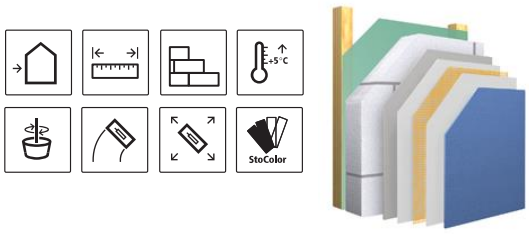
Sto Specification New Zealand

SS606 StoArmat Miral Render on Poren Brick Construction

StoArmat Miral Render over StoPoren Brick Veneer
on timber and steel framed construction.
BRANZ Appraisal No. 739
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 20-year Warranty with StoService Assurance**
StoArmat Miral Render System on StoPoren Brick Veneer Construction:	This specification details the **StoArmat Miral Render System** on **StoPoren Brick Veneer** over timber or steel framed construction built within the scope of NZBC Acceptable Solution E2/AS1incorporating: **StoPoren Bricks** on a minimum 40 mm cavity, sealed with **S-Protect WS 205** stay dry, **StoLevell Novo** basecoat render primed with **Stoplex W sealer**, reinforced with selected **StoArmat Classic meshed** reinforcement render finished in **selected Stolit** coloured finishing render coated with **selected StoColor** facade paint or **S-Protect** clear sealer MP / Milano finishes.
Select Finishing Render:	Select
Select Facade Coating:	Select
Sto Registration Number: Sto Use Only	i.e.24.01_StoReg tec_sales_SS606_project address
Project Notes:	

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2. CONSTRUCTION & DETAILING

2.1 Responsibility

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

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

A **Sto Quality Assurance Document** is to be filled out as a record of the work undertaken by the Sto Contractor and Poren Brick Layer.

2.2 Timber Frame

Timber framing must comply with NZS 3604 for buildings or parts of a building within the scope limitations of NZS 3604. Buildings or parts of a building outside the scope of NZS 3604 must be to a specific design in accordance with NZS 3603 and AS/NZS 1170. Studs must be at maximum 600 mm centres in Low, Medium, High and Very High Wind Zones and maximum 400 mm centres for Extra High Wind Zones and specifically designed buildings and on the top storey of 3-storey buildings in all Wind Zones. Dwangs must be fitted flush between the studs at maximum 800 mm centres when the studs are at 600 mm centres and at maximum 1200 mm centres when the studs are at 400 mm centres. All framing shall be true in vertical and horizontal planes with attention to intersections between top plate, floor joists and bottom plate in multi-storey construction. Adequate timber framing including blocking shall be provided by the Main Contractor to facilitate cladding fixings for the designated wind zone, membrane upstands, dissimilar materials and exterior fixtures on the cladding.

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

2.3 Steel Frame

Steel framing must be to a specific design meeting the requirements of the NZBC. The minimum framing specification is 'C' section studs and dwangs of overall section size of 75 mm web and 32 mm flange. Steel thickness must be minimum 0.75 mm.

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2.4 Steel Framing Thermal Break

Steel frame construction requires that a thermal break is installed in accordance with the requirements of NZBC Acceptable Solution E3/AS1, Paragraph 1.1.4(d).
The National Association of Steel Frame Housing (NASH) lists solutions using battens or sheathing. Alternatively, a proprietary rigid thermal sheathing covered by a BRANZ Appraisal can be used.

2.5 Insulation

Thermal resistance requirements of the building envelope shall be determined using the Schedule or Calculation methods of NZBC Acceptable Solution H1/AS1 for all housing and buildings up to 300 m^2 and NZBC Acceptable Solution H1/AS2 for housing and buildings greater than 300 m^2, or the Modelling method in H1/VM1. The minimum construction R-value for walls that do not contain embedded heating elements is R2.0, and for heated walls is R2.9.

Foundations: H1/AS2 require –Vertical edge insulation with an R -value of 1.0 m^2 K/W, installed on all exterior vertical faces of the concrete slab / wall footings, extending from the outermost top edge down to bottom of wall footing.

Rasped XPS sheets can be used for vertical edge insulation with 30 mm providing the required RV 1.0.
Refer to the StoTherm Masonry Foundation Specification for insulated foundation options.

2.6 Wall Underlay

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

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

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

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

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

2.7 Soffits

Soffits shall be fixed before the StoPoren brick is installed. The top of the cavity shall be closed off to restrict any air flow into the roof space. A 6-8 mm bead of compatible sealant is installed after the StoPoren brick work is completed and before plastering commences. Inclined soffits require a flashing in accordance with NZBC Acceptable solution E2/AS1 Figure 8A.

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2.8 Aluminum Joinery

All windows, doors etc. shall be fitted prior to installation of the bricks by the appointed window installer. The joinery shall be positioned to sit approximately 20 mm into the brick reveal (cavity + 10 mm + joinery flange thickness). Where a WANZ joinery support bracket is used, ensure that it finishes 15 mm short of the joinery jambs. The proprietary aluminium head flashing is taped to the underlay and is required to have minimum 20 mm proprietary or folded stop ends, a minimum 35 mm upstand behind the cladding, a 15-degree slope, 10 mm cover over the joinery flange and shall sit 10 mm past the joinery jambs (20 mm total) to cover the **Sto Adhesive Sill and Jamb flashings**.

The **Sto Adhesive Sill and Jamb flashings and proprietary aluminium head flashing** should be fitted consecutively before the bricks are installed.

Note: Ensure the joinery edges are clean before adhering flashings in place. The Sto uPVC head flashing upstand is flashing taped to the wall underlay (cut between any Poren shelf brackets) and the **Sto Adjustable foot extension** and **front leg** is pushed into place before starting the rendering.

Note: The main Contractor is to supply the aluminium heads flashings and co-ordinate fitting with the Sto Contractor. The joinery installer is to fit internal air seals to the joinery. On some joinery, the sill flanges have vents underneath; ensure they remain clear.

2.9 Timber Frame Shrinkage

Allow for timber frame shrinkage to the solid brick veneer. Generally, allow a 6-8 mm gap at soffits that is filled with a polyurethane adhesive foam before rendering.

2.10 Penetrations (Refer also to E2/AS1 Fig 68)

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

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

2.11 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.

The Main Contractor is required to familiarise themselves with the Sto installation details before works commence to ascertain their obligations. For Sto ACAD installation details, visit www.sto.co.nz.

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3. STOPOREN BRICK CONSTRUCTION

3.1 Responsibility

All the work in this section relating to the **StoArmat Render System** shall be the responsibility of the **Sto Contractor** including supplying **Sto uPVC Adhesive joinery flashings** as required. The laying of the **StoPoren Bricks** is to be undertaken by a licensed building practitioner (LBP) brick layer who shall sign off the finished brick work on completion. The contractors must ensure adequate masking / protection of all adjacent dissimilar materials is undertaken before commencing.

3.2 Materials

The **StoPoren Brick System** incorporates:

- StoPoren Bricks
- StoPoren Brick Lintels and Shelf Brackets (singles and doubles)
- Poren Brick Mortar
- S-Protect WS 205 stay dry
- Sto uPVC joinery flashings

3.3 Rebated Concrete Foundations

A solid concrete foundation is required with a minimum 50 mm high rebate below the concrete floor slab and a rebate width to allow for a minimum 40 mm cavity and 75 mm brick (overhang maximum 20 mm). The rebate is waterproofed with a brush coat of **StoFlexyl** or another approved liquid waterproofing.

3.4 StoPoren Bricks (75 mm wide x 200 mm high x 600 mm long – Other thicknesses and sizes available)

Install the **StoPoren Bricks** with a 5 mm to maximum 20 mm overhang to the concrete foundation rebate (recommended rebate width 125 mm for a 50 mm cavity to allow for tolerances (minimum 40 mm cavity, maximum 75 mm cavity) from the supporting frame.

Reinforcement wire, brick ties (minimum Grade EM), brick weep holes at the foundation (1000 mm² per lineal metre – minimum 8 x 75 mm @ 600mm centres) and mortar joints shall be made in strict accordance with the specifications, project drawings and Sto CAD details.

The bricks shall be laid true, in both vertical and horizontal planes in running bond, bedded in **StoPoren mortar (do not allow mortar to surface dry)** with all joinery and service cut outs correctly constructed, with **steel reinforced Poren lintels** supported with **Poren lintel brackets**. Mortar joints should be 10 mm +/-2 mm tool pointed flush finish, with the bricks squared off the foundation on a mortar course of up to 20 mm thick. **StoPoren Mortar** is mixed with 4.5- 5 litres of clean cold water ensuring bricks are embedded in fresh wet mortar.

Suitable corrosion proof brick ties are required to be fully embedded in the mortar joints and shall extend a minimum halfway through the brick (minimum 15 mm from exterior face). The ties shall extend across the cavity and be screw fixed into the framing by minimum 35 mm with approximately 5 ties per square (maximum 600 mm centres longitudinally (every stud) and minimum 400 mm vertically (every second course), including two ties at maximum 150 mm centres from vertical control joints or as per the project specific details.

As required, install brick wire reinforcing at all stress points, above large joinery openings and across narrow widths.

Care must be taken to avoid dropping mortar into the cavity by using protection boards and washing out the rebate at least daily to remove any droppings. All bricks should be cut neatly with sills laid at a minimum 15 degrees incorporating a 30-50 mm overhang if required.

A curing time (normally 5-7 days weather dependent) shall be allowed after placement, for curing and stabilisation to take place, before application of the **StoMiral Render System**. All maximum tolerances shall be in strict accordance with NZS 4210, i.e. no more than 3 mm surface alignment deviation over a 1200 mm radius. The Poren bricks shall be left free of all surface contaminants and shall be sealed with **S-Protect WS 205 sealer** before rendering commences. The Main Contractor is to ensure that any areas or details adjacent to the bricks have been adequately waterproofed or flashed to avoid water migrating behind the system.

Note: Refer to the project drawings and StoPoren brick details for further information.

3.5 Corrosion Protection

The corrosion protection requirements for ties and screws shall be determined by the durability zone outlined in NZS 3604 and as outlined in E2/AS1 Table 18C.

The corrosion protection requirements for lintel shelf angles shall be determined as outlined in E2/AS1 Table 18D.

3.6 Poren Steel Mesh Reinforced Lintels with Poren Lintel Shelf Brackets

Poren Lintels are 200 mm high x 75 mm deep x 2400 mm long to span openings up to 2.0 m wide allowing for the minimum 200 mm lintel / brick support on either side of the opening with two brick ties 150 mm apart at the joins. Where openings are wider than 2.0 m, the **Poren Shelf Bracket** (minimum 75 mm high x 100 mm deep x 310 mm long x 6 mm thick) are fixed to the timber lintels using M10 x 75mm HDG coach screws or M10 HDG coach bolts for Flitch beams positioned as per the **Sto Poren Details** to support and join the **Poren Lintels**.

Poren Lintels are rebated for the shelf bracket and joined on the bracket with 8-10 mm of **Poren Mortar**. Brick ties are required on top of the lintel, embedded in the mortar bed at minimum 600 mm centres with two brick ties at the lintel joins (including ends) placed 150 mm apart.

The **Poren Shelf Bracket** must under seat the **Poren Lintel** by a minimum 55 mm. The bracket shall be spaced off the wall lintels as required, and the length of the bracket fixings shall be adjusted accordingly.

Note: The **uPVC Brick Cap** can be used to finish the underside of the lintel.

Note: At narrow widths and stress points, such as at large openings, apexes, etc. extend the Poren Lintel past the stress point to reinforce the connection. Refer to Sto details.

3.7 Control Joints

Control joints as designated by the project drawings, engineer or Sto details must be incorporated in the brick cladding and shall be finished using Sto uPVC Control Joints. Vertical control joints are normally required every 12 metres on continuous walls, preferably located above and below joinery openings, where the height of the wall changes by more than 20%, at foundation expansion joints and dissimilar material junctions. Refer to the Sto CAD details.
Note: Either side of the control joint shall be reinforced with brick ties placed a maximum 150 mm from the joint.

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3.8 S-Protect WS 205 Stay Dry

As the bricks are laid, they must be treated with a sealer coat of **S-Protect WS 205 stay dry** at approximately 5 m^2 per litre. The **S-Protect WS 205 stay dry** can be applied using a low-pressure sprayer and block brush ensuring dissimilar surfaces are protected before leaving to dry overnight.

3.9 Sealant

All junctions between the cladding and adjacent dissimilar material surfaces shall be flashed by the main contractor, detailed, and sealed using compatible **MS Sealant** over PEF rod. The sealant must be applied in accordance with the manufacturer's Technical Data Sheet.

Note: Some manufacturers require primers for PVC or porous substrates and a primer is required on StoFlexyl coated surfaces. **Note:** Some types of joinery have drainage holes under the sill flange; ensure these remain free.

3.10 Architectural Profiles & Shapes

Architectural shapes used to create decorative detailing shall be correctly cut to size and fitted using mixed **StoFlexyl** notch trowelled 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** and any control joints must be mirrored through the profile. Profiles shall be pre-meshed or receive a **StoArmat** mesh coat and are placed after the Sto mesh coat with perimeter edges meshed to the wall unless the bottom edge is covering a control joint.

4. STOARMAT MIRAL 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.

4.2 Selection

Rendering shall be carried out in stages over the StoTherm cladding system incorporating: **StoLevell Novo** sealed with **Stoplex W** sealer, **reinforced with selected StoArmat Classic meshed** render, **selected Stolit coloured finishing render** coated in **StoColor facade paint** or **S-Protect SC sealer** on natural finishes.

4.3 Materials

Stoanz Ltd supplies all the following materials:

StoLevell Novo basecoat render with Stoplex W sealer	**Selected StoArmat Classic reinforcement render**
Selected Stolit coloured finishing renders	**Sto uPVC pre meshed corner angles, finishing edges and drip edges.**
Selected StoColor facade paint or sealer	**StoFlexyl waterproofing**

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4.4 Detailing

Sto uPVC Joinery flashings and **Sto pre-meshed corners** are normally positioned on the **StoLevell Novo basecoat.**

4.5 StoLevell Novo Render

To clean, dry sealed surfaces apply a basecoat of **StoLevell Novo basecoat render** at an approximate thickness of 6.0 mm by hawk and trowel and float to an even, flat surface free of hollows and deviations. Allow to set green and remove any ridging or bumps in the basecoat with a Sto straight edge or Grid Plane to achieve a minimum thickness of 5 mm for StoLevell Novo render.

As required, install **Sto pre-meshed drip edges**, **Sto pre-meshed corners** and **Sto pre-meshed finishing edges**.

4.6 Stoplex W Sealer

To clean, dry, base coated surfaces, apply a sealer coat of **Stoplex W sealer** by low pressure spray or by brush and roller at an approximate coverage of 8m² per litre.

4.7 Parapets and Balustrades

All rendered horizontal surfaces shall have a minimum 10º fall (sills 15º fall). On rendered **parapets** or **balustrade caps**, **StoFlexyl** must be correctly mixed (drill mix 1:1 with **fresh** cement) and 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 waterproofing has been evaluated by BRANZ to meet the **AS/NZS 4858** waterproof membrane requirements for render systems as required by NZBC Acceptable Solution E2/AS1.

4.8 StoArmat Classic reinforcement 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 the **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 thick (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.
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.

4.9 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. 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.

4.10 Stolit Float Finished Renders (refer to front page for selected finish)

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

- **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**

It is recommended that all **Stolit K** surfaces receive two (2) coats of **StoColor Maxicryl, or StoColor Dryonic** façade paint tinted to the selected colour and applied by brush and roller at approximately 6-7 m^2 per litre. One (1) coat is acceptable though it will need recoating more frequently. Refer **Section 6. StoService** for recoating requirements.

Note: Maintain wet edges between cutting in and roll in tight to achieve an even film build.

4.11 Selected Stolit MP Finished Renders (refer to front page for selected finish)
Stolit MP fine coloured finish, MP Natural salt & pepper sand, RMP Sponge coarser salt & pepper sand

- **Selected Stolit MP, MP Natural, and RMP Sponge coloured finishing render**

Stolit MP fine, MP Natural sandy and **RMP Sponge sandy** 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, MP Natural, or RMP Sponge** is then applied, float finished and randomly lightly sponged. Alternatively, the finish can be float finished, or smooth finished with a stainless steel Marmorino trowel to the selected pattern. The spreading rate of the **Stolit MP**, **MP Natural or RMP Sponge** is approximately 12-14 m^2 per pail.

- **S-Protect SC stay clean invisible Silane 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's 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. Refer **Section 6. StoService Assurance** for recoating requirements.

Note: All joinery, glazing and adjacent surfaces must be masked off to prevent the **S-Protect SC stay clean** contaminating the surfaces. Any excess product must be removed after 15 minutes to prevent a film forming that can be difficult to remove.

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

If selected it is recommended that all **Stolit MP** surfaces receive two (2) coats of **StoColor Maxicryl, or StoColor Dryonic** façade paint tinted to the selected colour and applied by brush and roller at approximately 6-7 m² per litre. One (1) coat is acceptable though it will need recoating more frequently. Refer **Section 6. StoService** for recoating requirements. **Note:** Maintain wet edges between cutting in and roll in tight to achieve an even film build.

4.12 Stolit Smooth Finish Render (refer to front page for selected finish)

- **Stolit Milano coloured smooth finishing render as selected**

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

- **S-Protect SC stay clean invisible Silane sealer (clear sealer)**

To **Stolit Milano**, 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 its 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, glazing and adjacent surfaces must be masked off to prevent the **S-Protect SC stay clean** contaminating the surfaces. Any excess product must be removed after 15 minutes to prevent a film forming that can be difficult to remove. Refer **Section 6. StoService** for recoating requirements.

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 25%. Where a colour less than 15% LRV but above 4% is selected, the render system is finished with two coats of **StoColor Dryonic a Sto iQ coating** 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, with other colours available depending on formulation.

6. STOSERVICE ASSURANCE

6.1 StoService Assurance - 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 the 8-year period where one coat of paint or S-Protect Silane was applied, or 10 to 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 Miral Render System 20-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 to cover the Sto System for twenty (20) 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, submits 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, 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.