Sto Therm Insulation System

Product Technical Statement: 104740

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Exterior insulation and finishing system (EIFS) for timber and steel framed buildings.
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Level of assurance needed to demonstrate NZ Building Code Compliance

HIGH

Supporting documentation should include technical information by manufacturer and either a BRANZ or independent Appraisal or CodeMark

Sto confirms that this minimum level of assurance has been met or exceeded by the following:
BRANZ Appraisal
488 (2006)

masterspec partner

Technical Statement

Product Description

The StoTherm Insulation System is an exterior insulation and finishing system (EIFS) for timber or steel framed construction. It incorporates 40 to 100 mm thick EPS StoTherm Panels or StoTherm+ Panels, which increase R-values by up to a further 20% for better energy efficiency and savings.

The StoTherm Render System consists of a minimum 4 mm thick basecoat of StoLevell Novo mineral render to straighten any irregularities, a nominal 3 mm thick StoArmat Classic meshed reinforcement render (StoTherm Armat System only), selected Stolit K or Stolit MP coloured finishing render and selected StoColor facade paint or clear sealer.

Stolit K finishing renders are available in a flat 1.0, 1.5, 2.0 or 3.0 mm aggregate. Stolit MP, MP Natural and Milano are fine pre-coloured sponge finishes.

The StoColor System comprises of 800 colours for use in architecture — or can be matched to any colour using the Sto Spectrometer to meet any colour design preference.

Stoanz Limited recommends that the selected finish colour for the StoTherm Miral Render System must have a minimum Light Reflectance Value (LRV) of 35%. Where a colour with an LRV of less than 35% but above 25% is selected, two (2) coats of StoColor X-black heat reflective facade paint are required.

The selected finish colour for the StoTherm Armat Render System must have a minimum Light Reflectance Value (LRV) of 25%. Where a colour with an LRV of less than 25% but above 10% is selected, two (2) coats of StoColor X-black heat reflective facade paint are required.

Using modern technology with enhanced and well-engineered materials, this render system provides a solution that is strong, durable, fracture resistant and impact resistant. Check **StoArmat Plaster Ball Drop Test video** on our home page. Finished with StoColor facade paint for ease of maintenance, the system is a modern, contemporary solution, designed to last the distance.

Scope of use

The StoTherm Insulation System has been appraised by BRANZ as an external wall cladding system for buildings within the following scope:

- the scope limitations of NZBC Acceptable Solution E2/AS1, Paragraph 1.1; and,
- with a risk score of 0-20, calculated in accordance with NZBC Acceptable Solution E2/AS1, Table 2; and,
- situated in NZS 3604 Wind Zones up to, and including Extra High.

The StoTherm Insulation System has also been appraised for weathertightness and structural wind loading when used as an exterior wall cladding for buildings within the following scope:

- the scope limitations of NZBC Acceptable Solution E2/AS1, Paragraph 1.1 with regards to building height and floor plan area; and,
- constructed with timber and steel framing subject to specific engineering design; and,
- situated in specific design wind pressures up to a maximum design differential ultimate limit state (ULS) of 2.5 kPa.

The StoTherm Insulation System must only be installed on vertical surfaces (except for tops of parapets, sills and balustrades).

The system is appraised for use with aluminium window and door joinery that is installed with vertical jambs and horizontal heads and sills.

New Zealand Building Code (NZBC)

The product will, if employed in accordance with the supplier's installation and maintenance requirements, assist with meeting the following provisions of the building code:

Company Contact Details

sto

Company:	Sto New Zealand
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- **Clause B1 Structure:** Performance B1.3.1, B1.3.2, B1.3.3, B1.3.3(a), B1.3.3(h), B1.3.3(j), B1.3.3(q), B1.3.4
- **Clause B2 Durability:** Performance B2.3.1(b), B2.3.1(c), B2.3.2
- **Clause C3 Fire affecting areas beyond the fire source:** Performance C3.7
- **Clause E2 External moisture:** Performance E2.3.2
- **Clause F2 Hazardous building materials:** Performance F2.3.1

Notes

The StoTherm Insulation System meets the requirements of Performance B2.3.1(b) 15 years for the render and cavity system, and the requirements of Performance B2.3.1(c) 5 years for the paint finish.

The StoTherm Insulation System will not present a health hazard to people.

Supporting Evidence

The product has and can make available the following additional evidence to support the above statements:

BRANZ Appraisal
488 (2006)

Product Criteria

Design requirements

The system is expected to have a serviceable life of at least 30 years provided it is maintained in accordance with the Sto Specification, Warranty and BRANZ Appraisal.

Studs must be at maximum 600 mm centres for buildings situated in NZS 3604 Wind Zones up to and including Very High, and maximum 400 mm centres for buildings situated in the NZS 3604 Extra High Wind Zone, and in wind pressures up to and including design differential 2.5 kPa ULS.

The StoTherm Insulation render and finishing system has a peak heat release rate less than 100 kW/m2 and a total heat released less than 25 MJ/m2. The system is suitable for use on buildings with a SH Risk Group classification, at any distance to the relevant boundary. Refer to NZBC Acceptable Solutions C/AS2 – C/AS6, Paragraph 5.8.1 for the specific exterior surface finish requirements for other building Risk Groups.

For system components, Click Here and Click Here.

Installation requirements

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.

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

Maintenance requirements

Regular maintenance is essential to ensure the performance requirements of the NZBC are continually met and to ensure the maximum serviceability of the system. Carry out an annual inspection and record this on the Sto Construction Systems Maintenance schedule.

Regular cleaning (at least annually) of the paint coating is required to remove grime, dirt and organic growth and to maximise the life and appearance of the coating. Grime may be removed by brushing with a soft brush, warm water and detergent. The paint system must be recoated at approximately 8-10 yearly intervals in accordance with Stoanz Limited instructions. Clear sealer systems require recoating at 5-7 yearly intervals.

Warrantees

With an increasing emphasis on the implementation of servicing exterior building elements, Sto has launched the StoArmat 20 Year Warranty and StoService Assurance documentation. This system, administered by Sto and carried out by Sto Contractors, ensures all specified StoArmat Rendered Systems are registered, serviced and certified every two and a half years to provide assurance that all building elements pertaining to the rendered facade are performing.

Refer to the StoArmat Warranty Document by clicking here.

Company Product Information

Environmental

Protecting the natural basis for life and improving quality of life are important aims in social policy. Sto actively pursues these aims, always acting in accordance with the company's guiding principle: "Building with conscience."

In order to define and implement its ecological targets, Sto has developed a system of environmental management conforming to international standards. This relates to the entire process chain – from the procurement of the raw product, to production, packaging and logistics.

Quality Assurance

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ISO 9001 (Quality Management)

Date last validated: **07 July 2020**

Date last updated: **07 July 2020**