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weber building solutions

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CI/SfB

(21.9) Rn7 (M2)

**Agrément
Certificate
No 91/2691**
Fourth issue*



Designated by Government
to issue
European Technical
Approvals

WEBER.THERM XM EXTERNAL WALL INSULATION SYSTEMS

Système d'isolation pour murs extérieurs
Wärmedämmung für Außenwand

Product



• THIS CERTIFICATE RELATES TO WEBER.THERM XM EXTERNAL WALL INSULATION SYSTEMS.

• The systems comprise insulation board with reinforced undercoat and decorative render finishes as described in the accompanying Detail Sheets.


• The systems are applied to the outside of external walls of masonry, dense or no-fines concrete construction and are suitable for use on new or existing buildings.

• Application and maintenance must be carried out strictly in accordance with the Design Data and Installation parts of the Detail Sheets and the marketing company's instructions by operatives trained and approved by weber building solutions.

continued

Regulations — Detail Sheet 1

1 The Building Regulations 2000 (as amended) (England and Wales)

 The Secretary of State has agreed with the British Board of Agrément the aspects of performance to be used by the BBA in assessing the compliance of external wall insulation systems with the Building Regulations. In the opinion of the BBA, weber.therm XM External Wall Insulation Systems, if used in accordance with the provisions of this Certificate, will meet or contribute to meeting the relevant requirements.

Requirement: B4(1)

External fire spread

Comment:

The systems are classified Class 0 and therefore can meet this Requirement. See the relevant tinted areas (8.2, 8.4 and 8.5) in the *Properties in relation to fire* section of these Front Sheets.

Requirement: C2(a)(b)(c)

Resistance to ground moisture

Comment:

Walls insulated with the systems can meet this Requirement. See the relevant tinted area in the *General* section (6.4) of these Front Sheets.

Requirement: L1(a)(i)

Dwellings

Requirement: L2(a)

Buildings other than dwellings

Comment:

The systems will enable, or contribute to enabling, a wall to meet the U value requirement. See the tinted areas in the *Thermal insulation* section of the accompanying Detail Sheets.

Requirement: Regulation 7

Materials and workmanship

Comment:

The systems are acceptable. See the tinted area in the *Durability* section of these Front Sheets.

continued

- All materials and components for use in the systems are approved by the BBA and must be obtained from the Certificate holder.

These Front Sheets must be read in conjunction with the relevant accompanying Detail Sheets, which provide information specific to insulation systems.

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2 The Building Standards (Scotland) Regulations 1990 (as amended)



In the opinion of the BBA, weber.therm XM External Wall Insulation Systems, if used in accordance with the provisions of this Certificate, will satisfy or contribute to satisfying the various Regulations and related Technical Standards as listed below.

Regulation: 10	Fitness of materials and workmanship
Standard: B2.1	Selection and use of materials, fittings, and components, and workmanship
Comment:	The systems can contribute to a construction meeting this Standard. See the <i>Installation</i> section of these Front Sheets and the accompanying Detail Sheets.
Standard: B2.2	Selection and use of materials, fittings, and components, and workmanship
Comment:	The systems are acceptable. See the tinted area in the <i>Durability</i> section of these Front Sheets.
Regulation: 12	Structural fire precautions
Standard: D8.1	Fire spread to adjoining buildings — Principles
Comment:	Systems would not be classed as 'non-combustible' and, therefore, completed walls would be regarded as unprotected areas as defined in Note c to Table D8.1. However in the opinion of the BBA it would not be unreasonable to seek a relaxation of this Standard.
Standard: D8.2	Fire spread to adjoining buildings — Non-combustible materials
Comment:	Systems would not be classed as 'non-combustible' and, therefore, should not be used on walls one metre or less from a boundary but see the relevant tinted areas (8.2, 8.4 and 8.6) in the <i>Properties in relation to fire</i> section of these Front Sheets.
Standard: D10.1	Fire spread on an external wall
Comment:	The systems have a 'low risk' surface classification and are unrestricted by this Standard. See the relevant tinted area (8.2) in the <i>Properties in relation to fire</i> section of these Front Sheets.
Standard: D10.2	Fire spread on an external wall
Comment:	The use of these systems may be restricted by this Standard. See the relevant tinted areas (8.4 and 8.6) in the <i>Properties in relation to fire</i> section of these Front Sheets.
Regulation: 17	Resistance to moisture
Standard: G3.1	Resistance to precipitation — Resistance to precipitation
Comment:	Walls insulated with the systems can satisfy this Standard. See the relevant tinted areas (6.4 and 6.6) in the <i>General</i> section of these Front Sheets.
Regulation: 18	Resistance to condensation
Standard: G4.1	Condensation — Interstitial condensation
Comment:	Walls insulated with the systems will satisfy the requirements of this Standard. See the relevant tinted area in the <i>General</i> section (6.6) and the relevant tinted areas (11.1 and 11.2) in the <i>Risk of interstitial condensation</i> section of these Front Sheets.
Regulation: 22	Conservation of fuel and power
Standard: J3.1	Buildings in purpose group 1 — Building fabric
Comment:	The systems will enable or contribute to enabling a wall to satisfy this Standard. See the tinted area in the <i>Thermal Insulation</i> section of the accompanying Detail Sheets.
Standard: J4.1	Buildings in purpose group 1 — Limiting thermal bridging at junctions and around openings
Comment:	The systems will enable, or contribute to enabling, a wall to meet this Standard. See the tinted area in the <i>Thermal Insulation</i> section of the accompanying Detail Sheets.
Standard: J8.1	Buildings in purpose groups 2 to 7
Comment:	The systems will enable, or contribute to enabling, a wall to satisfy this Standard. See the tinted area in the <i>Thermal Insulation</i> section of the accompanying Detail Sheets.
Standard: J9.1	Buildings in purpose groups 2 to 7 — Limiting thermal bridging at junctions and around openings
Comment:	The systems will enable, or contribute to enabling, a wall to meet this Standard. See the tinted area in the <i>Thermal Insulation</i> section of the accompanying Detail Sheets.

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3 The Building Regulations (Northern Ireland) 2000



In the opinion of the BBA, weber.therm XM External Wall Insulation Systems, if used in accordance with the provisions of this Certificate, will satisfy or contribute to satisfying the various Building Regulations as listed below.

Regulation:	B2	Fitness of materials and workmanship
Comment:		The systems are acceptable. See the tinted area in the <i>Durability</i> section of these Front Sheets.
Regulation:	C4	Resistance to ground moisture and weather
Comment:		Walls insulated with the systems can satisfy this Regulation. See the relevant tinted area (6.4) in the <i>General</i> section of these Front Sheets.
Regulation:	C5	Condensation
Comment:		Walls insulated with the systems will satisfy the requirements of this Regulation. See the relevant tinted area (6.6) in the <i>General</i> section and the relevant tinted areas (11.1 and 11.2) in the <i>Risk of interstitial condensation</i> section of these Front Sheets.
Regulation:	E5	External fire spread
Comment:		The systems have a Class 0 surface and can satisfy this Regulation. See the relevant tinted areas (8.2, 8.4 and 8.5) in the <i>Properties in relation to fire</i> section of these Front Sheets.
Regulation:	F2	Building fabric
Comment:		The systems will enable, or contribute to enabling, a wall to meet this Regulation. See the tinted areas in the <i>Thermal insulation</i> section of the accompanying Detail Sheets.

4 Construction (Design and Management) Regulations 1994 (as amended) Construction (Design and Management) Regulations (Northern Ireland) 1995 (as amended)

Information in this Certificate may assist the client, planning supervisor, designer and contractors to address their obligations under these Regulations.

See sections: 2 *Delivery and site storage* (2.5) and 7 *Procedure* (7.2) of the accompanying Detail Sheets.

Technical Specification

5 Delivery and site storage

5.1 The insulation is delivered to site shrink-wrapped in polythene packs. Each pack carries the manufacturer's and product identification marks and batch numbers.

5.2 Components are delivered to site in the quantities and packages as listed in Table 1. Each package carries the manufacturer's and product's identification, batch number, and the BBA logo, incorporating the number of this Certificate.

5.3 The weber Fibreglass Meshcloth, one metre wide, is supplied in rolls of 50 metres length.

5.4 The insulation boards should be stored on a firm, clean, level base, off the ground and must be protected from prolonged exposure to sunlight either by storing opened packs under cover in dry conditions or re-covering with opaque polythene sheeting.

5.5 Care must be taken when handling the insulation boards to avoid both damage and

contact with solvents or bitumen products. The boards must not be exposed to open flame or other ignition sources.

5.6 The powder mortars should be stored in dry conditions, off the ground, and be protected from frost at all times.

5.7 The primer and texture synthetic coatings should be stored in a safe area, under cover, and be protected from excessive heat and frost at all times.

Table 1 Component supply details


Component	Quantity and package
weber.rend IAC	20 kg bag
weber.rend PTC	25 kg bag
Dry-Dash aggregate	25 kg bag
weber PR310	10 litre container
weber.plast TF/weber.plast DF	15 kg plastic pail
weber.sil TF	20 kg plastic pail
Mechanical fixings weber.therm MFL clip	boxed by manufacturer 100 per box
Base, stop, corner, horizontal drip and movement beads	2.5 or 3 m lengths

6 General

6.1 weber.therm XM External Wall Insulation Systems, when installed in accordance with this Certificate, are effective in reducing the thermal transmittance (U value) of the walls of new and existing buildings. It is essential that the detailing techniques specified in this Certificate are carried out to a high standard, if the ingress of water into the insulation is to be avoided and the full thermal benefit obtained from treatment with the systems.


6.2 The systems will improve the weather resistance of a wall and provide a decorative finish. However, they may be installed only where other routes for moisture penetration have been dealt with separately and where there are no signs of dampness on the inner surface of the wall, other than those caused solely by condensation. The systems can be used to overcome condensation associated with the internal wall surface.

6.3 Existing buildings subject to national Building Regulations should have wall surfaces in accordance with the *Site survey and preliminary work* section of these Front Sheets.

 6.4 New buildings subject to national Building Regulations should be constructed in accordance with the relevant recommendations of:

- BS 5628-3 : 2001. In particular Clause 5.5.2 *Rain penetration*, of the Code of Practice should be followed in that the designer should select a construction appropriate to the local wind-driven rain index, paying due regard to the design detailing, workmanship and materials to be used
- BS 8000-3 : 2001.

6.5 Other new buildings, not subject to any of the previous requirements, should also be built in accordance with BS 5628-3 : 2001.

 6.6 When using the system, consideration must be given to the overall design to minimise the risk of condensation and the recommendations of BS 5250 : 2002 should be followed.

7 Strength and stability

7.1 The systems have adequate resistance to impact and abrasion where walls are exposed and have some protection, eg walls of private dwellings and walls of communal dwellings above ground-floor level. Where the system may be exposed to severe mechanical or malicious impact, eg walls of public buildings at ground-floor level, precautions such as supplementary reinforcement, may be required to reduce the risk of damage. Guidance may be obtained from the Certificate holder and

7.2 The systems, as specified in the Detail Sheets, can be designed to withstand the thermal stresses and wind pressures (including suction) normally experienced in the United Kingdom. The systems can also be designed in accordance with BS 6399-2 : 1997 to withstand the increased wind loads associated with tall buildings (greater than 12 m) and areas of high exposure. This may require the use of additional weber mechanical fixings per unit area, or for the fixings to be of stainless steel at a rate per unit area sufficient to withstand the building's expected wind loading (see sections 13.2 to 13.4).

8 Properties in relation to fire

8.1 In the opinion of the BBA, the use of the system will not introduce any additional hazard in respect of behaviour in fire when compared with a system using traditional sand/cement render finishes.



8.2 The system is classified Class 0 or 'low risk' as defined in the national Building Regulations:

England and Wales

Approved Document B, Paragraph A12

Scotland

Technical Standard (D1.3), Table 3

Northern Ireland

Technical Booklet E, Paragraph 2.4.

8.3 Any cavities within the system (such as those formed between the external wall insulation system and the substrate) must have appropriate fire stopping in accordance with:

England and Wales

Approved Document B, Section 10

Scotland

Technical Standards Part D, Sections 6.1 and 6.2

Northern Ireland

Technical Booklet F, Sections 3.27–3.30.



8.4 The behaviour in fire of external wall insulation systems is the subject of recommendations by BRE in their publication BR 135 : 2003 (Second edition) *Fire Performance of External Insulation For Walls of Multi-Storey Buildings* and this document outlines the design of fire barriers for use in this type of system.



8.5 Provided fire barriers are installed at every storey from the ground floor, there is no restriction on the height of the building.



8.6 Fire barriers and cavity barriers must be installed from the ground floor upwards and the height of the building is restricted to 18 m. Also the system may not be on a wall one metre or less from a boundary.

9 Proximity of flues

When the system is installed in close proximity to certain flue pipes, the relevant provisions of the national Building Regulations should be met:

England and Wales

Approved Document J

Scotland

Technical Standards, Part F

Northern Ireland

Technical Booklet L.

10 Moisture penetration

The assessment has shown that the systems will resist the passage of moisture into the wall system and substrate.

11 Risk of interstitial condensation



11.1 The relevant components of the systems have a water vapour resistance such that, under the conditions likely to be found in dwellings in the United Kingdom, interstitial condensation should not occur within the insulation.

11.2 If a system is to be used on the external walls of rooms expected to have continuous high humidities, care must be taken in the design of the rooms to avoid possible problems from the formation of interstitial condensation in the wall.

12 Maintenance

12.1 Regular checks should be made on the installed system, particularly at joints and on external plumbing fittings, to ensure that ingress of water does not occur. Necessary repairs should be effected immediately.

12.2 Damaged areas must be repaired using the appropriate components and the procedures detailed in the Certificate holder's installation instructions.

13 Durability



13.1 The results of accelerated ageing tests in accordance with MOAT No 22 : 1988 indicate that the system is durable. The system should remain effective for at least 30 years, provided any damage to the surface finish is repaired immediately, and regular maintenance is undertaken including checks on joints in the system and external plumbing fittings to prevent leakage of rainwater into the system, enabling steps to be taken to correct the defects.

13.2 The dry-dash finish will break up the flow of water on the surface and reduce the risk of discoloration by water runs. The finish may become discoloured with time, the rate depending on locality, initial colour, the degree of exposure and atmospheric pollution, as well as the design and detailing of the wall. In common with traditional renders, discoloration by algae and lichens may occur in wet areas.

13.3 Render containing Portland cement may be subject to lime bloom. The occurrence of this may be reduced by avoiding application in adverse weather conditions. The effect is transient and is less noticeable on lighter colours.

13.4 The textured finishes may also become soiled in time, the rate depending on locality. The appearance may be restored by a suitable powerwash or, if required, by the application of a compatible paint; however, great care should be taken not to adversely affect the water vapour transmission or fire characteristics of the system. The advice of the Certificate holder should be sought.

Installation

14 Site survey and preliminary work

14.1 A pre-installation survey of the property is carried out to determine suitability for treatment and any repairs necessary to the building structure before application of a system. A specification is prepared for each elevation of the building indicating:

- where required, additional corner mesh and reinforcement
- the position of beads
- detailing around windows, doors and at eaves
- dpc level
- exact position of expansion joints
- areas where flexible sealants must be used
- any alterations to external plumbing
- where required, the position of fire barriers.

14.2 The survey should include tests conducted on the walls of the building by the Certificate holder or their approved applicators to determine the adequacy of the adhesive and/or the pull-out resistance of the proposed mechanical fixings for the appropriate substrate.

14.3 Where adhesive is used to secure a system, trial tests are conducted on the walls of the building to determine the adequacy of the adhesive to withstand the expected wind loading derived from calculations using the relevant wind speed data for the site and a safety factor of 9. Where it is necessary, a recommendation is made on the number and type of fixings required to complement the adhesive to withstand the building's expected wind loading.

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14.4 For no-fines concrete substrates, mechanical fixings are always required. Where it is specified that mechanical fixings are used to secure the systems, trial tests are conducted on the wall to determine the pull-out resistance of the proposed mechanical fixings. An assessment and recommendation is made on the type and number of fixings required to withstand the building's expected wind loading based on calculations using the test data, the relevant wind speed data for the site and, in the absence of a formal requirement, a safety factor of 3 should be used.

14.5 All modifications, such as provision for cavity barriers and fire stopping (see sections 2.3 to 2.6 of the accompanying Detail Sheets) and necessary repairs to the building are completed before installation commences.

14.6 All necessary repairs to the building structure are completed before installation of the system is started.

14.7 Surfaces should be sound, clean and free from loose material. The flatness of surfaces must be checked; this may be achieved using a straight edge spanning the storey height. Any excessive irregularities, ie greater than 10 mm or 20 mm in 1 metre, must be made good prior to installation to ensure that the insulation boards are installed with a smooth, in-plane finished surface.

14.8 Where surfaces are covered with an existing rendering it is essential that the bond between the background and the render is adequate. All loose areas should be hacked off and reinstated.

14.9 On existing buildings, purpose-made window sills must be fitted to extend beyond the finished face of the system. New buildings should incorporate suitably deep sills.

14.10 It is recommended that external plumbing be removed before installation and alterations made to underground drainage, where appropriate, to accommodate repositioning of the plumbing on the finished face of the systems.

14.11 New buildings should be of sound masonry, dense or no-fines concrete construction.

14.12 Internal wet work, eg screeding or plastering, should be completed and allowed to dry prior to the application of a system.

15 Approved installers

Application of the systems, within the context of this Certificate, is carried out by approved installers. An approved installer is a company:

- employing operatives who have been trained and approved by the Certificate holder to install the systems and who have been issued with appropriate training cards by the Certificate holder
- having undertaken to comply with the Certificate holder's application procedure, which contains the requirement for each application team to include at least one member with a training card, and
- subject to supervision by the Certificate holder. This may include unannounced site inspections.

Bibliography

BS 5250 : 2002 *Code of practice for control of condensation in buildings*

BS 5628-3 : 2001 *Code of practice for use of masonry — Materials and components, design and workmanship*

BS 6399-2 : 1997 *Loading for buildings — Code of practice for wind loads*

BS 8000-3 : 2001 *Workmanship on building sites — Code of practice for masonry*

MOAT No 22 : 1988 *UEAtc Directives for the Assessment of External Insulation Systems for Walls (Expanded Polystyrene Insulation Faced with a Thin Rendering)*

Conditions of Certification

16 Conditions

16.1 This Certificate:

- (a) relates only to the product that is named, described, installed, used and maintained as set out in this Certificate;
- (b) is granted only to the company, firm or person identified on the front cover — no other company, firm or person may hold or claim any entitlement to this Certificate;
- (c) is valid only within the UK;
- (d) has to be read, considered and used as a whole document — it may be misleading and will be incomplete to be selective;
- (e) is copyright of the BBA;
- (f) is subject to English law.

16.2 References in this Certificate to any Act of Parliament, Regulation made thereunder, Directive or Regulation of the European Union, Statutory Instrument, Code of Practice, British Standard, manufacturers' instructions or similar publication, are references to such publication in the form in which it was current at the date of this Certificate.

16.3 This Certificate will remain valid for an unlimited period provided that the product and the manufacture and/or fabrication including all related and relevant processes thereof:

- (a) are maintained at or above the levels which have been assessed and found to be satisfactory by the BBA;

(b) continue to be checked as and when deemed appropriate by the BBA under arrangements that it will determine; and

(c) are reviewed by the BBA as and when it considers appropriate.

16.4 In granting this Certificate, the BBA is not responsible for:

- (a) the presence or absence of any patent, intellectual property or similar rights subsisting in the product or any other product;
- (b) the right of the Certificate holder to market, supply, install or maintain the product; and
- (c) the actual works in which the product is installed, used and maintained, including the nature, design, methods and workmanship of such works.

16.5 Any recommendations relating to the use or installation of this product which are contained or referred to in this Certificate are the minimum standards required to be met when the product is used. They do not purport in any way to restate the requirements of the Health & Safety at Work etc Act 1974, or of any other statutory, common law or other duty which may exist at the date of this Certificate or in the future; nor is conformity with such recommendations to be taken as satisfying the requirements of the 1974 Act or of any present or future statutory, common law or other duty of care. In granting this Certificate, the BBA does not accept responsibility to any person or body for any loss or damage, including personal injury, arising as a direct or indirect result of the installation and use of this product.



In the opinion of the British Board of Agrément, weber.therm XM External Wall Insulation Systems are fit for their intended use provided they are installed, used and maintained as set out in this Certificate. Certificate No 91/2691 is accordingly awarded to weber sbd.

On behalf of the British Board of Agrément

Date of Fourth issue: 13th January 2005

Chief Executive

**Original Certificate issued on 25th November 1991. This amended version includes a change of Certificate holder's name, and component names and new Conditions of Certification.*

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British Board of Agrément

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or check the BBA website.