Sto Specification New Zealand

SS300 Stolit Milano Finishing Render on Axon™ Panel Smooth

Stolit Milano Coloured Finishing Render
Over James Hardie™ Axon™ Panel Smooth on timber/steel frame
Sto Details www.sto.co.nz

Sto Registration: To register your project with Stoanz Ltd please email the completed specification to info@sto.co.nz

1. PROJECT DETAILS	
Specifier:	
Project and Address:	
Project Owner:	
Sto Warranty:	**Stolit Finishing Render 10-year Warranty with StoService Assurance**
Stolit Milano Render on Axon™ fibre cement sheet over timber/steel framed construction to provide a decorative finish.	This specification details the application of the **Stolit Milano Finishing Render over Axon™ Panel Smooth** incorporating; **Preparation, Sto Putzgrund primer**, finished in **Stolit Milano coloured finishing render** coated in **StoPur WV 200 transparent** over **9.0 mm thick Axon™ Panel Smooth** on a cavity over timber or steel framed construction complying with the NZBC.
Finishing Render:	**Stolit Milano coloured finishing render.**
Select Facade Coating:	**StoPur WV 200 transparent**
Sto Registration Number: (Sto Use Only)	i.e. 24.04_StoReg tec_sales_SS300_project address
Project Notes:	

2. CONSTRUCTION & DETAILING

2.1 Responsibility

All work in this section shall be the responsibility of the Main Contractor, unless previously agreed in writing. Stoanz Limited accepts no responsibility for defective workmanship in relationship to the application of the Sto system, or for defects in the design, construction, or condition of the building, either as built or in relation to the works or site conditions.

The Main Contractor is to ensure that they are fully conversant with exterior legislation requirements, the project specifications and details, the fibre cement sheet manufacturer's documents, current Sto specification and Sto CAD details (www.sto.co.nz) and any specific installation requirements relating to the Main Contractor's responsibilities before any works commence. The Main Contractor is also responsible for the various sub-contractors to ensure that all items relating to weathertightness, penetrations and dissimilar material junctions affecting the construction system are strictly in accordance with project specific details, manufacturer's instructions and Sto CAD details i.e. items such as roofs, soffits, openings, lights and security fittings, electrical wiring, flashings, deck membranes dissimilar junctions etc. that abut, flash or penetrate the system. The Main Contractor shall also ensure that all exterior licensed work is carried out by LBP registered contractors and the window and door joinery is installed in accordance with the project drawings, manufactures details and Sto CAD details. Building tolerances should be within MBIE Guide to tolerances.

In conjunction with an **Axon™ Panel Smooth installation QA** a **Sto Quality Assurance Document** is to be filled out as a record of the work undertaken by the sheet installer and Sto Contractor. **Note:** All products are to be installed in accordance with their current TDS, MSDS, Specifications & QA documents.

2.2 Timber Frame

Timber framing must comply with NZS 3604 for buildings or parts of a building within the scope limitations of NZS 3604. Buildings or parts of a building outside the scope of NZS 3604 must be to a specific design in accordance with NZS 3603 and AS/NZS 1170. Studs must be at maximum 600 mm centres in Low, Medium, High and Very High Wind Zones and maximum 400 mm centres for Extra High Wind Zones and specifically designed buildings. Dwangs must be fitted flush between the studs at maximum 800 mm centres when the studs are at 600 mm centres and 1200 mm centres when the studs are at 400 mm centres. All framing shall be true in vertical and horizontal planes with attention to intersections between top plate, floor joists and bottom plate in multi-storey construction. Adequate timber framing including blocking shall be provided by the Main Contractor to facilitate cladding fixings for the designated wind zone, membrane upstands, dissimilar materials, and exterior fixtures on the cladding.

The level of timber treatment shall be in accordance with NZBC Acceptable Solution B2/AS1. Generally, this will require a minimum treatment level of H1.2. The moisture content of the timber frame shall be no more than 24% prior to installing the cavity cladding system.

2.3 Steel Frame

Refer to James Hardie documents for steel framing construction requirements.

2.4 Insulation

Thermal resistance requirements of the building envelope shall be determined using the Schedule or Calculation methods of NZBC Acceptable Solution H1/AS1 for all housing and buildings up to 300 m^2 and NZBC Acceptable Solution H1/AS2

for housing and buildings greater than 300 m^2, or the Modelling method in H1/VM1. The minimum construction R-value for walls that do not contain embedded heating elements is R2.0, and for heated walls is R2.9.
Rasped XPS sheets can be used for vertical edge insulation with 30 mm providing the required RV 1.0.

Refer to the StoTherm Masonry Foundation Specification for insulated foundation options.

2.5 Wall Underlay

A flexible wall underlay is suitable for use in NZS 3604 Wind Zones up to, and including, Very High. A rigid wall underlay is required in the Extra High Wind Zone and specific design wind pressures.

Flexible wall underlays complying with NZBC Acceptable Solution E2/AS1, Table 23 shall be installed in accordance with the underlay manufacturer's instructions. The underlay shall be installed horizontally and be continuous around corners. The underlay must be lapped minimum 75 mm at horizontal joints, and minimum 150 mm over studs at vertical joints. Where studs are at greater than 450 mm centres, a wall underlay support must be installed over the underlay at maximum 300 mm centres horizontally (or additional vertical cavity battens can be installed) to prevent bulging of the underlay into the cavity space.

Generic rigid wall underlay materials shall be installed in accordance with E2/AS1 and be overlaid with a flexible wall underlay. Proprietary systems covered by a valid BRANZ Appraisal or CodeMark Certificate shall be installed in accordance with the manufacturer's instructions. Where rigid wall underlays are used, the fibre cement sheet fixing length shall be increased by at least the thickness of the underlay.

Unlined gables or walls shall incorporate a rigid wall underlay or a flexible air barrier which meets the requirements of E2/AS1, Table 23.

Note: Ensure any items requiring fixing to the timber frame or items penetrating the wall underlay such as fixing brackets etc. are installed and flashing taped onto the wall underlay in accordance with E2/AS1.

2.6 Soffits

Are normally fixed before the cladding is installed. The cladding cavity is closed off with cavity battens to provide support for cladding fixings and restrict air flow into the roof space.

2.7 Penetrations and Fittings - refer E2/AS1 Fig 68

Penetrations and fittings such as waste pipes, vents etc. shall slope to the exterior, be adequately supported by blocking and as required be sealed to the underlay with flexible flashing tape in accordance with E2/AS1 Fig 68, or with a proprietary penetration seal covered by a valid BRANZ Appraisal or CodeMark Certificate, prior to cladding installation. Exterior flange plates shall be installed as required around the penetration after the cladding has been installed.

Blocking must be installed for the fixing of taps, door hooks, lights, gas fittings, security alarms etc. Electrical wiring shall only penetrate the cladding and render system in a PVC conduit with a downwards rake of 5 degrees. MS sealant applied over a backing rod shall be used to seal around the conduit where it penetrates the cladding.

2.8 Aluminium Joinery

All joinery shall be detailed fitted in accordance with the Axon™ Panel Smooth technical manual.

Proprietary head flashings are supplied by the main contractor, shall extend minimum 20 mm past both joinery jambs, have stop ends in the cavity, a minimum 15-degree slope, and be fixed prior to the installation of the fibre cement sheet with flexible flashing tape securing the flashing upstand to the wall underlay.
All window and door joinery shall be positioned 5.0 mm off the fibre cement sheet as per Axon™ Panel Smooth installation details.

2.9 Control of External Fire

The specified Sto renders have been tested to EN 13501-1 and have achieved an A2-s1, d0 rating. The Stolit Render System has been tested to ISO 5660.1 and achieved a peak heat release rate of less than 100 kW/m^2 and total heat released of less than 25 MJ/m^2. The system is therefore suitable for use on buildings at any distance to the relevant boundary.

3. AXON™ PANEL SMOOTH INSTALLATION

3.1 Responsibility

Unless expressly agreed otherwise, work in this section shall be the responsibility of the **Main Contractor**.

3.2 Soaker Strips, Flashings, Tapes, Control and Interstorey Joints.

Soaker strips, flashings, tapes and control and interstorey joints shall be set out as per the James Hardie Technical Specification, and where applicable the StoArmat details, and shall be correctly installed at the time of sheet fixing.

3.3 Cavity Battens

James Hardie CLD 70 x 19 mm structural cavity battens are placed in accordance with the batten layout as set out in the fibre cement sheet manufacturer's documents. A horizontal **vermin tray** shall be installed at the bottom of the cavity (minimum opening/ventilation area of 1000 mm² per lineal metre).

Cavity battens shall be installed over the wall underlay to the wall frame at maximum 600 mm centres where studs are at 600 mm centres (300 mm centres when the cavity batten is being used to support a flexible wall underlay), or at 400 mm centres, where the studs are at 400 mm centres. The timber studs shall receive cavity battens to the full length of the stud. Joints must be cut at 20 – 45˚ so they deflect water and be tight butted with and adhesive sealant on the joint with a gap occurring at interstorey floor junctions in accordance with the Axon™ Panel Smooth Technical Specification.

The cladding cavity is closed off at the top of the wall with a horizontal batten or a soffit plate on dwangs. Where studs are at 600 mm centres on building wrap, an intermediate strap is required to restrain the wrap. Additional battens or packers may also be required at openings and detailing for fixings as per the Axon™ Panel Smooth batten layout.

Note: Framing set out and fixing must comply with the Axon™ Panel Smooth manufacturer's details, technical data, QA and specifications.

3.4 Axon™ Panel Smooth

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The Axon™ Panel Smooth 9.0 mm cladding shall be installed in accordance with the details and instructions contained in the James Hardie Technical Specification using their QA schedule. Before starting, check framing is true and straight in both horizontal and vertical planes and take care to ensure that the lapped sheet joints are evenly adhesive sealant jointed and nailing patterns are maintained. Where sheets are to be continued over interstorey junctions, care shall be taken that the horizontal and vertical planes are maintained.

Note: sheet edges must not be damaged during installation and where sheet fixing and layout is doubtful, a James Hardie Representative should be contacted for a site inspection and approval before any render work is undertaken.

3.5 Inter-Storey Joints

All interstorey joints as designated by James Hardie technical data must be followed. Refer to the James Hardie Axon™ Panel Smooth CAD details for specific control joint design details. Continuous cavity heights are limited to the lesser of 2-storeys or 7 m in height before an inter-storey drained flashing joint is required.

3.6 Fixings

Ensure that all fixings as specified by the fibre cement sheet manufacturer have the appropriate corrosion resistance, are correctly sized and securely fastened without over driving the fixings into the sheet.

3.6 Back Priming

Back-priming of sheets must be carried out in accordance with the sheet manufacturer's requirements. The Main Contractor shall be responsible for back priming of sheets with an acrylic primer prior to their installation.

3.7 Sealant Beads

All sealant associated with the system shall be a compatible **MS Sealant** applied in accordance with the manufacturer's Technical Data Sheet. A primer is required on **StoFlexyl surfaces** and as required on PVC, porous substrates, and dissimilar materials.

3.8 Surface Cleaning

The Contractor shall ensure that all contaminants and dust are removed from the sheet surfaces before rendering.

4. STOLIT FINISHING RENDER SYSTEM

4.1 Responsibility

All work in this section shall be the responsibility of the **Sto Contractor** who must assure themselves that the surfaces to be rendered are dry, free of contamination and satisfactory before work commences. Adequate protection of all adjacent surfaces shall be undertaken prior to commencing. **Note:** All products are to be installed in accordance with their current TDS, MSDS, Specifications & QA documents.

Note: Ensure the surfaces of all fibre cement sheets have been cleaned before commencing.

4.2 Selection

Rendering shall be carried out in stages over correctly installed and detailed sheets incorporating: **Sto Putzgrund primer,** finished in two or three coats of **Stolit Milano** coloured finishing render, coated with **StoPur WV 200 transparent**.

4.3 Materials

Stoanz Ltd supplies all the following materials

Sto Putzgrund primer	**Stolit Milano coloured finishing render**
StoPur WV 200 transparent	

4.4 Sheet Priming

Apply one full coat of **Sto Putzgrund primer** by brush or roller at the approximate spreading rate of 7/8 m² per litre to the total surface area to be rendered. Once dry lightly pole sand to flatten down the quartz aggregate.

4.5 Sealant Installation

All junctions or detailing between the render mesh coat and dissimilar materials shall be sealed with compatible exterior MS Sealant in accordance with the manufacturer's Technical Data Sheets. A primer is required on **StoFlexyl surfaces** and as required on PVC, porous substrates, dissimilar materials and some coatings.

4.6 Stolit Smooth Finish Render

- **Stolit Milano coloured finishing render**

Stolit Milano is a smooth pre-coloured finish applied in two (2) or three (3) coats. A basecoat of **Stolit Milano** tinted to the selected colour is applied and allowed to dry before the finishing coats of **Stolit Milano** are applied and steel troweled, floated or lightly randomly sponged to the selected pattern. The spreading rate of the **Stolit Milano per coat** is approximately 16-18 m^2 per pail.

Note: At the V joint in the sheets remove excess material using a small tool to leave a neat V and sand back any ridges or imperfections to achieve the selected finish.

- **StoPur WV200 Transparent Clear Sealer (clear coating)**

To clean, dry, **Stolit Milano** surfaces, apply **StoPur WV 200 transparent** clear sealer carefully mixed by adding component B with A and drill mix together. Re pot into a clean container and thin sparingly (maximum 10%) with clean fresh water before applying one or two coats by brush and Sto Micro roller at approximately 8-10 m^2 per litre.

Note: Always maintain wet edges, especially between cutting in, and roll in tight to ensure there are no shadow lines and an even film. Refer **Section 6. StoService** for recoating requirements.

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5. GENERAL NOTES

5.1 Colour

As selected by the client or specifier in accordance with the sheet manufacturers recommendations.

6. STOSERVICE ASSURANCE

Note All Joints must remain clean to ensure the sheet joints remain free for thermal and structural movement

6.1 StoService - Refer to StoService Documents for comprehensive guide.

It is the owner's responsibility to clean the Sto System annually by low pressure washing or hosing down to remove surface contaminants with special attention to sheltered areas, as required, use a proprietary house wash sprayed on first with a low-pressure garden spray in accordance with the manufactures instructions. The owner is also responsible for organising the maintenance in accordance with the 3-yearly StoService Schedule available at online www.sto.co.nz.

After cleaning a visual inspection is to be undertaken by the person undertaking the annual maintenance to check for any physical damage or faults in the exterior building elements, to ensure any damage or defects are identified and repaired.

To assist the property owner in establishing a regular maintenance cycle, the property owners email address can be registered with service@sto.co.nz. Stoanz Limited will then provide 2½ yearly reminder notices that the property is due for the 3-yearly StoService.

Depending on the prevailing environmental conditions and the service record, recoating of the finish is normally required at the 8-year period where StoPur WV 200 transparent or S-Protect Silane was applied to maintain long-term integrity. This is carried out using a **StoColor Coating System** applied in accordance with a Sto specification. Where a colour change is required, Stoanz Limited should be consulted.

7. WARRANTY

7.1 Stolit Render 10-year Warranty with StoService Assurance

When the **Stolit Render System** is applied in accordance with the Sto specification, Sto details and Sto PS3 Quality Assurance schedule a warranty is available for the Sto System for ten (10) years from the date of practical completion, provided maintenance requirements as set out in the StoService Schedule are followed.

This is to comply with the relevant clauses in the New Zealand Building Code for this type of building element.

The Sto Warranty is supplied by Stoanz Limited to the Sto Contractor who signs off the work on completion of the project. Stoanz Limited confirms the materials supplied have been appraised and are fit for purpose provided that:

a) All specified work is carried out by a registered Sto Contractor who must complete the Sto QA Schedule and sign off the Sto Warranty Request and the five-year PS3 Workmanship Warranty.

b) All work is carried out in accordance with this Specification, or any written amendments issued by Stoanz Limited.

c) The warranty does not cover situations where the render system is subjected to damage, physical disturbance, chemical contamination, structural stress, substrate cracking, or interference.

8. DISCLAIMER

8.1 Disclaimer

The information contained in this specification is based on our findings, experience, testing and certification at the revision date. End users are still responsible for establishing the suitability of the specified products regarding their intended use. No liability is undertaken for use of this information outside of Stoanz Limited parameters or for the substrates, design, construction, and project site conditions that are outside of Stoanz Limited's control. Where a Sto registered contractor applies Stoanz purchased products in accordance with the Sto Specifications, Material Technical Data Sheets and Sto Details, a Sto Material Warranty document is available, but the installation of the materials remains the responsibility of the Sto Contractor who provides the PS3 Warranty. Any warranty is conditional on the system being maintained and serviced in accordance with the StoService documentation. Stoanz reserves the right to alter or update information and formulations at any time without prior notice.