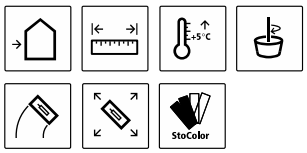
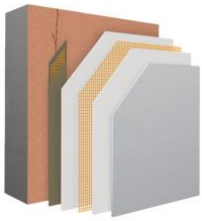
Sto Specification New Zealand

SS206R StoArmat Render System – Masonry Refurbishment

StoArmat Render System
to refurbish existing masonry substrates
Based on BRANZ Appraisal No. 515
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 Refurbishment System 15-Year Warranty with StoService Assurance**
StoArmat Refurbishment Render System over existing masonry substrates.	This specification details the application of the **StoArmat Refurbishment Render System** to refurbish existing masonry surfaces incorporating: Preparation, concrete repairs, **StoLevell Novo** basecoat render to straighten the substrate as required, **StoFlexyl waterproofing** as required**, StoArmat Classic meshed** reinforcement render finished in the selected **Stolit coloured finishing render** and selected **StoColor facade paint** over existing masonry substrates. The **StoArmat Render System** is designed to cover off all aspects of the exterior weathertightness envelope including joinery openings, foundations, penetrations, parapets, and exterior construction elements. **Note:** This specification covers most common problems associated with external rendered cladding. Any specific details or defects encountered need to be addressed by the Sto Contactor through the Sto Technical team.
Select Finishing Render:	Select
Select Facade Coating:	Select
Sto Registration Number: (Sto Use Only)	i.e. 24.04_StoReg tec_sales_SS206R_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 surface finishes 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 system failure, an appropriate building professional must be engaged to verify the building elements are in a sound condition for the StoArmat Render Refurbishment System to be applied.

The **Sto Quality Assurance Document** is to be filled out as a record of the work undertaken by the Sto Contractor.

2.2 Existing Building Elements

The Sto specification addresses refurbishing of the existing exterior wall surface only. All other building elements are specifically excluded from the specification. As required, it is the responsibility of the owner or their agent to initiate a process to ensure that all the building elements are still sound, load bearing and weathertight.

2.3 Existing Joinery

All joinery shall be checked that it is sound and all mitres, drain holes, vents, are working, clear and the masonry joinery openings our sound with no spalling masonry. The joinery jambs and heads should have a primary perimeter sealant joint at the render to joinery transition and the sills should include a 5.0 mm drainage gap or joinery flanges drainage holes where the joinery includes proprietary soakers.

Note: Joinery may require surveying by an appropriate professional to ensure the windows and doors are still sound and the junction between the joinery and masonry substrate is correctly detailed and watertight.

2.4 Existing Roofs, Fascia's, Deck, Roof Membranes, Outlets etc.

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, fixed or adjacent to the walls must be secure, watertight, have the appropriate seals, cover, and drip edges.

2.5 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 with terminations sealed using MS Sealant or proprietary seals.

2.6 Condition

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.

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2.7 Foundations

Exterior ground wall should be sound and waterproof with drainage sloping away from the building.

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. The StoArmat Miral 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 this section shall be the responsibility of the **Sto Contractor**, unless otherwise expressly agreed. The Sto Contractor check that the existing substrates and building elements are acceptable for the rendering process before proceeding. Adequate protection of all dissimilar materials and adjacent surfaces must be undertaken before commencing.

3.2 Existing Substrate

All existing surfaces are to be checked they are dimensionally sound and load bearing. Cracks are to be cleaned out and any loose, drummy or spalling concrete removed. Corroded reinforcing must be refurbished and coated in a corrosion inhibiting mortar and the area repaired with the Sto concrete repair system. Spalling render or concrete work is to be carried out as a variation or PC sum unless previously identified and scheduled. Painted surfaces must be well adhered and any adhesion impairing surfaces require removal or an adhesion promoting coating or render.

3.3 Fixtures and Fittings

All fittings and fixtures on the walls such as downpipes, rainwater heads, gas fittings, service boxes handrails, taps etc. shall be checked to ensure they are secure and watertight. Any fittings that are easily removed should be taken off and refitted securely after the coating is finished.

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

3.4 Chemical Treatment

All surfaces to be refurbished shall be treated with a chemical solution to remove all moss, mould 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
- Safe on painted surfaces
- Removes dirt, mould, algae, lichen, oils and general atmospheric contaminants
- pH neutral
- Biodegradable

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- Compatible with water pressure cleaners
- Plant 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.

3.5 Cleaning

All surfaces to be refurbished shall be water blasted with a commercial 3000 psi (minimum) water blaster with sufficient pressure and volume to remove all residual contaminants or loose, friable material without damaging the substrate, supplemented by hand or mechanical removal of any other loose or friable material. Any coatings that are adhesion impairing, must be removed, or treated 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, adjacent surfaces, or water ingress. Generally, the pressure is controlled by the distance (150-200 mm from the surface), the fan (20 – 25 degrees), and the pressure and volume of water.

3.6 Crack Addressment - Note for addressing static cracks – cyclic cracks are outside this specification.

To clean dry walls, seal any cracks < 1.0 mm with a coat of **Stoplex W** and carefully apply **StoGold Fill** to fill the crack flush tight or fill and sponge to blend in on textured surfaces before leaving to dry.

Any cracks > than 1.0 mm but < than 2.5 mm will generally require filling and reinforcement with **Sto 100mm Jointing Tape** embedded into **Sto Flexyl waterproofing** and flushed out with another coat of **Sto Flexyl waterproofing** before commencing with the refurbishment work.

3.7 Existing Surfaces

All existing surfaces are to be checked they are sound and load bearing. Cracks are to be cleaned out and any loose, drummy render removed. Once removed any exposed corroding steel reinforcing must be chased back to good steel and the corrosion cleaned off to bright steel before the steel is re-coated with 2 coats of anti-corrosive primer and the concrete repaired using Stoanz **850 Repair Mortar** before levelling out with **StoLevell Novo** basecoat. Work must be itemised and carried out as a variation or PC sum unless previously identified and scheduled. Painted surfaces must be well adhered and any adhesion impairing surfaces require removal or must be addressed with an adhesion promoting coating or adhesive render.

Note: refer any extensive areas of delamination to the project engineer / architect for instructions.

3.8 Control Joints

Any existing control joints are to be expressed through the finished system using **Sto uPVC Control Joints**.

Note: Large façade faces should be broken with horizontal control joints or tape lines every two stories to enable the finishing render to be installed seamlessly.

3.9 Sealant Beads

All new sealant beads associated with the cladding system shall be a compatible **MS Sealant** applied in accordance with the manufacturer's Technical Data Sheets.

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Existing sealant beads around the joinery, fittings, and penetrations shall be checked and reinstalled as required before commencing with the refurbishment process.

3.10 Existing Joinery

All existing joinery should have been checked and any leaks, or evidence of water seepage shall have been addressed prior to refurbishing the exterior.

3.11 Joinery Openings & Rendered Caps

All joinery openings and wall caps shall be checked and any leaking, defective or fractured joinery openings or caps should have **StoFlexyl meshed waterproofing** applied to any suspect rebates, openings or caps prior to the render application. All existing joinery should have been checked and any leaks, or evidence of water seepage shall have been addressed prior to refurbishing the exterior.

3.12 Existing Bituminous Coatings

Where there's bituminous coatings present remove all delaminated, loose, friable material back to sound material. Carefully inspect the exposed substrate and surrounding surfaces for any signs of cracking and mark up to be remediated once the exposed bituminous membrane has been sealed with a bituminous membrane primer.

4. STOARMAT RENDER REFURBISHMENT SYSTEM

4.1 Responsibility

All work in this section, including provision of external sealant beads and finishing system, shall be the responsibility of the **Sto Contractor** who must assure themselves that the surfaces to be plastered are dry, free of contamination and satisfactory before work commences. Adequate protection of all adjacent surfaces shall be undertaken prior to commencing.

4.2 Selection

The **StoArmat Render System** shall be carried out in stages incorporating **Stoplex W** consolidating primer or **Sto Putzgrund** primer, **StoFlexyl** waterproofing, **StoArmat Classic** meshed reinforcement render finished in the **selected Stolit K or MP** coloured finishing render coated in the **selected StoColor Dryonic MX** façade paint.

4.3 Materials

- Consolidating Primer: **Stoplex W** or **Sto Putzgrund** primer
- Reinforcement Render: **StoArmat Classic** meshed reinforcement render
- Finishing Render: Selected **Stolit K** or **Stolit MP** coloured finishing render
- Façade Paint: **StoColor Dryonic façade paint**
- Waterproofing: **StoFlexyl waterproofing / Filler**
- uPVC: **Sto uPVC pre-meshed angles**, **drip edges**, **finishing edges**, **flashings**.
- Accessories: **Sto reinforcing mesh**, **MS Sealant, Sto Gold Fill, & Sto Joint Seal Tape**

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4.4 Control Joints

All existing control joints must be expressed through. Control joints must be installed in the **StoArmat mesh** coat using the **Sto uPVC Control Joints** ensuring the mesh coat does not overlay the 'V' joint. Once set remove the cleaning tab and sealant the V joint with compatible exterior MS Sealant. Alternatively, MS sealant control joints at any junctions neatly and apply two coats of the paint to V joint for a negative detail.

4.5 Priming

Any bare, powdery or friable surfaces are to be sealed with one (1) coat of **Stoplex W** consolidating sealer sound clean existing surfaces applied by brush and roller at approximately 7-8 m^2 per litre to clean, dry surfaces.

4.6 Basecoat Render - Only as required to straighten masonry substrate.

To clean, dry prepared surfaces, apply **Sto Putzgrund primer** and allow to dry before applying a straightening coat of **StoLevell Novo** render (depending on thickness) by hawk and trowel or pump at an approximate thickness of 6- 8 mm). Screed the surface with an h rule to achieve an even straight plane free of hollows and deviations. Allow to set and remove any ridging or bumps in the basecoat with a Sto feathered straight edge or Grid Plane.

Note: The main contractor is to be advised of any walls that require a written variation to building out with additional coats to achieve a level surface. Allow render to dry before subsequent render coats are applied.

4.7 Stoplex W sealer

Once the basecoat renders have dried and been rasped, apply one coat of **Stoplex W sealer** by brush and roller at approximately 10 m^2 per litre.

4.8 StoFlexyl Waterproofing

As required, rebuild any horizontal surfaces with **LevelLite**, **or Multiscreed** to a minimum 5º fall before the correctly mixed **StoFlexyl meshed waterproofing** (drill mix 1:1 with **fresh** cement) is applied with a layer of Sto mesh embedded into the **StoFlexyl**, which is then floated to a level surface attaining a total minimum thickness of 1.5 mm. Extend StoFlexyl waterproofing membrane 75 mm up or down adjacent vertical surfaces and allow to dry overnight. Apply **StoFlexyl meshed waterproofing** over the meshed basecoat before the StoArmat render is applied to avoid a buildup and subsequent shadow line.

Note: StoFlexyl Meshed waterproofing membrane meets AS/NZS 4858 waterproof membrane requirements as required by E2/AS1 for render systems.

4.9 StoArmat Classic Reinforcing Render
StoArmat Classic HD with hardener for accelerated drying in cold damp weather are also available.

To clean, dry and sealed base coated surfaces, apply an even coat of selected **StoArmat Classic** render by hawk and trowel at approximately 2 mm thick. While the **StoArmat Classic** is still wet, lightly apply **Sto reinforcing mesh** ensuring adjacent drops of mesh are overlapped by a minimum of 75 mm and 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 (minimum DFT 2.5 mm) by hawk and trowel to cover the mesh and leave an even, flat 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.

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4.10 Sealant Installation

After the sealer has dried, all render junctions between joinery and adjacent dissimilar surfaces and around penetrations shall be sealed with **MS Sealant** in accordance with the manufacturer's Technical Data Sheets. Some manufacturers require primers for PVC or porous substrates.

Note: Some types of joinery have drainage holes under the sill flange ensure these remain clear.

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.

4.11 Stolit Float Finished Renders (refer to front page for selected finish)
Stolit K texture is available in 1.0, 1.5, 2.0 or 3.0 mm aggregate.

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

To all exterior plastered surfaces, apply the selected **Stolit K** coloured finishing render 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), 7 m^2 per pail (2.0 mm) and 4 m^2 per pail (3.0 mm).

- **StoColor façade paint as selected.**

All **Stolit K** surfaces shall receive two (2) coats of **StoColor Dryonic or StoColor Maxicryl façade paint,** tinted to the selected colour and applied by brush and roller at approximately 6-7 m^2 per litre.

Note: Always maintain wet edges between cutting in and roll in tight to ensure an even film build is maintained. Refer **Section 6. StoService** for 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 the selected **Stolit MP** or alternatively, depending on the finish, **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 as selected**

Stolit MP surfaces are to be painted in two (2) coats of **StoColor Dryonic or StoColor Maxicryl** façade paint tinted to the selected colour and applied by brush and roller at approximately 6-7 m^2 per litre.

Note: Always maintain wet edges between cutting in and roll in tight to ensure an even film build is maintained. Refer **Section 6. StoService** for recoating requirements.
Alternatively for a clear finish **S-Protect SC sealer** can be used in applied in one full coat over MP or MP Natural finishes.

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5. GENERAL NOTES

5.1 Colour

As selected by the client or specifier Stoanz Limited recommends that the selected colour must have a minimum Light Reflectance Value of 20%. Where a colour less than 20% LRV but above 10% is selected, the render system is finished with two coats of **StoColor Dryonic façade paint** with **X-Black technology additive** to avoid thermal stress.

StoColor Dryonic façade paint 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 Documents 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.

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 faults 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 paint finish is normally required at 7 ½ -years where one coat or S-Protect was used or 10–12½ 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 Masonry Refurbishment 15-year Warranty with Sto Service Assurance

When the **StoArmat Render Refurbishment 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 fifteen (15) years from the date of practical completion, provided maintenance and service 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.

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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.

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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