BRANZ Appraised
Appraisal No. 604 [2024]

STOTHERM MASONRY INSULATION SYSTEM

Appraisal No. 604 (2024)

This Appraisal replaces BRANZ Appraisal No. 604 (2008)

BRANZ Appraisals

Technical Assessments of products for building and construction.

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Product

1.1 The StoTherm Masonry Insulation System is an exterior insulation and finishing system for concrete masonry, in-situ or pre-cast concrete walls.

1.2 The system consists of expanded polystyrene (EPS) insulation panels fixed to the concrete masonry or concrete wall with adhesive mortar and mechanical anchors. The insulation panels are finished with either the StoArmat Miral Render System or the StoMiral Render System. The StoArmat Miral Render System is a fibreglass mesh-reinforced, synthetic resin solid render system. The StoMiral Render System is a fibreglass mesh-reinforced, mineral, solid render system. The render systems are finished with a Sto coating.

Scope

2.1 The StoTherm Masonry Insulation System has been appraised as an exterior insulation and finishing system for buildings within the following scope:

- with substrates of concrete masonry, in-situ or pre-cast concrete, up to 3 storeys, with a maximum height from ground to eaves of 10 m; and,
- with floor plan area limited only by seismic and structural control joints; and,
- with supporting structures designed and constructed in accordance with the NZBC; and,
- situated in NZS 3604 Wind Zones up to, and including, Extra High.

2.2 The StoTherm Masonry Insulation System has also been appraised for bond/fixing, durability and weathertightness of the exterior insulation and finishing system for concrete masonry, in-situ or pre-cast concrete buildings subject to specific design up to a differential design ultimate limit state (ULS) wind pressure of 2.5 kPa.

2.3 The StoTherm Masonry Insulation System must only be applied on vertical surfaces except for sills, concrete reinforced parapets and concrete reinforced balustrades, which must have a minimum 10° slope and be waterproofed in accordance with the requirements of the Technical Literature and building designer.

2.4 The StoTherm Masonry Insulation System for use on buildings within the scope detailed in Paragraph 2.1 is appraised for use with aluminium window and door joinery that is installed with vertical jambs and horizontal heads and sills. *[Note: The Appraisal of the StoTherm Masonry Insulation System relies on the joinery meeting the requirements of NZS 4211 for the relevant Wind Zone.]*

2.5 Installation of renders and accessories supplied by Stoanz Limited and Sto registered contractors must be carried out only by Sto registered contractors.

Building Regulations

New Zealand Building Code (NZBC)

3.1 **In the opinion of BRANZ, the StoTherm Masonry Insulation System, if designed, used, installed and maintained in accordance with the statements and conditions of this Appraisal, will meet or contribute to meeting the following provisions of the NZBC:**

Clause B1 STRUCTURE: Performance B1.3.1, B1.3.2 and B1.3.4. The StoTherm Masonry Insulation System meets the requirements for loads arising from self-weight, wind, impact and creep [i.e. B1.3.3 (a), (h), (j) and (q)]. See Paragraphs 9.1–9.3.

Clause B2 DURABILITY: Performance B2.3.1 (b) 15 years, B2.3.1 (c) 5 years and B2.3.2. The StoTherm Masonry Insulation System meets these requirements. See Paragraphs 10.1 and 10.2.

Clause E2 EXTERNAL MOISTURE: Performance E2.3.2. The StoTherm Masonry Insulation System meets this requirement for buildings within the scope detailed within Paragraph 2.1 and contributes to meeting this requirement for buildings within the scope detailed within Paragraph 2.2. See Paragraphs 15.1-15.3.

Clause F2 HAZARDOUS BUILDING MATERIALS: Performance F2.3.1. The StoTherm Masonry Insulation System meets this requirement.

Technical Specification

4.1 System components and accessories supplied by Stoanz Limited for the StoTherm Masonry Insulation System are:

Primer

- **Stoplex W** is a yellow tinted, ready-to-use, acrylic-based primer available in 10 L containers.

Renders

- **Gluecoat Mortar** is a polymer-modified, white cement-based adhesive render comprising graded sand and additives. The render is supplied in 25 kg bags and is mixed on-site with clean drinking water. It is trowel-applied to the back face of the EPS panels prior to them being applied to the wall.
- **StoLevell Novo** is a mineral lightweight mortar and base coat with polystyrene bead aggregate. The render is supplied in 25 kg bags and is mixed on-site with clean drinking water. It is trowel-applied to the back face of the EPS panels and prior to them being applied to the wall. It is also used as a base coat in a 3-4 mm thick layer, followed by the embedment of fibreglass mesh in the outer surface (StoMiral Render System only). An additional 1-2 mm layer is applied to fully encase the mesh. StoLevell Novo is applied to a minimum 5 mm thickness when used as the base coat for the StoArmat Miral Render System.
- **LevelLite** is a polymer-modified, cement-based render comprising coarse sand, polypropylene fibres, polystyrene beads and adhesives, supplied in 20 kg bags and mixed on-site with clean water. It is pump or trowel-applied as a base coat in a nominal 5-8 mm thick layer.
- **Multiscreed** is a cement-based adhesive render comprising graded sand, white cement, lime, fibres and additives. The render is supplied in 25 kg bags and is mixed on-site with clean water. It is used as a base coat in a 3-4 mm thick layer, followed by the embedment of fibreglass mesh in the outer surface (StoMiral Render System only). An additional 1-2 mm layer is applied to fully encase the mesh.
- **StoLevell Uni** is a dry mix, cement-based mineral render supplied in 25 kg bags and mixed on-site with clean water. It is used as a base coat in a 3-4 mm thick layer, followed by the embedment of fibreglass mesh in the outer surface (StoMiral Render System only). An additional 1-2 mm layer is applied to fully encase the mesh. StoLevell Uni is applied to a minimum 4 mm thickness when used as the base coat for the StoArmat Miral Render System.

- **StoArmat Classic** is a plasticiser free, tintable, ready-to-use, polymer-modified, cement-free reinforcement render comprising granulated quartz sands, calibration grain, polypropylene fibre and additives. It is supplied in 23 kg pails, and after diluting with water as necessary and mixing, is ready for use. It is trowel-applied in a 2 mm thick layer followed by the embedment of fibreglass mesh reinforcement in the outer surface. Once dry, a further coat of StoArmat Classic approximately 1 mm thick is applied to cover the mesh and leave a flat, even surface.
- **Stolit K** is a plasticiser-free, tintable, ready-to-use, polymer-modified, cement-free finishing render with a 1, 1.5, 2 or 3 mm grain size. It is supplied in 25 kg pails and is trowel-applied to an approximate thickness of 1-3 mm, gauging to the thickness of the aggregate size.
- **Stolit MP and MP Natural** are plasticiser-free tintable, ready-to-use, polymer-modified, cement-free finishing renders. They are supplied in 25 kg pails, are trowel-applied in two coats and are either float finished, or lightly sponged to the selected pattern.
- **Stolit Milano** is a smooth, plasticiser-free tintable, ready-to-use, polymer-modified, cement-free finishing render. It is supplied in 25 kg pails, is trowel-applied in two coats and is either steel troweled, floated, or lightly randomly sponged to the selected pattern.
- **Sto Flexyl** is a cementitious waterproof paste. It is mixed on site with a 1:1 ratio of fresh cement and is used as a waterproofing membrane over rendered balustrades, parapets and fixing blocks. Sto Flexyl is supplied in 18 kg pails.

StoColor Paints and Clear Sealers

- **StoColor Maxicryl** is a ready-to-use, tintable, matt, acrylic exterior paint for application over finishing renders. It is supplied in 15 L pails, and may be brush, roller or spray applied. The paint colour selected must have an light reflectance value (LRV) of 35% minimum when used with the StoMiral Render System, and an LRV of 20% minimum when used with the StoArmat Miral Render System.
- **StoColor Lotusan** is a ready-to-use, tintable, special dirt and algae resistant mineral silicone resin exterior paint for application over finishing renders. It is supplied in 15 L pails, and may be brush, roller or spray applied. The paint colour selected must have a LRV of 35% minimum when used with the StoMiral Render System, and an LRV of 20% minimum when used with the StoArmat Miral Render System.
- **StoColor X-Black** is a ready-to-use, tintable, matt, heat reflective acrylic exterior paint for application over finishing renders. It is supplied in 15 L pails, and may be brush, roller or spray applied. The paint colour selected must have an LRV of 25% minimum when used with the StoMiral Render System, and an LRV of 10% minimum when used with the StoArmat Miral Render System.
- **S-Protect SC** is an invisible, silane-based, hydrophobic sealer for application over Stolit MP, MP Natural and Milano finishing renders. It is supplied in 10 and 20 L pails, and is applied in a flood coat using a low pressure sprayer and Sto block brush.
- **StoPur WV200** is a two-component PUR, water-based, matt transparent sealer for application over Stolit Milano finishing render. It is applied by brush and Sto Micro roller.

Accessories

- **StoTherm Anchors** – screw applied anchors with an integrated 60 mm diameter high density polyethylene washer and screw sleeve, and an electroplated galvanised steel screw. The StoTherm Anchor length is selected to suit the EPS panel thickness.
- **ST Insulation Caps** – 60 mm diameter expanded polystyrene or mineral wool caps for StoTherm Anchors.
- **Hilti X-IE Wall Insulation Fastener** - powder actuated fasteners for face fixing 40, 50 and 60 mm thick EPS panels. The fasteners consist of an integrated 60 mm diameter high density polyethylene washer and sleeve, and a zinc coated carbon steel nail.
- **Reinforcing mesh** - alkali-resistant fibreglass mesh with a nominal mesh size of approximately 7 x 7 mm or 4 x 4 mm and an approximate weight of 165 g/m^2.

- **uPVC components** – drip edge, control joint flashing and cap/foot tray.
- **Sto pre-meshed corner beads** – uPVC and fibreglass mesh corner mouldings.
- **Sto Joint Sealing Tape 2D** - a black, compressed polyurethane foam. The foam is coated on one side with a pressure sensitive adhesive, which is covered by a release paper. The tape is available 2 and 5 mm thick, expanding to maximum 6 and 12 mm thick after installation, and is supplied in rolls 15 mm wide and 18 and 9 m long respectively.

4.2 Accessories used with the system, which are supplied by the Sto registered contractor are:

- **EPS insulation panels** - 40, 50, 60, 80 or 100 mm thick Class S EPS with a nominal density of 16 kg/m^3. The panels are supplied 1,200 mm wide x 600 mm high and must be manufactured to meet the requirements of AS 1366.3. Other panel thicknesses are available on request.
- **Graphite infused EPS insulation panels** - 40, 50, 60, 80 or 100 mm thick EPS with a nominal density of 24 kg/m^3. The panels are supplied 1,200 mm wide x 600 mm high and must be manufactured to meet the requirements of AS 1366.3. Other panel thicknesses are available on request.
- **Flexible sealant** - sealant complying with NZBC Acceptable Solution E2/AS1, or sealant covered by a valid BRANZ Appraisal for use as a weather sealing sealant for exterior use.
- **Adhesive** – polystyrene compatible adhesive for adhering uPVC components to the EPS panels, as and where required.
- **Expanding foam** - self-expanding foam covered by a valid BRANZ Appraisal, suitable for joining the EPS panels.

4.3 Accessories used with the system which are supplied by the building contractor are:

- **Window and door trim cavity air seals** – air seals complying with NZBC Acceptable Solution E2/AS1, Paragraph 9.1.6, or self-expanding, moisture cure polyurethane foam air seals covered by a valid BRANZ Appraisal for use around window, door and other wall penetration openings.

Handling and Storage

5.1 Handling and storage of all materials supplied by Stoanz Limited or the Sto registered contractor, whether on-site or off-site, is under the control of the Sto registered contractor. Dry storage must be provided for the fibreglass mesh and bags and pails of render mix. EPS insulation panels, uPVC flashings and profiles must be protected from direct sunlight and physical damage, and should be stored flat and under cover. Liquid components must be stored in frost-free conditions.

5.2 Handling and storage of all materials supplied by the building contractor, whether on-site or off-site is under the control of the building contractor. Materials must be handled and stored in accordance with the relevant manufacturer's instructions.

5.3 Render must be used within the designated shelf life from the date of manufacture.

Technical Literature

6.1 This Appraisal must be read in conjunction with:

- SS215 StoTherm Miral Render System on Masonry Insulation, Version 02pa/24.04.
- SS215R StoTherm Miral Refurbishment System on Masonry Insulation, Version 02pa/24.04.
- SS216 StoTherm Armat Render System on Masonry Insulation, Version 02pa/24.04.
- SS216R StoTherm Armat Refurbishment System on Masonry Insulation, Version 02pa/24.04.
- StoTherm Masonry Insulation System Details STM 001 – STM 855, all dated 2022.

6.2 All aspects of design, use, installation and maintenance contained in the Technical Literature and within the scope of this Appraisal must be followed.

Design Information

Solid Substrates

Concrete Masonry

7.1 Concrete masonry must be designed and constructed in accordance with NZS 4210 and either NZS 4229 or NZS 4230. The concrete masonry walls must be fully grouted.

In-situ and Pre-cast Reinforced Concrete

7.2 In-situ and pre-cast reinforced concrete walls must be specifically designed in accordance with NZS 3101 and AS/NZS 1170 using the design guidelines.

General

8.1 When the StoTherm Masonry Insulation System is used for specifically designed buildings up to a differential design ULS wind pressure of 2.5 kPa, only the bond, durability and weathertightness aspects of the EPS panels, render and finishing system are within the scope of this Appraisal. All other aspects of the building need to be specifically designed and are outside the scope of this Appraisal.

8.2 A minimum of 28 days must be allowed following placement of the concrete or grout before the installation of the StoTherm Masonry Insulation System begins. The Sto registered contractor must be satisfied that the substrate is sufficiently cured and dry before starting.

8.3 The ground clearance to finished floor levels as set out in NZBC Acceptable Solution E2/AS1, Table 18 must be adhered to at all times.

8.4 Where the system abuts other cladding systems, designers must detail the junction to meet their own requirements and the performance requirements of the NZBC. Details not included within the Technical Literature have not been assessed and are outside the scope of this Appraisal.

Electrical Cables

8.5 PVC sheathed electrical cables must be prevented from direct contact with the EPS insulation panels. When cables must penetrate the EPS panels for exterior electrical connections, the cable must be directly supported by passing through an electrical conduit.

Control Joints

8.6 Control joints in the StoTherm Masonry Insulation System must be constructed in accordance with the Technical Literature, and be provided as follows:

- aligned with any control joint in the solid substrate; and,
- where the system covers different solid substrates.

Structure

Impact Resistance

9.1 The system has adequate resistance to impact loads likely to be encountered in normal residential use. The likelihood of impact damage to the system when used in commercial type situations should be considered at the design stage, and appropriate protection such as the installation of barriers or bollards should be provided for vulnerable areas. *[Note: Additional coats of reinforced render or a heavier grade mesh can be used to increase impact resistance.]*

Wind Zones

9.2 The system is suitable for use in all Wind Zones of NZS 3604 up to, and including, Extra High where buildings are within the scope as detailed in Paragraph 2.1, or up to a differential design ULS wind pressure of 2.5 kPa where buildings are specifically designed.

EPS Panel Fixing

9.3 EPS panels must be installed in a brick pattern with no continuous vertical joints. A full coat of StoLevell Novo or Gluecoat Mortar must be applied to the back face of the panel with a notched trowel. The panels are installed immediately while the adhesive is wet. After adhering the EPS panels to the wall and leaving to set overnight, the panels must be mechanically fixed with the selected anchors. Refer to the Technical Literature for a diagrammatic layout of the StoTherm Anchor requirements.

Durability

10.1 The StoTherm Masonry Insulation System meets the performance requirements of NZBC Clause B2.3.1 (b) 15 years for the EPS insulation panels and render system, and the performance requirements of NZBC Clause B2.3.1 (c) 5 years for the exterior coating system.

Serviceable Life

10.2 The StoTherm Masonry Insulation System is expected to have a serviceable life of at least 30 years provided it is maintained in accordance with this Appraisal, the EPS insulation panels, fixings and renders are continuously protected by a weathertight coating system and remain dry in service and the NZBC external moisture and internal moisture provisions are met.

Maintenance

11.1 Regular maintenance is essential for StoTherm Masonry Insulation System installations to continue to meet the NZBC durability performance provision and to maximise their serviceable life.

11.2 Annual inspections must be made to ensure that all aspects of the cladding system, including the paint coating system, render, flashings and any sealed joints remain in a weatherproof condition. Any cracks, damaged areas or areas showing signs of deterioration which would allow water ingress, must be repaired immediately. Sealant, paint coatings and the like must be repaired in accordance with the sealant or Stoanz Limited's instructions.

11.3 Although the paint system is designed as a special dirt and algae resistant type, regular cleaning (at least annually) is still required to remove any grime, dirt and organic growth to maximise the life and appearance of the coating. Grime may be removed by brushing with a soft brush, warm water and detergent.

11.4 Recoating of the paint system will be necessary throughout the life of the render system. The interval between recoats depends on the paint colour, number of coats, orientation and quality of the application, and will be at approximately 8-12 yearly intervals in accordance with the instructions of Stoanz Limited. Clear sealer systems require recoating at 5-8 yearly intervals.

Prevention of Fire Occurring

12.1 Separation or protection must be provided to the StoTherm Masonry Insulation System from heat sources such as fireplaces, heating appliances and chimneys. Part 7 of NZBC Acceptable Solution C/AS1 and NZBC Acceptable Solution C/AS2 provide methods for separation and protection of combustible materials from heat sources.

Control of Internal Fire and Smoke Spread

13.1 The StoTherm Masonry Insulation System includes expanded polystyrene (EPS), which is a combustible insulant. When used on walls, the EPS, including any surface lining product enclosing the EPS from the adjacent living space, must achieve the Group Number for internal surface finish requirements as specified in NZBC Acceptable Solution C/AS1, Paragraph 4.2.2.1 or NZBC Acceptable Solution C/AS2, Paragraph 4.17.2 and Table 4.3.

13.2 The EPS used in the StoTherm Masonry Insulation System must comply with the flame propagation criteria of AS 1366, as required by NZBC Acceptable Solution C/AS1, Paragraph 4.2.2.1 and NZBC Acceptable Solution C/AS2, Paragraph 4.17.2.

Control of External Fire Spread

14.1 Refer to NZBC Acceptable Solutions C/AS1 and C/AS2 and NZBC Verification Method C/VM2 for fire resistance rating and control of external fire spread requirements for external walls.

Vertical Fire Spread

14.2 This Appraisal only covers buildings 10 m or less in height. NZBC Functional Requirement C3.2 identifies that external vertical fire spread to upper floors only needs be considered for buildings with a building height greater than 10 m. Control of external vertical fire spread is therefore outside the scope of this Appraisal.

Horizontal Fire Spread

14.3 Where the external wall is not protected by distances and/or a sprinkler system as required by NZBC Acceptable Solution C/AS1, the cladding system will need to be installed over a fire resistance rated external wall.

External Cladding Systems

14.4 The StoArmat Miral Render System, comprising an EPS substrate, StoLevell Novo, Stoplex W, StoArmat mesh render, Stolit K render and StoColor finishing paint achieves a Type A classification, suitable for use on external walls in accordance with NZBC Acceptable Solution C/AS1, Table 5.3.1.1 and NZBC Acceptable Solution C/AS2, Section 5.8.

14.5 The StoMiral Render System, comprising an EPS substrate, StoLevell Novo mineral base coat with Stolit K 1 mm render and StoColor Lotusan painted finish achieves a Type A classification suitable for use on external walls in accordance with NZBC Acceptable Solution C/AS1 Table 5.3.1.1 and NZBC Acceptable Solution C/AS2, Section 5.8.

External Moisture

15.1 StoTherm Masonry Insulation System installations, when installed and maintained in accordance with this Appraisal and the Technical Literature, will contribute to the building meeting code compliance with NZBC Clause E2.3.2 by providing a weatherproof coating system to the substrate.

15.2 For buildings constructed in accordance with Paragraph 2.1 of this Appraisal, the ingress of moisture must be excluded by detailing joinery and wall interfaces as shown in the Technical Literature. For buildings constructed in accordance with Paragraph 2.2 of this Appraisal, the weathertightness detailing must be specifically designed and is the responsibility of the designer. Weathertightness details that are developed by the designer are outside the scope of this Appraisal and are the responsibility of the designer for compliance with the NZBC.

15.3 The detailing of junctions between the StoTherm Masonry Insulation System and other wall penetrations, e.g. meter boxes, and other cladding and roofing junctions are the responsibility of the designer for compliance with the NZBC. Details not included within the Technical Literature have not been assessed and are outside the scope of this Appraisal.

Installation Information

Installation Skill Level Requirement

16.1 Installation and finishing of components and accessories supplied by Stoanz Limited and the Sto registered contractor must be completed by trained applicators, approved by Stoanz Limited.

16.2 Installation of the accessories supplied by the building contractor must be carried out in accordance with the StoTherm Masonry Insulation System Technical Literature and this Appraisal by, or under the supervision of, a Licensed Building Practitioner (LBP) with the relevant License Class.

System Installation

StoTherm Masonry Insulation System

17.1 Installation and finishing of components and accessories supplied by Stoanz Limited and the Sto registered contractor must be completed by trained applicators, approved by Stoanz Limited.

17.2 The StoTherm Masonry Insulation System must only be applied when the air and substrate temperature is within the range of 5°C to 30°C.

Inspections

17.3 The Technical Literature must be referred to during the inspection of StoTherm Masonry Insulation System installations.

Health and Safety

18.1 Safe use and handling procedures for the components that make up the StoTherm Masonry Insulation System are provided in the relevant manufacturer's Technical Literature.

Basis of Appraisal

The following is a summary of the technical investigations carried out:

Tests

19.1 The following testing has been completed by BRANZ:

- Tensile bond strength of the StoTherm Masonry Insulation System to concrete masonry.
- Durability testing of the Sto Flexyl waterproofing membrane to the requirements of AS/NZS 4858, Table 8, Parts (a)–(e), except that bleach and detergent immersion set out in Appendix A was not required.
- The StoArmat Miral Render System comprising an EPS substrate, StoLevell Novo, Stoplex W, StoArmat mesh render, Stolit K render and StoColor finishing paint has been tested in accordance with ISO 5660.1 and achieved a Type A classification. Testing was carried out as per NZBC Acceptable Solution C/AS1, Appendix E, Section E.5.1 and NZBC Acceptable Solution C/AS2, Appendix C, Section C7.1.
- The StoMiral Render System, comprising an EPS substrate, StoLevell Novo mineral base coat with Stolit K 1 mm render and StoColor Lotusan painted finish has been tested in accordance with ISO 5660.1 and achieved a Type A classification. Testing was carried out as per NZBC Acceptable Solution C/AS1, Appendix E, Section E.5.1 and NZBC Acceptable Solution C/AS2, Appendix C, Section C7.1.

Other Investigations

20.1 BRANZ expert opinion on NZBC Clause E2 code compliance for the StoTherm Masonry Insulation System was based on a review of the BRANZ Site Visit Report Database to determine the historical weathertightness performance of polystyrene block and solid masonry/concrete exterior wall types, and evaluation of all details within the scope and as stated within this Appraisal. The details contained within the Technical Literature have been reviewed, and an opinion has been given by BRANZ technical experts that the system will meet the performance levels of NZBC Clause E2 External Moisture.

20.2 BRANZ expert opinion on NZBC Clause B1 code compliance for the StoTherm Masonry Cladding System was based on the tensile adhesion strength of the Gluecoat Mortar. Using the data from this testing, the characteristic strength of the glue bond was calculated using the BRANZ EM1 method. By factoring in a strength reduction factor, the maximum resistance of the glue bond was determined. By comparing the resistance of the glue bond with the demand wind pressures using the NZS 3604 stipulated wind speeds and AS/NZS 1170 pressure coefficients, an opinion was given by BRANZ technical experts that determined the suitability of the cladding system for use in the relevant building Wind Zones.

20.3 A durability opinion has been given by BRANZ technical experts.

20.4 Site inspections have been carried out by BRANZ to assess the practicability of installation, and to examine completed installations.

20.5 The Technical Literature for the StoTherm Masonry Insulation System has been examined by BRANZ and found to be satisfactory.

Quality

21.1 The manufacture of LevelLite, Multiscreed and Gluecoat Mortar render has been examined by BRANZ, including methods adopted for quality control. Details regarding the quality and composition of the materials used were obtained by BRANZ and found to be satisfactory.

21.2 The manufacture of the Sto renders and finishes has not been examined by BRANZ, but details regarding the quality and composition of the materials used were obtained by BRANZ and found to be satisfactory. The quality management system of the manufacturer, Sto SE & Co. KGaA, has been assessed and registered as meeting the requirements of ISO 9001.

21.3 The environmental management system of Sto SE & Co. KGaA has been assessed and registered as meeting the requirements of ISO 14001.

21.4 Sto External Wall Insulation Systems are the subject of a current British Board of Agrément [BBA] Certificate No 95/3132. Sto External Wall Insulation Systems, and the manufacture of the systems continues to be checked by the BBA during the validity period of the Certificate. Renders and paints used within the StoTherm Masonry Insulation System and imported by Stoanz Limited are covered by the BBA Certificate.

21.5 Sto External Wall Insulation Systems are the subject of Certifications and Evaluations in countries such as Canada, Austria, Germany, United Kingdom, Sweden, France, Switzerland, Netherlands and Czech Republic.

21.6 The quality of materials, components and accessories supplied by Stoanz Limited are the responsibility of Stoanz Limited.

21.7 Quality on-site is the responsibility of the Sto registered contractor.

21.8 Designers are responsible for the building design, and building contractors are responsible for the quality of construction and installation of the solid substrates, joinery, flashing tapes, air seals and joinery flashings in accordance with the instructions of the building designer.

21.9 Building owners are responsible for the maintenance of the StoTherm Masonry Insulation System in accordance with the instructions of Stoanz Limited.

Sources of Information

- AS 1366.1:1992 Rigid cellular plastics sheets for thermal insulation.
- AS/NZS 1170 Structural design action – General principles.
- AS/NZS 3837:1998 Method of test for heat and smoke release rates for materials and properties using an oxygen consumption calorimeter.
- AS/NZS 4858:2004 Wet area membranes.
- ISO 5660-1:2002 Heat release, smoke production and mass loss rate.
- NZS 3101:2006 Concrete structures standard.
- NZS 4210:2001 Masonry construction: Materials and workmanship.
- NZS 4229:2013 Concrete masonry buildings not requiring specific engineering design.
- NZS 4230:2004 Design of reinforced concrete masonry structures.
- SNZ TS 4211:2022 Specification for the performance of windows.
- Ministry of Business, Innovation and Employment Record of amendments - Acceptable Solutions, Verification Methods and handbooks.
- The Building Regulations 1992.

BRANZ

In the opinion of BRANZ, the StoTherm Masonry Insulation System is fit for purpose and will comply with the Building Code to the extent specified in this Appraisal provided it is used, designed, installed and maintained as set out in this Appraisal.

The Appraisal is issued only to Stoanz Limited, and is valid until further notice, subject to the Conditions of Appraisal.

Conditions of Appraisal

1. This Appraisal:
   a) relates only to the product as described herein;
   b) must be read, considered and used in full together with the Technical Literature;
   c) does not address any Legislation, Regulations, Codes or Standards, not specifically named herein;
   d) is copyright of BRANZ.
2. Stoanz Limited:
   a) continues to have the product reviewed by BRANZ;
   b) shall notify BRANZ of any changes in product specification or quality assurance measures prior to the product being marketed;
   c) abides by the BRANZ Appraisals Services Terms and Conditions;
   d) warrants that the product and the manufacturing process for the product are maintained at or above the standards, levels and quality assessed and found satisfactory by BRANZ pursuant to BRANZ's Appraisal of the product.
3. BRANZ makes no representation or warranty as to:
   a) the nature of individual examples of, batches of, or individual installations of the product, including methods and quality of work;
   b) the presence or absence of any patent or similar rights subsisting in the product or any other product;
   c) any guarantee or warranty offered by Stoanz Limited.
4. Any reference in this Appraisal to any other publication shall be read as a reference to the version of the publication specified in this Appraisal.
5. BRANZ provides no certification, guarantee, indemnity or warranty, to Stoanz Limited or any third party.

For BRANZ

Claire Falck
Chief Executive

Date of Issue:
17 September 2024