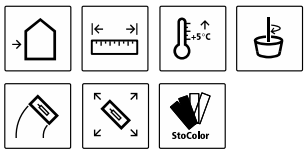
Sto Specification New Zealand

SS306R StoArmat System over Existing Fibre Cement Sheet

StoArmat Render Refurbishment System
over existing textured or rendered fibre cement sheet
Based on BRANZ Appraisal No.468R & 488R
CAD 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:	**StoArmat Render System 10-year Warranty with StoService Assurance**
StoArmat Render System over existing coated, textured or rendered fibre cement sheet construction	This specification details the application of the **StoArmat Render System to** refurbish existing exterior coated, textured or rendered fibre cement sheet walls incorporating; **Preparation, Sto crack filler** repairs, **StoLevell Novo** basecoat as required, **Stoplex W** consolidating sealer as required, **StoArmat Classic meshed** reinforcement render, selected **Stolit coloured finishing render** coated in **StoColor facade paint** over the existing fibre cement sheet construction. **StoArmat Classic Render** with its adhesive strength, flexibility and high impact resistance has up to 10 times more resistance than cement based mineral renders and combined with the **Stolit K coloured finishing render** is the recommended system for upgrading and refurbishing existing textured exteriors. **Note:** this specification covers common problems associated with exterior rendered cladding any specific details or defects encountered should be addressed by the Sto Contactor or referred to the Sto Technical Department.
Select Finishing Render:	Select
Select Facade Coating:	Select
Sto Registration Number: (Sto Use Only)	i.e. 24.04_StoReg tec_sales_SS306R_project address
Project Notes:	

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2. CONSTRUCTION & DETAILING

2.1 Responsibility

The Sto refurbishment specification addresses the exterior condition of the existing surfaces only and specifically excludes all other building elements. It is the responsibility of the owner or their agent to ensure that all the existing building elements are weathertight, sound, load bearing and free from any defects or contamination. Where there is a possibility of water ingress or structural defects, an appropriate building professional is required to verify the building, elements are still sound before commencing.

2.2 Workmanship and Building Elements

Stoanz Ltd 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 remedial works.

2.3 Roofs Fascia's and Decks

All existing roofs, fascia's, and deck membranes adjoining or discharging over the existing wall surfaces should be evaluated to ensure they are still sound and appropriately detailed with proper clearances, flashings, etc. Gutters, rainwater heads, scuppers, overflows are correctly detailed with flashings, drip edges diverters and up stands. Any items overlaying or adjacent to the walls must be secure, watertight and have the appropriate seals, cover, and drip edges.

2.4 Existing Joinery

All joinery must be watertight. All mitres, drain holes, vents etc. shall be checked to ensure they are working.
Where the joinery is leaking a suitably qualified person shall be engaged to evaluate the joinery to survey / undertake refurbishment work to ensure the window and door joinery mitres, mullions and drainage vents are sound, working and the refurbished joinery is watertight.

2.5 Dissimilar material junctions, Flashings and Penetrations

Ensure that all building flashings, dissimilar material joints and penetrations are checked they are sound and watertight.

2.6 Existing Building Condition

Where there is evidence of failure or water ingress the structure must be investigated by Building Surveyor to ensure the substrate is satisfactory before proceeding. Areas identified as suspect must be remediated before proceeding to ensure the substrate is sound, load bearing, and watertight.

2.7 Compliance

Where the remedial works are required for the repair or replacement (other than maintenance or external refurbishment) of any component or assembly that has failed to satisfy the provisions of the building code for durability, it is the owner's responsibility to ensure that a building consent is obtained from the territorial authority.

2.8 Control of External Fire

The specified Sto renders have been tested to EN 13501-1 and have achieved an A2-s1, d0 rating.

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The StoArmat 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. SURFACE PREPARTION

3.1 Responsibility

All work in these sections shall be the responsibility of the **Sto Contractor**, who shall ensure that they have a Health and Safety policy in place, any legislation requirements have been meet and the surfaces are acceptable before commencing. The Sto Contractor is to allow for adequate protection of all dissimilar materials and adjacent surfaces.

3.2 Face Fixed Aluminium joinery

All joinery shall be checked that it is sound and all mitres, drain holes, vents etc. are working and clear and the joinery has been installed correctly with head flashings and weathertight junctions at the existing cladding. Sealant jointed joinery jambs and sills (excluding flashed free draining sill trays or joinery with flange drainage holes) must have a new sealant bead applied to the perimeter at the render to joinery transition. Sealant joints can be formed using **Sto 3 mm finishing edges** set 3 mm off the joinery flange in the **StoArmat Classic render** coat before installing new MS Sealant seals around the jambs and sills.

3.3 Fixtures and Fittings

All fittings and fixtures on the cladding such as downpipes, rainwater heads, gas appliances, handrails, taps etc. shall be checked to ensure they are secure. All fittings that can be removed shall be taken off and refitted securely after the system is finished ensuring all connections are watertight.

Note: Penetrations such as pipes, wiring, security fittings and lights must be appropriately detailed or sealed.

3.4 Existing Cladding

All existing cladding shall be checked to ensure it is still securely fastened. Any compressed sheet joins at interstorey floor joints or straight vertical fractures in line with joinery openings are to be detailed to incorporate a Sto control joint. as required sheet joints are to be stripped out and rejointed in **StoArmat meshed jointing** or stable static minor cracks less than 1.0 mm reinforced with **StoGold Filler** reinforced with jointing mesh. Corroded fixings, corner profiles or cladding components shall be removed and replaced as required. Where fascia boards or other items overlay the cladding, ensure the sheets have been jointed and waterproofed behind. Any badly cracked, damaged, or delaminating sheet must be removed and replaced, repairs need to extend to sound framing as required liaise with Building Surveyor to sign off any remedial work requiring a Council Consent.

3.5 Chemical Treatment

All surfaces to be coated should be treated with a chemical solution to remove any fungal activity and any contaminants, including any existing oxidized powdery paint film. The properties for the removal of contaminants can vary depending on the various contaminants that may be present.

- Multipurpose cleaner for buildings
- Ready to use once diluted

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- Safe on painted surfaces
- Removes dirt, mould, algae, lichen, oils and general atmospheric contaminants (such as exhaust fumes).
- pH neutral
- Biodegradable
- Compatible with water pressure cleaners
- Plant & Pet friendly

Note: Any areas with oil or grease type contaminants on the surface will require a water based solvent cleaner. Ensure the stipulated reaction times are observed before washing off all residue during the cleaning process but generally try to remove the cleaner before it dries unless directed otherwise by chemical instructions.

3.6 Cleaning

All surfaces to be refurbished shall be water blasted with a commercial 3000 psi water blaster with sufficient pressure and volume to remove all residual contaminants including loose, friable material (without damaging the substrate), supplemented by hand or mechanical removal of any corrosion, loose or friable material to establish a sound, clean, load bearing surface.

Note: When cleaning with the water blaster, due care must be taken to avoid any damage to the building elements, dissimilar materials, or adjacent surfaces from excessive pressure or water ingress. Generally, the pressure is controlled by the distance (150-200 mm from the surface), the fan (20 – 40 degrees), and the pressure gauge.

3.7 Control Joints

Control joints as designated by the fibre cement sheet manufacturer should have been followed. Refer to the StoArmat render CAD details for specific control joint design details. New vertical control joints are to be installed over the existing control joints in the StoArmat mesh coat using the Sto uPVC Control Joints or 2 x Sto 3.0 mm finishing edges (one either side) ensuring the mesh does not overlay the control joint. Sto horizontal uPVC Control Joints are normally required at any interstorey transitions chimneys etc.

Note: where there is no compression or structural stress cracks on existing sheets at the interstorey joints or vertical control joints, the cutting of the sheets to form new control joints is not required unless specified by the project manager.

Note: Where straight cracks have occurred due to structural stress, dissimilar material junctions or at narrow widths the cracks can be detailed as a control joint to alleviate any future stress.

3.8 Sealant Beads

All new sealant beads associated with the cladding system and control joints shall be compatible with **MS Sealant**. The sealant beads around the joinery, fittings, and penetrations shall be checked and reinstalled as required in accordance with the manufacturer's Technical Data Sheet prior to commencement. **Note:** Some manufacturers require primers for dissimilar materials.

3.9 Balustrade & Parapet Caps

Balustrade and parapet caps should have a metal cap with a minimum fall of 5 degrees with a minimum 50mm cover excluding drip edges at the wall interface for wind zones up to high.
On **existing rendered** balustrades, the cap can be waterproofed by applying **StoFlexyl meshed waterproofing** by trowel at 1.5mm thick extending the **StoFlexyl Mesh** 75 mm up and down any adjacent vertical surfaces. Allow the

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finished StoFlexyl surface to cure for a minimum of 24 hours before application of subsequent **StoArmat meshed** reinforcement coat. **Note: StoFlexyl meshed waterproofing** has been evaluated by BRANZ to meet the **AS/NZS 4858** waterproof membrane requirements as required by E2/AS1 for membranes used with render systems.

3.10 Dissimilar Materials

All dissimilar materials attached or adjacent to the wall surfaces to be rendered such as bricks, stonework, weatherboards, flashings, joinery, staircases, decks, must be sound and secure.
All surfaces to be refurbished shall be water blasted with a commercial 3000 psi water blaster with sufficient pressure and volume to remove all residual contaminants including loose, friable material (without damaging the substrate), supplemented by hand or mechanical removal of any corrosion, loose, or friable material to establish a sound, clean, load bearing surface.

Note: When cleaning with the water blaster, due care must be taken to avoid any damage to the building elements, dissimilar materials, or adjacent surfaces from excessive pressure or water ingress. Generally, the pressure is controlled by the distance (150-200 mm from the surface), the fan (20 – 40 degrees), and the pressure gauge.

3.11 Architectural Profiles

Any existing profiles formed to create detailing shall be checked they are secure if necessary, repair or re secure as required.

4. STOARMAT 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: Ensure all surfaces have been recently cleaned before commencing.**

4.2 Selection

Rendering shall be carried out in stages over correctly prepared existing rendered surfaces incorporating, **Preparation, Repairs, StoArmat Classic** meshed jointing as required, **StoArmat Classic** mesh reinforced render finished with the **selected Stolit** coloured finishing render, coated with selected **StoColor façade paint**.

4.3 Materials

Stoanz Ltd supplies all the following materials:

StoGold Filler, jointing mesh, Stoplex W sealer or Sto Putzgrund primer	**StoArmat Classic reinforcement render**
Selected Stolit coloured finishing renders	**Sto uPVC pre meshed corner angles, finishing edges and drip edges.**
StoColor facade paint	**StoFlexyl waterproofing as required**

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4.4 Sheet Priming

Any new sheets, bare areas, or stripped out joints must be primed by applying one full coat of **Sto Putzgrund** by brush or roller at the approximate spreading rate of 7-8 m² per litre.

4.5 Sealer

Where the existing surface is powdery, porous or friable, apply a full coat of **Stoplex W** consolidating sealer by brush or roller at the approximate spreading rate of 10 m² per litre.

4.6 Joints & Cracks

Any failed joints in the fibre cement sheets shall be stripped out and reinstalled by applying **StoArmat jointing** to the primed joint reinforced with **Sto jointing mesh**. Once dry, ensure the repaired joint is flush with the surrounding surface and any other imperfections are flushed out.

Use **StoGold filler** with joint tape to reinforce any existing stable cracks before applying the **StoArmat meshed reinforcing render**.

4.7 Surface Levelling

Where necessary, the existing surface can be levelled by applying a coat of **Multiscreed** or **StoLevell Novo** basecoat render. To clean, dry surfaces apply a straightening coat of **Multiscreed or StoLevell Novo** (depending on thickness) by hawk and trowel or pump at an approximate thickness of 3-6 mm and float or screed the surface to achieve an even, level surface free of hollows and deviations. Allow to set and remove any ridging or bumps in the surface with a Sto straight edge or Sto Rasp.

Once dry, apply a coat of **Stoplex W consolidating sealer** using a backpack sprayer and block brush or roller to consolidate the existing finish.

4.8 Detailing

Sto pre-meshed corner angles shall be installed on all external corners. All internal corners will be checked, and double mesh reinforced in **StoArmat Classic render** or detailed with a MS Sealant joint installed on **Sto 3 mm finishing edges** where a control joint is required. Sto Armat joinery flashings and finishing edges are to be installed as required or as previously detailed.

Note: Sto uPVC pre-meshed corners, **Sto uPVC pre-meshed 3 mm finishing edges**, **StoArmat joinery flashings** and **StoArmat Clip On trays** are available for the StoArmat Render System.

4.9 StoArmat Classic reinforcing render
StoArmat Classic HD with hardener for accelerated drying in cold damp weather is also available.

To clean, dry, prepared surfaces, apply an even coat of selected **StoArmat Classic** render by hawk and trowel at approximately 2.0 mm thick. While the **StoArmat** is still wet, lightly apply **Sto reinforcing mesh** ensuring adjacent drops of mesh are overlapped by a minimum of 75 mm. Float the surface to ensure the mesh has been embedded in and allow to dry. Once dry, apply a further coat of **StoArmat Classic** at approximately 1.5 mm thick (minimum overall DFT 2.5 mm) by hawk and trowel to cover the mesh and leave an even surface free of voids or deviations.

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Once dry remove any slight ridging etc. of the **StoArmat Classic** with a Sto rasp ready for subsequent top coating. All application procedures for the **StoArmat Classic** must be in accordance with the Sto Technical Data Sheets.

4.10 Sealant Installation

All junctions between joinery and render and around penetrations, flashings and similar details shall be sealed with a compatible **MS Sealant** in accordance with the manufacturer's Technical Data Sheets.
Note: Some manufacturers require primers on PVC or Porous materials.
Note: Where sealant is being applied directly over StoFlexyl waterproofing, the StoFlexyl must be primed to promote adhesion in accordance with the sealant manufacturer's instructions. The joinery sills must remain unsealed and open to permit ventilation of the window trim cavity.

4.11 Stolit Float Finish Renders

- **Stolit K texture is available in a flat 1.0, 1.5, 2.0, 3.0 mm aggregate as selected.**

- **Stolit K coloured finishing render as selected**

Apply the selected **Stolit K** coloured finishing render to prepared rendered surfaces with a stainless-steel trowel, gauging to the thickness of the aggregate size. Finish with a plastic float to the requisite pattern and allow to dry (normally overnight). The spreading rate shall be approximately 12 m^2 per pail (1.0 mm), 9 m^2 per pail (1.5 mm).

- **StoColor Façade Paint**

All **Stolit K** surfaces require a minimum two (2) coats of **StoColor Dryonic or Maxicryl façade paint** tinted to the selected colour and applied by brush and roller at approximately 7-8 m^2 per litre per coat. **Note:** Always maintain wet edges between cutting in and roll in tight to ensure an even film build is maintained. Refer to **Section 6 StoService** for maintenance and recoating requirements.

4.12 Selected Stolit MP Finished Renders (refer to front page for selected finish)
Stolit MP fine coloured finish or MP Natural salt & pepper sand finish

- **Selected Stolit MP or MP Natural coloured finishing render**

Stolit MP fine, MP Natural are coloured finishing renders applied in two (2) coats. A basecoat of **Stolit K 1.0 mm** tinted to the selected colour, is applied, and allowed to dry. The finishing coat of **Stolit MP or MP Natural,** is then applied, float finished and randomly lightly sponged. Alternatively, the finish can be float finished, sponged, or smooth finished with a S/S Marmorino trowel to the selected pattern. The spreading rate of the **Stolit MP** or **MP Natural** is approximately 12-14 m^2 per pail.

- **StoColor Façade Paint**

Stolit MP surfaces require two (2) coats of **StoColor Dryonic façade paint** or **StoColor Maxicryl façade paint** tinted to the selected colour and applied by brush and roller at approximately 6-7 m^2 per litre per coat. **Note:** Always maintain wet edges between cutting in and roll in tight to ensure an even film build is maintained. Refer **Section 6** for maintenance and recoating.

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5. GENERAL NOTES

As selected by the client or specifier, Stoanz Limited recommends that the selected colour has a minimum Light Reflectance Value (LRV) of 35% or 25% when finished with two coats of **StoColor Dryonic with X-Black technology additive** to avoid thermal stress.

StoColor Dryonic with **Sun blocker** and **fast dry film biomimetics**.is available in the StoColor range, other colours are available depending on the formulation.

6. STOSERVICE ASSURANCE

6.1 StoService - Refer to StoService Document for a 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 manufacturer's instructions. The owner is also responsible for organising the maintenance in accordance with the 3-yearly StoService Schedule available online at www.sto.co.nz.

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 paint finish is normally required at the 10 -years where two coats of paint were 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 StoArmat Render System 10-year Warranty with StoService Assurance

When the **StoArmat Render System** is applied in accordance with the Sto specification, Sto details and Sto 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 Quality Assurance Schedule, submit the Sto Warranty Request, and sign off 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 movement, cyclic cracking, or interference.

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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.

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