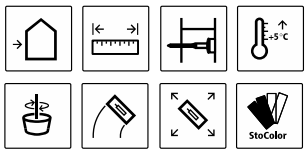
Sto Specification New Zealand

SS216M StoTherm Armat on Mineral Wool Masonry Insulation

StoTherm Armat Render System on
Mineral Wool Insulation over Masonry Construction
BRANZ Appraisal No. 604 / CCANZ CP 01:2014
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:	**StoTherm Armat Miral System 20-year Warranty with StoService Assurance**
StoTherm Armat Render System on Mineral Wool Insulation over masonry construction.	The **StoTherm Armat Mineral Wool Masonry Insulation System** incorporates; **75 mm or 100 mm thick (thicker sizes available) Mineral Wool Insulation Panels** adhesively and mechanically fixed with **StoLevell Novo adhesive** and **StoTherm Anchors** over masonry construction rendered in **StoLevell Novo** basecoat, reinforced with **StoArmat** meshed render finished in **selected Stolit** coloured finishing render with selected **StoColor facade paint** or **S-Protect SC clear sealer** on selected **Stolit MP or Milano finishes.** The **Mineral Wool System** uses compressed stone fibre's a naturally stable product that is non-combustible with excellent thermal properties, water repellency, sound absorbing and permeability attributes. The StoTherm system is built on 50 years of worldwide experience in insulating and refurbishing masonry buildings to achieve energy efficiency.
Select Insulation:	Select 1200mm x 600mm Insulation Panels. **Note:** Nonstock indent item requiring pre-order
Select Finishing Render:	Select
Select Facade Coating:	Select
Sto Registration Number: (Sto Use Only)	i.e. 24.01_StoReg tec_sales_SS216M_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 or site conditions.

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 concrete block installation requirements relating to the Main Contractor's responsibilities before any works commence. The Main Contractor is also responsible for the various subcontractors to ensure that all items relating to weathertightness, penetrations and dissimilar material junctions affecting the construction system are strictly in accordance with the project details, manufactures 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 undertaken by an LBP registered contractor and the window and door joinery is installed in accordance with the project drawings, manufactures details and Sto CAD details.

A **Sto Quality Assurance Document** is to be filled out as a record of the work undertaken by the Sto Contractor and Concrete Block installer.

2.2 Masonry Substrate - Concrete Blocks, Insitu Concrete (Solid, Shutterless, Precast), Bricks, etc

The concrete/ masonry installation including reinforcement and infill shall be made in strict accordance with the project drawings, specifications, and the manufacturer's technical data. The walls shall be laid true in both vertical and horizontal planes with all joinery and service openings correctly formed and waterproofed in accordance with the project / Sto details. Control joints must be installed as per the project's structural drawings or masonry manufacturer's details to manage shrinkage and structural stress. It is recommended the ground floor slab to wall junction should be rebated to provide a water stop and interstorey floors should be poured within the structure leaving the outer shell to continue to avoid cracking. At least 28 days shall be allowed after concrete placement as per CCANZ CP 01 2014, for curing and stabilization to take place (refer to masonry manufacturer for other drying periods) before commencing the Sto System. The exterior surface shall be clean, dry, and free of all surface contaminants before commencing and the Main Contractor is to ensure that any areas or details adjacent to the Sto Render System have been adequately waterproofed or flashed to avoid any water migration behind the render system. Building tolerances should be within MBIE Guide to tolerances.

2.3 Construction

- A rebate is recommended in the concrete ground floor slab to wall junction to form a weatherproof stop.
- Joinery openings should be formed with rebates (refer to masonry manufactures details).
- Masonry materials should be covered on site and laid dry.
- Vertical control joints are placed in accordance with the project structural drawings, masonry manufacturers documentation or refer to NZS 4229 for placement and detailing.
- Masonry mortar to be minimum 12.5 MP, tool smooth and compressed as per NZS 4210.
- Manufacturers bagged mortar is recommended to meet the specifications.
- Mortar to full depth of webbing up to 20 mm thick in first course and then 10 mm +/- 3 mm.
- With concrete blocks, washout ports are required to remove mortar droppings at the foundation.
- Concrete: ensure there is no impediment to infill / grout flow to prevent air pockets.

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- Do not use stack bonded, column blocks or insulated blocks that are more suspectable to structural stress.
- Walls should be filled in accordance with the masonry manufactures recommendations and mechanically vibrated to avoid air voids.
- Remove any concrete slurry from wall faces, floors and adjacent surfaces before it sets.
- Drying times vary according to wall thickness and weather normally on blocks a minimum 28 days is required for settlement and curing – wall surfaces must be completely dry before commencing.
- Where retaining walls occur in inhabited areas a 50-year tanking membrane is required. Garden retaining walls must be tanked against any back fill to avoid water migration damaging the finished render.
- Waterproof masonry walls before installing any abutting overlays or items such as staircases, dissimilar walls, soffits, etc and as necessary allow clearances for insulation and rendering.
- Insulated wall caps, parapets, balustrades, and joinery openings must be waterproofed with StoFlexyl meshed waterproofing membrane.

2.4 Soffits

Soffits are normally fixed before commencing or after the insulation panels are installed with a 6/8mm finishing bead of compatible MS Sealant applied after the render mesh coat is applied. The main contractor is to ensure any waterproofing required on the walls behind the soffits or adjacent surfaces is carried out before the soffits are installed. Water can penetrate the soffits ensure that the wall junction is waterproofed above and below the soffits.

2.5 Control of External Fire Spread

StoTherm Mineral Wool panels have been tested to AS 1530.1 and are classified as non-combustible.

The specified Sto renders have been tested to EN 13501-1 and have achieved an A2-s1, d0 rating. The specified Sto 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 less than 25 MJ/m^2. The system is therefore suitable for use on buildings at any distance from the relevant boundary.

3. SELECTED MINERAL WOOL INSULATION PANELS

3.1 Responsibility

All work in this section shall be the responsibility of the **Sto Contractor**, unless otherwise expressly agreed. If others fix the insulation panel a Sto QA document must be signed off and the Sto Contractor shall satisfy themselves that the panels are acceptable before proceeding. Adequate protection of all dissimilar materials and adjacent surfaces must be under-taken before commencing.

3.2 Insulation

- **Mineral Wool non-combustible panels**: 75 mm (R2.2) and 100 mm (R2.9) – above ground use only.

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.

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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 inground installations with **30 mm providing the required R1.0.** or thickness as required to match the selected **Mineral Wool insulation.**

3.2 Aluminium joinery

All joinery shall be fixed over **StoFlexyl waterproofing** prior to render application. Before fixing joinery fill any holes in the rebates and use **StoFlexyl** mixed correctly (1 /1 with fresh cement) and thin to a thick brushing consistency before applying onto the **internal rebates** in two coats to the head, jamb and sills of the blocks including the rebated step. The **exterior head, jamb and sill** rebates are to be trowel applied with **StoFlexyl meshed membrane** extending out over the StoTherm Mineral Panels to the external edge. Sealing the joinery perimeter with MS sealant applied over a sealant primer at the head & jambs then forms the primary seal while the **sill** is left open with a 5mm drainage gap. To complete the waterproofing process **air seals** are required to be installed around all interior joinery to rebate openings.

Note: StoFlexyl meshed waterproofing has been tested by BRANZ to **AS/NZS 4858** (waterproof membrane) as required by **CCANZ: CP01 2014 & E2/AS1**.

- **Joinery air seals and sealant (primer required) are the responsibility of the window installer.**

On un-insulated block revels StoTherm Panels must be installed before the **StoFlexyl mesh coat** that is applied so that the mesh extends out to the external corner of the StoTherm Panels covering the block to panel transition.

- **Insulated Revels**

To insulate the block reveals with 20 or 30 mm Graphite Polystyrene+ panels, the internal rebate must be increased to provide approximately 25 mm of joinery flange cover by installing fibre cement sheet packers (e.g., James Hardie Axent Trim
89 mm wide x 19 mm thick) adhered with 5 mm of Sto Adhesive Mortar before the 20-30 mm thick poly insulation panels are installed around the reveal and are reinforced with **StoFlexyl meshed waterproofing.**

Note: new Joinery masonry fixings must penetrate through the packers into the existing masonry by minimum 30 mm.

3.3 Control Joints

All existing control joints in the blocks as designated by the project drawings or block manufacturer must be brought through with a 10mm gap in the Panels. Control joints must be installed in the **StoLevell Novo mesh** coat using the **Sto uPVC Control Joints** ensuring the mesh coat does not overlay the “V” joint. Once dry remove the cleaning tab, and sealant any joints and either apply two coats of the paint and leave as a negative detail or prime V joint and fill with a compatible **MS Sealant** applied in accordance with the manufacturer’s TDS sheets.

3.4 Foundations Capillary Break

The foundations should be waterproofed with **StoFlexyl waterproofing** or other proprietary system. **Mineral Wool Panels must not** be used in the ground. For in ground and splash zone areas use a **Sto Plinth** detail using **XPS plinth panels** from 250/300mm above ground to 300mm below ground.

On proprietary bituminous tanking for sub ground waterproofing the tanking should extend above ground by 200mm behind the Sto Plinth that is then adhered with compatible bituminous adhesive and mechanical fixings above ground.

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A **StoFlexyl capillary break** is formed normally below the interior floor level and generally 150mm above ground using a StoFlexyl meshed strip adhered onto the masonry substrate by approximately 100mm and extending out over the **StoTherm EPS insulation plinth** previously adhered to the foundation.

Note: StoFlexyl meshed waterproofing has been tested by BRANZ to **AS/NZS 4858** (waterproof membrane) as required by **CCANZ: CP01 2014 & E2/AS1**.

3.5 Parapets, Balustrades and Wall Caps

Parapet, balustrade, and wall caps are covered with a polystyrene profile with 10 degrees fall to the inside. They must be correctly cut to size to cover the mineral wool insulation Panels and fitted during the installation of the **StoTherm Insulation Board** using **StoLevell Novo** adhesive and **StoTherm Anchors** as required before being base coated in **StoLevell Novo** and **StoFlexyl meshed** waterproofing reinforced with **StoArmat mesh coat** and the selected finishing system.

Note: StoFlexyl meshed waterproofing has been tested by BRANZ to **AS/NZS 4858** (waterproof membrane)

3.6 Penetrations

Penetrations such as down pipes, fixing brackets and fixtures shall be installed prior to the insulation or Sto EPS high density Power Bloc's used glued and mechanically fixed to support any items installed after the Sto Render System has been installed. All piping and electrical wiring penetrations through the insulation panels must be weatherproofed as per Sto standard and/or project specific details. All wiring must be sleeved in PVC conduit and the terminations sealed using a compatible MS Sealant.

3.7 Selected Mineral Wool Panels

Selected Mineral Wool Panels shall be trued from the base incorporating a StoTherm insulated foundation detail, laid horizontal, brick patterned with no continuous vertical lines and incorporate alternating adjacent Panels on the external corners. The **Mineral Panels** shall be fixed tile like using a 280mm x 10mm notched trowel or **StoTherm notched trowel** first apply a full smoothing coat of **StoLevell Novo** to the back of the board before applying a notched trowel coat of **StoLevell Novo render** to the back of the **insulation panel.** All panels are installed immediately while the adhesive is wet, tight butted and levelled on the render before being mechanically fixed. Panel joints shall be checked after fixing and any gaps filled with mineral wool to prevent thermal bridging – **Note render must not be used**.

Note always ensue there is sufficient adhesive applied to bond & bed the panels onto the surface - if required coat both surfaces. **It is important** that the insulation Panels are well adhered to the substrate with additional care taken at external corners and the wall extremities to obtain a good bond.

3.8 StoTherm anchors (fix in accordance with Sto CAD details generally 5 anchors per board)

Insulation panels are additionally mechanically fixed in accordance with the **StoTherm mineral anchor** pattern using a rotary impact hammer drill a 120mm deep hole (5mm extra) with 8mm masonry bit at the designated fixing centres. Inset the **StoTherm Anchor** and using the **StoTherm Anchor Fixing Tool** counter sink the fixing into the insulation.

Selected Mineral Wool - 600 x 1200mm panels that have been adhered with **StoLevell Novo adhesive** require **5 x StoTherm anchors** 3 on the bottom and 3 on the top that overlap the adjoining panels along the butt joint with two additional body anchors midway through the panel centred 300mm in from the ends (6 half' and 2 full fixings)

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ie; 5 anchors (allowing for half fixings) per 0.720 sqm board or 7 per sqm plus extra anchors required at narrow widths, corners, balustrades, parapets, etc.

Note StoTherm anchors must be 100mm from concrete / block / precast edges to avoid substrate break out

StoTherm Anchors are placed in the pre-drilled holes and countersunk using the **StoTherm Anchor Fixing Tool** attached to an electric drill with the **STA tool plate** stopping flush to ensure correct panel compression and security. All fixings are then plugged with the **Mineral Wool insulation caps** set flush to eliminate thermal bridging.

Note: for specific design wind pressures above 2500Pa refer to Stoanz Limited for fixing patterns at the external corner rim zones. Though the Panels are hydroscopic care must be taken to cover exposed insulation board edges especially top edges to avoid water saturating the masonry substrate.

3.9 Architectural Profiles and Banding

Architectural shapes used to create decorative detailing shall be correctly cut to size and fitted using **StoFlexyl mortar** 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. Joins 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 wall has had a reinforcement mesh coat with the perimeter edges meshed to the wall.

4. STOTHERM ARMAT RENDER 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 **StoTherm Armat Render System** shall be carried out in stages incorporating; **StoLevell Novo** basecoat render**, Stoplex W sealer, StoFlexy**l meshed waterproofing, **StoArmat Classic meshed** reinforcement render, finished in the selected **Stolit** coloured finishing render coated in **StoColor** façade paint or sealed with **S-Protect SC** stay clean on selected MP finishes.

4.3 Mineral Wool Surface

Check the surface and fill any gaps in the board joints with mineral wool to prevent thermal bridging note render must not be used. Ensure any dissimilar flashings and all Sto uPVC trays and flashings are in place for the rendering process. **Note:** The masonry insulated substrate must be dry before rendering.

4.5 Detailing

The masonry joinery revels, wall caps and foundations are to be detailed with **StoFlexyl meshed waterproofing** as per previous **Clause 3.2, .3 & .4 Sto pre meshed corners, revel drip edges, finishing edges and control joints** are lightly embedded in the **StoLevell Novo basecoat render** before being encapsulated in the **StoArmat meshed reinforcement render**.

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4.4 Materials

Stoanz Ltd supplies all the following materials

StoLevell Novo basecoat render with Stoplex W sealer	**StoArmat Classic meshed reinforcement render**
Selected Stolit coloured finishing render	**Sto uPVC pre meshed corner angles, finishing edges and drip edges.**
Selected StoColor facade paint or S-Protect SC stay clean on MP finishes	**Sto Power Bloc** **Sto Zylinder blocs, Spirals, Iso Darts**
StoFlexyl waterproofing	**Selected MW Insulation Panels**

4.5 Basecoat Render

To clean dry sound StoTherm Mineral-Wool insulation Panels apply **StoLevell Novo** basecoat render by hawk and trowel working into the MW fibre at an approximate thickness of 6.0 mm to leave an even straight plane surface free of hollows and deviations while the render is still wet, lightly embed **Sto uPVC pre meshed corners, drip edges** and **finishing edges** and reinforce any stress points with mesh butterflies. Once set remove any ridging or bumps in the basecoat with a Sto feathered straight edge, Grid Plane or Sto rasp ready for the **StoArmat r**einforcing coat. Application procedures for the **StoLevell Novo** must be in accordance with the Sto TDS sheets.

Note: ensure the **StoFlexyl meshed waterproofing** over the **wall caps** and around the **joinery openings** is undertaken over the dry basecoat before the **StoArmat** meshed reinforcing coat.

4.6 Sealer

To clean dry **StoLevell Novo basecoat** apply one coat of **Stoplex W** primer by brush and roller to seal the surface at approximately 8.0 -10m² per litre

4.7 StoArmat Classic reinforcement render
StoArmat HD with hardener for accelerated drying in cold wet 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 2.0 mm and while the **StoArmat Classic** is still wet lightly apply **Sto mesh** ensuring adjacent drops of mesh are overlapped by a minimum 75mm 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 (min DFT 2.5 mm) by hawk and trowel to cover the mesh and leave a plane even surface free of voids or deviations. Once dry remove any slight ridging etc with a Sto rasp ready for subsequent render.

StoArmat Classic must be installed in accordance with the Sto TDS sheets. Always ensure **Sto pre meshed uPVC drip edges** on masonry lintels, **Sto pre-meshed** corner angles on external corners and **Sto pre-meshed finishing edges, Sto control joints** have been installed as detailed.

4.8 Sealant

All junctions between joinery and render and around penetrations, flashings and similar details shall be sealed with a compatible **MS Sealant** applied in accordance with the manufacturer's TDS sheets. using a primer on **StoFlexyl**

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surfaces and as required for PVC, porous substrates, and dissimilar materials.
Note: some types of joinery have drainage holes under the sill flange ensure these remain clear.

4.9 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^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 6-8 m^2 per litre. One (1) coat is acceptable though it will need recoating more frequently. Refer Section StoService recoating requirements.

Note: Always maintain wet edges between cutting in and roll in tight to ensure an even film build is maintained.

4.10 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 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, MP Natural, or RMP Sponge** 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**, **MP Natural or RMP Sponge** is approximately 12-14 m^2 per pail.

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

To selected **Stolit MP**, 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, 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 avoid a surface film forming that can be difficult to remove. Refer **Section 6. StoService** for recoating requirements.

- **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 6-8 m^2 per litre. One (1) coat is acceptable though it will need recoating more frequently. Refer **Section 6. StoService** for recoating.

Note: Always maintain wet edges between cutting in and roll in tight to ensure an even film build is maintained.

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4.11 Stolit Smooth Finish Render

- **Stolit Milano coloured finishing render**

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

- **S-Protect SC Stay Clean Invisible Hydrophobic 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 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, 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 avoid a surface 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 (LRV) of 25%. Where a colour less than 25% 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 - Refer to StoService Documentation for 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 defects 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.

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Depending on the prevailing environmental conditions and the service record, recoating of the paint finish is normally required at the 10 to 12½ -years where two coats were applied or 8-year period where one coat of paint or S-Protect Silane was applied, to maintain long-term integrity. This is carried out using a **StoColor Coating System or S-Protect System** applied in accordance with a Sto specification. Where a colour change is required, Stoanz Limited should be consulted.

7. WARRANTY

7.1 StoTherm Armat Miral Render System 20-year Warranty with StoService Assurance

When the **StoTherm Armat Miral Render 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 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 this type of building element.

The Sto Warranty is supplied by Stoanz Limited to the Sto Contractor who signs off the work on completion of the project. Stoanz Limited confirms the materials supplied have been appraised and are fit for purpose provided that:

a) All specified work is carried out by a registered Sto Contractor who must complete the Sto Quality Assurance Schedule, submit the Sto Warranty Request, and sign off the five-year PS3 Workmanship Warranty.

b) All work is carried out in accordance with this Specification, or any written amendments issued by Stoanz Limited.

c) The warranty does not cover situations where the Render system is subjected to damage, physical disturbance, chemical contamination, or interference.

d) The masonry substrate under the render must be 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.

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