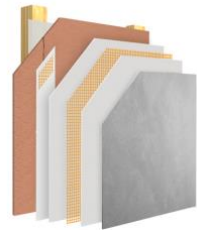
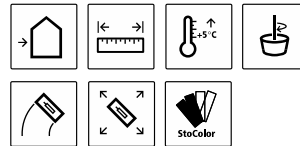


## Sto Specification New Zealand

# SS306R StoArmat System over Existing Fibre Cement Sheet

**StoArmat Render Refurbishment System**  
 over existing textured / rendered fibre cement sheet  
 Based on BRANZ Appraisal No. 468  
 CAD Details [www.sto.co.nz](http://www.sto.co.nz)



**Sto Registration:** To register your project with Stoanz Ltd please email the completed specification to [info@sto.co.nz](mailto:info@sto.co.nz)

### 1. PROJECT DETAILS

**Specifier:**

**Project and Address:**

**Project Owner:**

**Sto Warranty:** **StoArmat Refurbishment 15-year Warranty with StoService Assurance**

**StoArmat Render System over existing textured / rendered fibre cement sheet construction**

This specification details the application of the **StoArmat Render System** to refurbish existing exterior textured / rendered fibre cement sheet walls incorporating; **Preparation**, **Stoplex W** consolidating sealer as required, Repairs, **StoArmat Classic meshed** reinforcement render, **selected Stolit K** coloured finishing render coated in **StoColor Maxicryl** 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. With over 100 million metres sold worldwide the **StoArmat Classic render** combined with the **Stolit K coloured finishing render** is the recommended system for upgrading and refurbishing existing textured exteriors.

**Select Finishing Render:**

**Select Facade Coating:**

**Sto Registration Number:**  
**(Sto Use Only)**

i.e. 20.01\_StoReg tec\_sales\_SS306R\_project address

**Project Notes:**

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## 2. CONSTRUCTION & DETAILING

### 2.1 Responsibility

The Sto remedial specification addresses the exterior condition of the existing rendered surfaces only. It does not address other building elements. It is the responsibility of the building owners to ensure that all the existing building elements are sound, load bearing free from any defects, water damage or contamination and are weathertight. Where there is a possibility of water ingress or failure an appropriate building professional must be engaged to verify the building's, elements are in sound condition for the Sto system to be applied.

### 2.2 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 Dissimilar material junctions, Flashings and Penetrations

All building flashings, dissimilar material joins and penetrations such as pipes and service fittings shall be checked to verify they are sound and watertight.

### 2.4 Existing Aluminium Joinery

The joinery must be watertight and all mitres, drain holes, vents etc. are to be sound and clear. Any existing joinery that is suspect will require a joinery specialist to evaluate the joinery to ensure the window and door joinery mitres, stanchions and drainage vents are still sound, working, and watertight. The existing joinery head, jamb and sill junctions with the existing cladding shall be inspected by the specifier to confirm they are weathertight. Any new joinery must be dimensioned appropriately and flashed accordingly to ensure it is weathertight.

**Note:** The StoArmat Refurbishment System does not include the installation of new joinery flashings. Where these are required, they shall be detailed by the specifier and installed by the Sto LBP Contractor prior to the application of the remedial system.

### 2.5 Roofs, Fascia's, and Decks

All existing roofs, fascia's and deck membranes affecting the existing wall surfaces must be evaluated to ensure they are still sound and appropriately detailed with proper clearances, flashings, etc. Gutters, rainwater heads, scuppers, overflows, flashings, pergolas etc. are correctly detailed with flashings, drip edges diverters and up stands. Existing surfaces must continue behind any overlaying items to a watertight junction.

### 2.6 Penetrations

Penetrations such as waste pipes and fixing brackets shall be adequately flashed prior to the panel installation. All piping and electrical wiring penetrations must be weatherproofed as per Sto standard and/or project specific details. All wiring should be sleeved in PVC conduit and the terminations sealed using MS Sealant.

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#### 2.7 Control of External Fire

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

#### 2.8 Existing Building Condition

Where exterior wall assemblies have watertight issues, they must be investigated by Building Surveyor to ensure they are remediated, and the substrate is satisfactory before proceeding. Where there is evidence of moisture ingress (blistering, staining, etc) the source of ingress must be identified and the walls remediated before proceeding to ensure the substrate is dry, sound, and load bearing.

**Note:** a building surveyor is recommended to undertake a survey to ensure the walls are sound before proceeding if there are any concerns that the building has watertight issues.

## 3. SURFACE PREPARTION

#### 3.1 Responsibility

All work in the following sections shall be the responsibility of the **Sto Contractor** who shall ensure that the surfaces are acceptable before commencing and that adequate protection of all dissimilar materials and adjacent surfaces has been undertaken.

#### 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, pipes, wiring and lights must be appropriately sealed.

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#### 3.4 Existing Cladding

All existing cladding shall be checked to ensure it is still securely fastened. Any compressed sheet joints at interstorey floor joints or straight vertical fractures in line with joinery openings are to be detailed to incorporate a Sto control joint. Stable cracks can be mesh jointed using **StoGuard filler**, or as required sheet joints are to be stripped out and rejointed in **StoArmat meshed jointing** or stable cracks reinforced with **StoGuard 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 seriously damaged or delaminating sheet must be removed and replaced, repairs need to extend to sound framing (liaise with Building Surveyor).

#### 3.5 Chemical Cleaning

All surfaces to be refurbished shall be treated with a chemical solution to remove all moss, mold and any contaminants, ensuring the stipulated reaction times are observed before washing off all residues during the cleaning process.

#### 3.6 Cleaning

All surfaces to be refurbished shall be thoroughly water blasted using a 3000 psi machine to remove all loose material, contaminants and debris, supplemented by mechanical or hand scraping to remove defective or friable material, texture, etc. to establish a clean sound load bearing substrate. Fractures or failed joints are to be stripped out as necessary and coatings that are adhesion impairing will require removal.

**Note:** When using a water blaster, due care must be taken to avoid water ingress and the building elements, dissimilar material or adjacent surfaces must not be damaged by excessive water pressure.

#### 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 detailed horizontal uPVC Control Joints are 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 or at narrow widths the cracks can be detailed as a control joints to alleviate any future stress.

#### 3.8 Sealant Beads

All new sealant beads associated with the cladding system and control joints shall be a compatible **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.

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#### 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 1.5 mm thick extending the **StoFlexyl Mesh** 75 mm up and down any adjacent vertical surfaces. Allow the 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 Architectural Profiles

Any existing polystyrene shapes used to create detailing shall be checked. Where the existing base mesh coat is not continuous under the profile, the profile shall be meshed onto the main walls.

New Architectural shapes used to create decorative detailing shall be correctly cut to size and fitted using **StoFlexyl adhesive** notch towelled to the back of the shape prior to placing. As required, construction fixings are used to mechanically fix large or heavy shapes, but care is required to avoid distortion. Joints are butted together using **StoFlexyl**, with any control joints mirrored through the profile. Profiles shall be pre-meshed or receive a **StoArmat** mesh coat and are placed over the **StoArmat render** mesh coat with the perimeter edges meshed to the wall unless a gap is required along the bottom edge (5 mm gap) as the profile covers a control or interstorey joint.

## 4. STOARMAT REFURBISHMENT 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 K 1.0 or 1.5 mm** coloured finishing render, coated with **StoColor Maxicryl** façade paint.

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#### 4.3 Materials

Stoanz Ltd supplies all the following materials:

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

#### 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 m<sup>2</sup> 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 m<sup>2</sup> 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 **StoGuard 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 **StoLevel Nov** basecoat render. To clean, dry surfaces apply a straightening coat of **Multiscreed** or **StoLevel Nov** (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.

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#### 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

**Note: StoArmat Classic S1 (fire retardant) for Multi Units and Commercial Projects or StoArmat Classic HD with hardener for accelerated drying in cold damp weather** are 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. 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 (refer to header for selected finish)

**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<sup>2</sup> per pail (1.0 mm), 9 m<sup>2</sup> per pail (1.5 mm).

- **StoColor Façade Paint**

All **Stolit K** surfaces require a minimum two (2) coats of **StoColor Maxicryl** façade paint tinted to the selected colour and applied by brush and roller at approximately 6-7 m<sup>2</sup> 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 Assurance** for maintenance and recoating requirements.

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#### 4.12 Stolit Sponge Finish Renders (refer to header for selected finish)

- **Stolit MP/MP Natural coloured finishing render**

**Stolit MP** and **MP Natural** are fine, pre-coloured sponge finishes applied in two (2) tight coats. A basecoat of **Stolit MP** or **MP Natural**, or alternatively depending on the finish **Stolit K 1** or **1.5 mm** tinted to the selected colour is applied and allowed to dry before the finishing coat of **Stolit MP** or **MP Natural** is applied and float finished or randomly lightly sponged to the selected pattern. The spreading rate of the **Stolit MP** is approximately 12-14 m<sup>2</sup> per pail.

- **StoColor façade paint (paint finish)**

**Stolit MP** surfaces require one (1) or two (2) coats of **StoColor** façade paint tinted to the selected colour and applied by brush and roller at approximately 6-7 m<sup>2</sup> 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 StoService Assurance** for maintenance and recoating requirements.

- **S-Protect SC Stay Clean Invisible Hydrophobic Sealer (clear sealer)**

To **Stolit MP** or **MP Natural**, apply an even coat of **S-Protect SC stay clean** hydrophobic sealer (clear invisible Silane sealer) in a flood coat using a low-pressure sprayer and Sto block brush to work the product into the Stolit render, avoiding runs and brushing in any lingering drips etc. so they don't show up. Surfaces must be well coated, and it is recommended to work in a pattern preferably out of the sun to ensure that there are no misses as the sealer is invisible once dry.

**Note:** All joinery and glazing must be masked off to prevent the **S-Protect SC Stay Clean** contaminating the joinery or glazing. Any excess product must be removed after 15 minutes to avoid a surface film forming that can be difficult to remove. **Note:** S-Protect SC requires recoating every five to seven years depending on the environment.

## 5. GENERAL NOTES

### 5.1 Colour

As selected by the client or specifier, Stoanz Limited recommends that the selected colour should have a minimum Light Reflectance Value (LRV) of 35%. Where a colour less than 35% but above 25% LRV is selected, two coats of **StoColor X-Black** heat reflective façade paint are required to limit the thermal stress on the system.

## 6. STOSERVICE ASSURANCE

### 6.1 StoService Assurance - Refer to StoService Assurance Schedule for comprehensive guide

The Sto Render System should be cleaned 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).

An annual visual inspection is to be undertaken by the owner or their agent to check for any physical damage or defects in the exterior building elements, to ensure any damage or defects are identified and repaired. Every 2½ years, the building occupier will be notified to engage the Sto Contractor to carry out a StoService inspection within the following



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six months. On completion, the Sto Contractor will issue a current StoService Certificate that will be recorded in the Sto Warranty information, so a long-term record of the service history is maintained.

Recoating of the paint finish is required at the 9-10-year period where two coats of paint were used to maintain long-term integrity. This is carried out using a **StoColor** façade paint over a cleaned surface. Where a colour change is required, Stoanz Limited should be consulted for a specific specification.

**Note:** The actual recoating cycle depends on environmental conditions.

## 7. WARRANTY

### 7.1 StoArmat Refurbishment 15 year Warranty with StoService Assurance

When the **StoArmat Refurbishment 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 fifteen (15) years from the date of practical completion. This is to comply with the relevant clauses in the New Zealand Building Code being B2 Durability, E2 External Moisture and F2 Hazardous Building Materials for this type of building element provided maintenance and service requirements as set out in the StoService Assurance documents are followed.

The fifteen (15) year warranty is supplied by the Sto Contractor on completion of the project and remains valid when serviced and signed off by the Sto Contractor in accordance with the StoService Assurance documents. The warranty is issued and backed by Stoanz Limited as to the suitability of the material supplied provided that:

- (a) All specified work is carried out by a registered Sto Contractor who must complete and sign off the Sto Quality Assurance Schedule and the PS3 Workmanship Warranty that is renewed on completion of the StoService checks for a period of up to ten years; and,
- (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 physical disturbance, chemical contamination, structural movement, 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 and site conditions that are outside of Stoanz Limited's control. Where a Sto registered contractor applies Stoanz purchased products in accordance with the specifications, Technical Data Sheets and details, a Sto Warranty document is available, but the system must be serviced in accordance with the StoService documentation. Stoanz reserves the right to alter or update information and formulations at any time without prior notice.