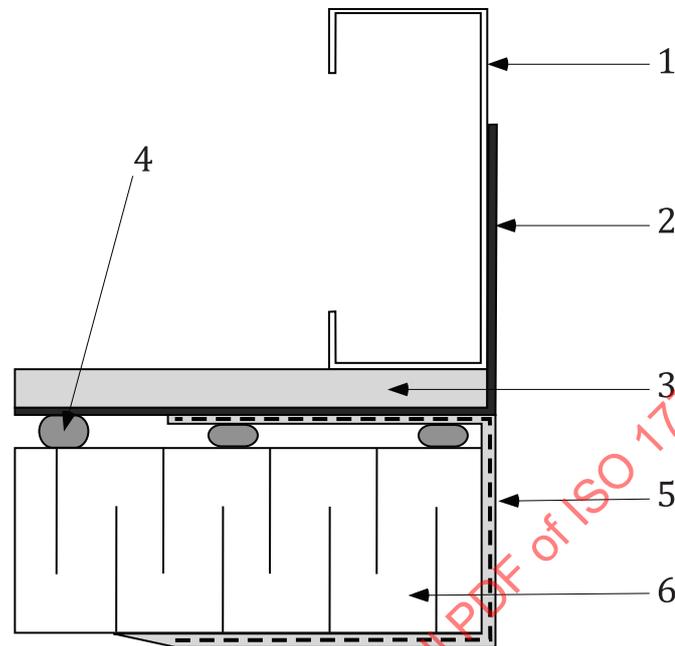
**10.2.2.1** Wrap terminations using one of the methods described in [10.2.2.3](#) to [10.2.2.5](#).

**10.2.2.2** Maintain the continuity of the drainage cavity when wrapping.

**10.2.2.3** Where wrapping is to accommodate, transition membranes, flashing or other material that may restrict the drainage cavity dimensions, the inward side of the insulation should be pre-shaped (e.g. back rasped) so to allow for build-up on the substrate. Such conditions may also require the extension of starter mesh so to adhere mesh to the LA-WRB.

### 10.2.2.4 Back-wrapped terminations.

10.2.2.4.1 For back-wrapped terminations, consult [Figure 4](#).



#### Key

- |   |                    |   |                                |
|---|--------------------|---|--------------------------------|
| 1 | structural support | 4 | adhesive attachment            |
| 2 | LA-WRB             | 5 | base coat and reinforcing mesh |
| 3 | substrate          | 6 | thermal insulation board       |

NOTE 1 [Figure 4](#) is not drawn to scale. It is a schematic only to demonstrate the configuration of the reinforcing mesh.

NOTE 2 Reinforcing mesh is set in base coat to the LA-WRB prior to the installation of the insulation.

NOTE 3 WRB continuity is not illustrated.

**Figure 4 — Back-wrapped reinforcing mesh terminations**

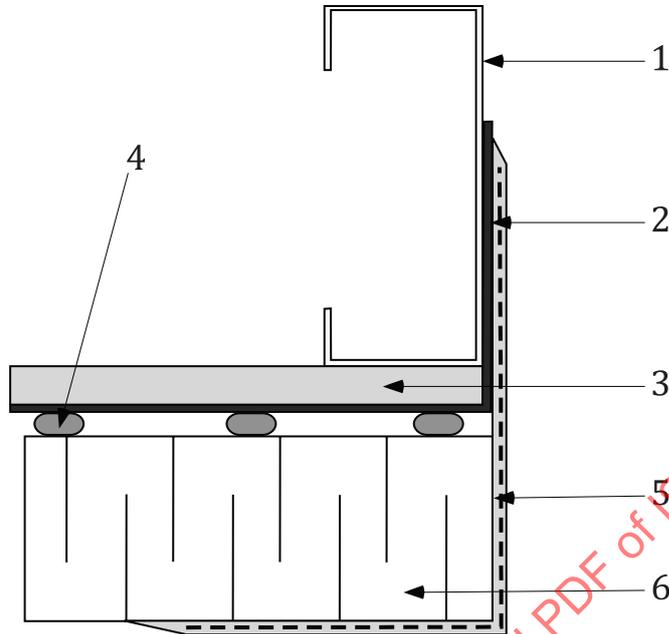
**10.2.2.4.2** Install a starter glass fibre reinforcing mesh to the WRBA with a continuous bead of adhesive before the thermal insulation board is installed, extending the glass fibre reinforcing mesh behind the thermal insulation board by 65 mm or more in contact with the LA-WRB.

**10.2.2.4.3** After the thermal insulation board is installed, the base coat shall be installed to the edge and face of the thermal insulation board. Wrap the starter glass fibre reinforcing mesh around the edge of the thermal insulation board and embed into the wet base coat.

**10.2.2.4.4** Overlap the field glass fibre reinforcing mesh onto the back-wrapped portion by 65 mm or greater.

10.2.2.5 Edge-wrapped terminations

10.2.2.5.1 For edge-wrapped terminations consult [Figure 5](#).



Key

- |                      |                                  |
|----------------------|----------------------------------|
| 1 structural support | 4 adhesive attachment            |
| 2 LA-WRB             | 5 base coat and reinforcing mesh |
| 3 substrate          | 6 thermal insulation board       |

NOTE 1 [Figure 5](#) is not drawn to scale. It is a schematic only to demonstrate the configuration of the reinforcing mesh.

NOTE 2 Reinforcing mesh is set onto base coat outer face of the insulation board and wrapped back onto the rough opening substrate.

NOTE 3 WRB continuity is not illustrated.

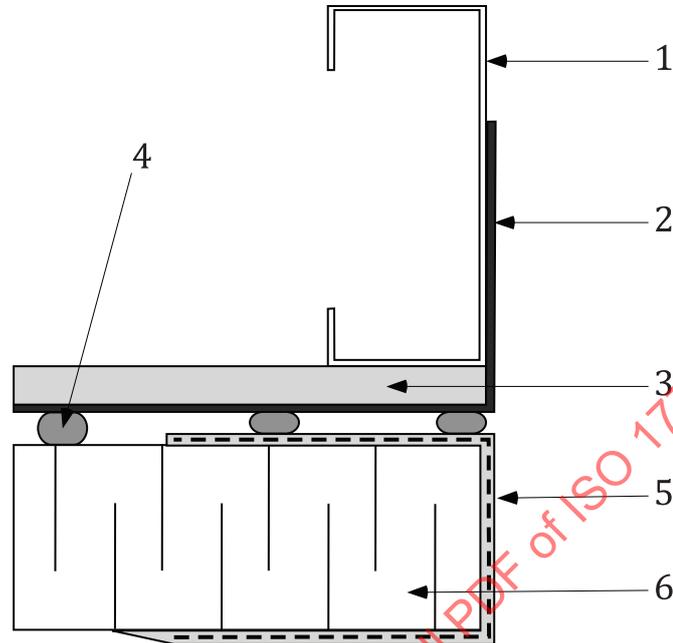
**Figure 5 – Edge-wrapped reinforcing mesh terminations**

10.2.2.5.2 After the thermal insulation board is installed, the base coat and glass fibre reinforcing mesh shall be installed on the face of the thermal insulation board, over the edge of the thermal insulation board and continue onto the substrate surface by 65 mm or more.

NOTE Edge wrapping typically occurs at window or other rough openings or onto the studs at the perimeter of prefabricated panels.

### 10.2.2.6 Pre-wrapped terminations

10.2.2.6.1 For pre-wrapped terminations consult [Figure 6](#).



#### Key

- |   |                    |   |                                |
|---|--------------------|---|--------------------------------|
| 1 | structural support | 4 | adhesive attachment            |
| 2 | LA-WRB             | 5 | base coat and reinforcing mesh |
| 3 | substrate          | 6 | thermal insulation board       |

NOTE 1 [Figure 6](#) is not drawn to scale. It is a schematic only to demonstrate the configuration of the reinforcing mesh.

NOTE 2 Reinforcing is wrapped around the insulation board, embedded into base coat and allowed to cure prior to installation onto the substrate.

NOTE 3 WRB continuity is not illustrated.

**Figure 6 — Pre-wrapped reinforcing mesh terminations**

10.2.2.6.2 Prior to attachment of the thermal insulation board to the WRBA:

- Install the base coat and glass fibre reinforcing mesh to the terminating edge and the back of the thermal insulation board leaving sufficient extra glass fibre reinforcing mesh material to extend 100 mm or more onto the face of the thermal insulation board; or
- Install the base coat and glass fibre reinforcing mesh to the terminating edge and back and front of the thermal insulation board.

10.2.2.6.3 The base coat and glass fibre reinforcing mesh shall extend to the back of the thermal insulation board so as to maintain a minimum of 65 mm contact with the LA-WRB. At terminations where drainage is to occur, the thermal insulation board may require shaping to maintain adequate clearance for drainage over flashing and/or transition membranes. The application of base coat and mesh shall extend a greater distance on the back of the insulation board in order to achieve the required 65 mm contact with the LA-WRB.

**10.2.2.6.4** Prior to attaching the pre-wrapped thermal insulation board to the WRBA:

- a) Install a strip of transition glass fibre reinforcing mesh to the WRBA with a continuous bead of adhesive at each joint between pre-wrapped thermal insulation boards; or
- b) Leave a minimum of 100 mm of uncoated glass fibre reinforcing mesh extending past the end of the thermal insulation board for tie-in to the adjacent thermal insulation board. The transition glass fibre reinforcing mesh shall extend behind each pre-wrapped thermal insulation board by 100 mm or more.

**10.2.2.6.5** Overlap joints between pre-wrapped thermal insulation boards with base coat and glass fibre reinforcing mesh by 100 mm or more, during the installation of base coat and glass fibre reinforcing mesh over the face of the thermal insulation board.

### **10.2.3 Prefabricated starter strips** (See [Figure 7](#))

Pre-fabricated starter strips may be incorporated into an installation provided:

- a) All materials used to produce the pre-fabricated starter strip are provided by the manufacturer of the system being installed and conform to applicable requirements of ISO 17738-1.
- b) Where the fabrication process utilizes a form of adhesive to bond the reinforcing mesh to a receiving surface, the combination of materials must be validated as wholly compatible through evaluation to ISO 17738-1 base coat, mesh and lamina requirements.
- c) The finish product shall not be at variance to conditions of acceptance applicable to ISO 17738-1 assessment, this document, maximum insulation length, or fire safety requirements as may be applicable.
- d) The height of the pre-fabricated starter strip shall allow for proper application of adhesive using a notched trowel where meant to facilitate drainage, or application of continuous adhesive ribbons along the strip's long dimension where creating an EIFS compartment and prevention of ventilation. Where being pressed into a LA-WRB adhesive, the intent of the described still applies.