

A high performance aerated concrete panel system finished with Sto renders.

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Level of assurance needed to demonstrate NZ Building Code Compliance

Supporting documentation should include technical information by manufacturer and either an independent assessment or reference to an industry-based scheme



StoArmour confirms that this minimum level of assurance has been met or exceeded by the following:

BRANZ Appraisal

[772 \(2020\)](#)

Technical Statement

Product Description

The StoArmour Facade Panel System is a cavity-based external wall cladding system using a steel reinforced Autoclaved Aerated Concrete (AAC) panel. AAC is a solid, inert, lightweight concrete material suitable for both residential and commercial buildings.

The system incorporates 50 or 75 mm thick AAC panels, which are fixed over EPS or timber battens to form the cavity. The render system consists of a minimum 5 mm thickness of fibreglass mesh reinforced synthetic resin plasters incorporating StoPoren basecoat render, StoArmat Classic meshed reinforcement render (StoArmat render system only), selected Stolit K, Stolit MP or Stolit Milano 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 1000+ colours for use in architecture — or can be matched to any colour using the Sto Spectrometer to meet any design preference.

Stoanz Limited recommends that the selected finish colour must have a minimum Light Reflectance Value (LRV) of 15% (StoPoren Render System), or 4% (StoArmat Miral Render System). Where a colour with an LRV of less than those noted above, (but above 10% for the StoPoren Render System), two (2) coats of StoColor Dryonic facade paint with X-black heat reflective technology are required.

Using modern technology with enhanced and well-engineered materials, this render cladding system provides a strong, durable and flexible solution for a high performance facade.

Scope of use

The StoArmour Facade Panel 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 StoArmour Facade Panel 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 StoArmour Facade Panel 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:

- 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



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Company Contact Details



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- **Clause F2 Hazardous building materials:** Performance F2.3.1

Notes

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

The StoArmour Facade Panel 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
[772 \(2020\)](#)

Product Criteria

Design requirements

The StoArmour System is expected to have a serviceable life of at least 30 years provided the system is maintained in accordance with the Sto Specification, Warranty and BRANZ Appraisal, and the StoPoren panels, fixings and renders are continuously protected by a weathertight coating and remain dry in service.

Studs must be at maximum 600mm centres for buildings situated in wind pressures up to an including design differential 2.5 kPa ULS. Dwgangs must be fitted flush between the studs as required for the fixing of internal linings.

The Sto render systems have a peak heat release rate less than 100 kW/m² and a total heat released less than 25 MJ/m², achieving a Type A performance. The system is therefore suitable for use within 1 m of the boundary.

For a breakdown of system components, [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 StoArmour Facade Panel 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 StoService Maintenance schedule.

Regular cleaning (at least annually) of the 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 offers the StoArmat 20 Year Warranty and StoService Assurance documentation. StoService Assurance is a guide for maintaining your property. It includes cleaning and checks to ensure the exterior facade and building elements remain functional and in good condition, long-term. It also ensures the property is maintained in accordance with New Zealand building legislation, manufacturers requirements and to the owners satisfaction.

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



ISO 9001 (Quality Management)

StoArmour Facade Panel System

Product Technical Statement: 104723



Date last validated: **30 May 2023**



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