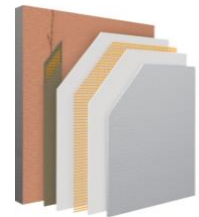
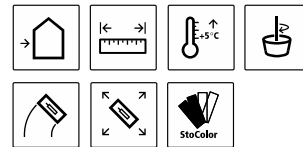


Sto Specification New Zealand

SS406R StoArmat Render System over existing Stucco Plaster

StoArmat Miral Render System
 over existing exterior Stucco Plaster
 Based on BRANZ Appraisal No. 605
 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 Miral Render System 10-year Warranty with StoService Assurance**

StoArmat Miral Render System over existing Stucco Plaster

This specification details the application of the **StoArmat Miral Render System** to refurbish existing exterior stucco plastered walls incorporating: Preparation, Repairs, **StoLevell Novo or Multiscreed** basecoat as required, **Stoplex W** sealer, **StoArmat meshed** reinforcement render finished with selected **Stolit coloured finishing render** coated in selected **StoColor façade paint** over the existing stucco plastered surfaces.

StoArmat Render with its adhesive strength, flexibility and high impact resistance has up to 10 times more resistance than cement based mineral renders combined with the selected **Stolit coloured finishing render** is the recommended system for upgrading and refurbishing existing stucco plastered exterior walls.

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 or Sto Technical team.

Select Finishing Render:

Select Facade Coating:

Specification Number:
Office Use Only

i.e.24.04 _Sto Reg tec_ sales_406R_project address

Project Notes:

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2. EXISTING CONSTRUCTION and DETAILING

2.1 Responsibility

The Sto remedial specification addresses the exterior condition of the existing surface. 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 sound condition for the Sto Render System to be applied.

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

2.2 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.

- **Existing Joinery**

All joinery shall be checked that it is sound and all mitres, drain holes, vents, are working, clear and the joinery is installed correctly. The joinery jambs and sills should have a primary perimeter sealant joint at the render to joinery transition or incorporate sill trays. Usually the sills include joinery-flange drainage holes to direct condensation to the exterior.

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 cladding is correctly detailed and watertight.

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

All existing roofs, fascia's and deck or roof membranes must be checked to ensure they are in sound condition. Gutters, downpipes, rainwater heads, scuppers, overflows, fascia's and flashings must be correctly detailed with flashings, drip edges and up stands to accommodate the new Sto Render System. The main contractor is to arrange for all fixtures and fittings, down pipes (install temporary down pipes), lights, security, and communications equipment etc is removed if possible before the Sto Render System commences.

- **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.

2.3 Soffits, exterior ceilings, etc.

Install a 6-8 mm finishing bead of compatible MS Sealant after the mesh coat is applied.

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2.4 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 or their agents' responsibility to ensure that a building consent is obtained from the territorial authority.

3. SURFACE PREPARATION

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 Stucco Surface

All existing stucco surfaces are to be checked they are sound and load bearing. Cracks are to be cleaned out and any loose, drummy render removed. If in severe cases where the existing stucco has failed cut out and replaced with new lath ensuring the existing stucco is secure fixed to the existing framing and any new stucco is joined on new blocking securely fixed to the existing framing before rendering and reinforcing. This work must be itemised and carried out as a variation unless previously identified and scheduled. All painted surfaces must be well adhered and any adhesion impairing surfaces require an adhesion promoting coating.

3.3 Existing joinery

It is understood that the existing joinery has been previously surveyed (CI 2.2) and is satisfactory. At the perimeter joinery to stucco render junction remove the existing old sealant and install **Sto finishing edges** set 3-4 mm off the joinery flange on the basecoat coat / StoArmat mesh reinforcement render before installing new MS Sealant seals around the jambs and sills (where sills were sealant jointed originally).

Note: Joinery drainage vents under the sill flange and existing sill tray drainage gaps must remain clear.

3.4 Fixtures and Fittings

Where possible, the main contractor shall have removed all fittings and fixtures such as downpipes, rainwater heads, handrails, lights etc. that must be re fitted securely after the system is finished ensuring all connections are watertight.

Note: Pipes, wiring and lights must be appropriately fitted and sealed.

3.5 Render and Coating Removal

Any render that has delaminated or coating that is adhesion impairing require removal. The contractor is to ensure all surfaces are clean, sound, and load bearing before commencing.

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3.6 Control Joints

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

3.7 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
- 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.

3.8 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.

3.9 Physical Damage

Any existing damaged areas are to be repaired using Stoanz **Repair Mortar** or **LevelLite** basecoat.

3.10 Parapets

Metal parapet caps can be installed with a min 5° slope and overlap the cladding minimum 50 mm in Low, Medium and High Wind Zones, minimum 70 mm in the Very High Wind Zone, and minimum 90 mm in the Extra High Wind Zone and specific design wind pressures. Alternatively, for rendered caps use **StoFlexyl meshed waterproofing** over sound load bearing surface.

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3.11 Architectural Profiles

Any existing profiles formed to create detailing shall be checked they are secure (traditional profiles were normally formed in the stucco using solid masonry) if necessary, repair or re secure as required.

4. STOARMAT REMEDIAL RENDER SYSTEM

4.1 General

The system is a trowel applied finish, and appropriate masking of all dissimilar materials and adjacent surfaces must be carried out prior to commencement. All works shall be carried out strictly in accordance with the Sto specification (details refer to Stoanz Limited) or project specific documents.

As previously detailed, all surfaces to be rendered must be treated with a chemical solution and be thoroughly cleaned before commencing with the rendering. Where the existing masonry finish is coarse or uneven, the surface can be levelled by applying a coat of StoLevell Novo or Multiscreed basecoat.

4.2 Selection

Rendering shall be carried out in stages incorporating **Preparation, StoLevell Novo or Multiscreed basecoat** as required to straighten the wall or cover the existing finish, **StoArmat Classic** mesh reinforced render finished with the **selected Stolit** coloured finishing render, coated with the **selected StoColor** facade paint.

4.3 Materials

Stoanz Ltd supplies all the following materials

StoLevell Novo or Multiscreed basecoat	StoArmat reinforcement render
Selected Stolit coloured finishing renders	Stoplex W sealer
Selected StoColor facade paint or S-Protect sealer	StoFlexyl waterproofing
Sto uPVC pre-meshed corner angles, finishing edges and drip edges	

4.4 Crack Addressment – Note – cyclic cracks are outside the scope of 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 or fill and sponge to blend in on textured surfaces before leaving to dry. If required apply a topcoat to level the repair ensuring the finish surface is flush with the surrounding surface.

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 before commencing with the refurbishment work.

Any delaminating Joints are to be stripped out, primed and reinstated using **StoArmat Classic** jointing reinforced with Sto Jointing mesh, allow to dry and flush level with surrounding the surface before proceeding with the refurbishment.

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4.5 Sealer

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

4.6 StoLevell Novo or Multiscreed Basecoat Render to Level the existing finish or Straighten Walls

As required to straighten walls or fill in the existing course texture. Ensure the surface is clean and dry (treat coated surfaces as necessary to provide adhesion). Apply a basecoat of **StoLevell Novo or Multiscreed** by hawk and trowel to clean dry wall surfaces to fill the texture or straighten the walls.

Once the base coat is set (still green) use a rule to straighten the surface to achieve an even plane free of deviations and leave to dry.

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 8 - 12 m² per litre.

4.8 StoFlexyl Waterproofing

A minimum, 10 degrees fall is required on all horizontal rendered surfaces. For rendered parapets or balustrades, mix **StoFlexyl** with fresh Portland cement at a ratio of 1:1 and apply a coat of **StoFlexyl** render by hawk and trowel at approximate thickness of 1.0 mm to the top and sides returning down (or up) over walls a minimum 75 mm. While the **StoFlexyl** is still wet, lightly embed **Sto mesh**, ensuring adjacent drops of mesh are overlapped by a minimum of 75 mm. Lightly float the surface to ensure that the mesh has been completely embedded into the basecoat. Once dry apply StoArmat meshed render system.

Note: StoFlexyl meshed waterproofing has been evaluated by BRANZ to meet the requirements of AS/NZS 4858 for waterproof membranes used with render systems.

4.9 Detailing

Sto pre-meshed corner angles shall be installed on all external corners. All internal corners will be checked and double reinforced meshed in **StoArmat render**. **StoArmat** Joinery and finishing edges are to be installed as required and as previously detailed.

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

4.10 StoArmat Classic reinforcing render

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

To clean, dry, sealed base coated surfaces, apply an even coat of **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 overall DFT 2.5 mm) by hawk and trowel to cover the mesh and leave an even, flat 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.

Detailing: Always install **Sto pre meshed angles, drip edges** and **Sto finishing edges** as required.

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

4.12 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 m² per pail (1.0 mm), 9 m² per pail (1.5 mm), 7 m² per pail (2.0 mm) and 4 m² per pail (3.0 mm).

- **StoColor Façade Paint**

All **Stolit K** surfaces require two (2) coats of **StoColor Dryonic iQ** or **Sto Color Maxicryl façade paint** tinted to the selected colour and applied by brush and roller at approximately 6-7 m² 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.

4.13 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 m² 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 m² per litre per coat.

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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.

5. GENERAL NOTES

5.1 Colour

As selected by the client or specifier, Stoanz Limited recommends that the selected colour has a minimum Light Reflectance Value (LRV) of 35% or 20% 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.

StoColor Dryonic IQ is available in the StoColor range, other colours are available depending on the formulation.

6. STOSERVICE ASSURANCE

6.1 StoService - Refer to StoService Assurance 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 owner's 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 7½ to 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 Miral Refurbishment 10-year Warranty with StoService Assurance

When the **StoArmat Miral 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.

To register your project with Stoanz Ltd for the warranty and StoService email new specifications to: info@sto.co.nz

Stoanz Ltd | Subsidiary of Sto SE and Co KGaA.

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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, structural movement, cyclic cracking, chemical contamination, or interference.
- (d) The substrate under the render must be dimensionally and structurally sound. Cracks in the substrate that reflect through the render are not covered by the StoWarranty.

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.