

## Sto Specification New Zealand

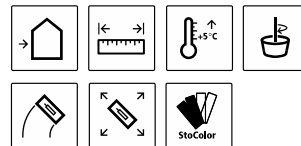
# SS605 StoMiral Render on New or Existing Brick Construction

### StoMiral Render System over new or existing Brick Veneer on timber frame construction

BRANZ Appraisal No 739

CAD Details [www.sto.co.nz](http://www.sto.co.nz)

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



## 1. PROJECT DETAILS

Specifier:

Project and Address:

Project Owner:

Sto Warranty: **StoMiral Render System 15-year Warranty with StoService Assurance**

**StoMiral Render System on New or Existing Brick Veneer Construction:**

This specification details the **StoMiral Render System** on **New or Existing Brick Veneer** with a minimum 40mm cavity incorporating; Preparation, **StoLevell Novo** meshed reinforced render, primed with **Stoplex W sealer** finished in selected **Stolit coloured finishing render** coated with selected **StoColor facade paint** or **S-Protect clear sealer** on selected **Stolit MP finishes** over timber or steel frame construction built within the scope of NZBC Acceptable Solution E2/AS1.

Select Finishing Render:

Select Facade Coating:

Sto Registration Number:  
(Sto Use Only)

i.e. 24.01\_StoReg tec\_sales\_SS605\_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 & Sto ACAD details ([www.sto.co.nz](http://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 ACAD details i.e. items such as roofs, soffits, openings, lights & 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, manufactures details and Sto ACAD details.

A **Sto Quality Assurance Document** is to be filled out as a record of the work undertaken by the Sto Contractor and 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. Dwargs 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 cavity cladding system.

### 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 dwargs of overall section size of 75 mm web and 32 mm flange. Steel thickness must be minimum 0.55 mm. For steel framed buildings situated in NZS 3604 defined Wind Zones up to, and including, 'Very High' studs must be at maximum 600 mm centres. For all other buildings, studs must be at maximum 400 mm centres. Dwargs must be fitted flush between the studs at maximum 800 mm centres.

### 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.

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### 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<sup>2</sup> and NZBC Acceptable Solution H1/AS2 for housing and buildings greater than 300 m<sup>2</sup>, 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.

**Rasped XPS** sheet can be used for vertical edge insulation with 30 mm meeting the required R Value of 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 timber 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

Should be fixed before the cladding is installed. The top of the cavity shall be closed off with a continuous horizontal cavity batten to provide support for cladding fixings and restrict any air flow into the roof space.

A 6/8mm bead of compatible sealant is installed after the Sto panel work is completed and before plastering commences.

Inclined soffits require a flashing, soffits less than 100mm wide require a gutter-eaves flashing see Fig 45: E2/AS1 and Sto Joint Seal Tape can be installed in accordance with StoTherm ACAD details.

### 2.8 Aluminum Joinery

All windows, doors etc. shall be fitted prior to installation of the bricks by the appointed window installer positioned to sit approximately 20 mm over 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.

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The proprietary aluminium head flashing is taped to the underlay and is required to have minimum 20 mm proprietary or fabricated cavity stop ends, minimum 35 mm upstand, 15 degree slope, 10 mm cover over the joinery head and sit 10 mm past the joinery jambs (20 mm total) to cover the **Sto Adhesive Sill and Jamb flashings**. All Joinery is fitted before the Poren Bricks are installed and the **Sto Adhesive Sill and Jamb flashings and proprietary aluminium head flashing** should be fitted consecutively as the bricks are installed. **Note:** Ensure the joinery edges are clean before adhering flashings in place and the head flashing upstand is flashing taped to the **Poren Lintel** (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 6 to 8 mm at soffits that are filled with a polyurethane adhesive foam before rendering.

#### 2.10 Penetrations

Penetrations such as waste pipes and fixing brackets shall be flashed with flashing tape to the wall underlay or the underlay backed by min 75 mm blocking and the exterior pipe finished with a flange sealed in accordance with E2/AS1 Fig 68. All penetrations through the panels shall be adequately sealed using MS Sealant installed over a backer rod. All electrical wiring etc. shall only penetrate the cladding system with the appropriately sized uPVC conduit installed at minimum 5° downward rake. Plumbing piping should be set at a downward rake and all penetrations sealed using a compatible MS Sealant before and after rendering with flanges installed afterwards as required.

Note: Timber blocking must be installed for the fixing of taps, door hooks, lights, gas fittings, security alarms etc.

**The Main Contractor is required to familiarise themselves with all of the Sto installation details before works commence to ascertain their obligations. For Sto ACAD installation details, visit [www.sto.co.nz](http://www.sto.co.nz).**

## 3. NEW BRICK CONSTRUCTION

#### 3.1 Responsibility

All the work in this section relating to the **StoMiral Render System** shall be the responsibility of the **Sto Contractor** including supplying **Sto uPVC Adhesive joinery flashings** as required. The laying of the **Render 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 protection of all adjacent dissimilar materials is undertaken before commencing.

#### 3.2 Rebated Concrete Foundations

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

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### 3.3 New Brick Veneer

New brick veneer installation, including reinforcement, ties, weep holes and mortar joints shall be made in strict accordance with the Brick Manufactures Design and Installation Manual. In particular the bricks shall be laid true, in both vertical and horizontal planes, with all joinery and services cut outs correctly made including galvanized lintels set back 15/20mm as required.

Mortar joints should be 10mm+/-2mm with the bricks squared off the foundation on a mortar course of up to 20mm. Install snake wire reinforcing at all structural stress points in the veneer, above large joinery openings, across narrow widths and at changes in height. The manufactures required curing time (normally 5/7days weather dependent) shall be allowed after placement, for curing and stabilization to take place, before application of the Sto Render System.

All Maximum Tolerances shall be in strict accordance with NZS 4210: 2001 i.e. No more than 3mm surface alignment deviation over a 1200mm radius. The render bricks shall be clean and free of all surface contaminants before render commences and shall be cured enough to accept the base/mesh render coat. The Main Contractor is to ensure that any areas or details adjacent to the Sto Render System have been adequately waterproofed / flashed to avoid any water migration behind the Sto Render System.

### 3.4 Coastal Locations

Coastal locations as defined in NZS 3604 as salt spray zone D and some Microclimatic conditions such as geothermal areas require corrosion proof lintels, Brick ties and screws as per E2/AS1 table 18C and D.

### 3.5 Control Joints

Control joints as designated by the project drawings or engineer must be incorporated in the brick cladding and capped using Sto PVC Control Joints. Vertical control joints are normally required every 12 metres on walls preferably above and below joinery openings, where the height of the wall changes by more than 20%, at foundation expansion joints and dissimilar material junctions see the StoPoren CAD details for specific design.

### 3.6 Sealant

All junctions between the cladding and adjacent dissimilar material surfaces shall be flashed by the main contractor, detailed, and sealed a using compatible **MS Sealant** over PEF rod. The sealant must be applied in accordance with the manufacturer's TDS sheet. **Note** some manufactures require primers for PVC or porous substrates and a primer is required on **StoFlexyl surfaces**.

**Note:** some types of Joinery have drainage holes under the sill flange ensure these remain free.

### 3.7 Architectural Profiles & Shapes

Architectural shapes used to create decorative detailing shall be correctly cut to size and fitted using **StoFlexyl waterproofing** 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 the **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 reinforcement mesh coat with perimeter edges meshed to the wall unless the bottom edge is covering a control joint.

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### 4. EXISTING BRICK CONSTRUCTION

#### 4.1 Responsibility - Existing Building Elements

The Sto specification addresses refurbishing of the exterior surface of the substrate only all other building elements are specifically excluded from the specification. It is the responsibility of the owner or their agent to initiate a process to ensure that all the building elements are dimensionally sound, load bearing and watertight.

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.

#### 4.2 Existing Substrate

All existing surfaces are to be checked they are sound and load bearing; any cracks are to be cleaned out and loose or spalling render removed and repaired with the Sto concrete repair system. This work is to be carried out as a variation or PC sum unless previously identified and scheduled.

#### 4.3 Fixtures & Fittings

The main contractor shall have removed all fittings and fixtures such as downpipes, rain-water heads, gas fittings, handrails, taps, 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.

### 5. EXISTING BRICK PREPARATION

#### 5.1 Responsibility

All exterior surface 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 rendering before proceeding. Adequate protection of all dissimilar materials and adjacent surfaces must be under-taken before commencing.

#### 5.2 Chemical Treatment

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

#### 5.3 Cleaning

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

**Note:** When using a water blaster due care must be taken to avoid the building elements or adjacent surfaces being damaged from excessive pressure or water ingress.

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### 6. STOMIRAL RENDER SYSTEM

#### 6.1 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.

#### 6.2 Selection

Rendering shall be carried out in stages over the substrate incorporating; **Selected StoMiral render (StoLevell Novo or Stoanz Multiscreed meshed render)** sealed with **Stoplex W** sealer finished in **selected Stolit K coloured finishing render** coated in **StoColor facade paint** or **Stolit MP** painted or sealed with **S-Protect SC** stay clean.

#### 6.3 Materials

Stoanz Ltd supplies all the following materials

<b>StoLevell Novo, Stoanz Multiscreed Meshed reinforcement render</b>	<b>StoFlexyl meshed waterproofing</b>
<b>Selected Stolit K or MP coloured finishing renders</b>	<b>Sto uPVC pre meshed corner angles, finishing edges and drip edges.</b>
<b>Selected StoColor facade paint S-Protect sealer</b>	<b>Stoplex W sealer</b>

#### 6.4 StoMiral - StoLevell Novo or Stoanz Multiscreed mesh reinforced basecoat render

To clean, dry, prepared brick surfaces apply a basecoat of **StoLevell Novo or Stoanz Multiscreed render** by hawk and trowel at approximate thickness of 4.0 mm. While the render 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 embedded onto the basecoat and use Sto pre meshed corner angles on all external corners. Allow to set and apply a further coat of **StoLevell Novo or Stoanz Multiscreed** at approximately 2.0 mm by hawk and trowel to completely cover the mesh and leave an even plane surface free of hollows and deviations.

**Note:** Narrow widths or stress points require additional mesh butterflies on top of the mesh coat. Once dry remove any ridging etc of finished surface with a Sto Rasp. As required install **Sto pre meshed drip edges, Sto pre meshed corners** and **Sto pre meshed finishing edges**.

#### 6.5 Rendered Wall Caps

All rendered horizontal surfaces must have a minimum 10° fall. On rendered **parapets** or **balustrades 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 film thickness of 1.5 mm. Extend membrane 75 mm up or down adjacent vertical surfaces and allow to dry overnight. Apply **StoFlexyl meshed waterproofing** over the meshed basecoat before the second coat of basecoat render to avoid a buildup and subsequent shadow line.

**Note:** **StoFlexyl waterproofing** has been evaluated by BRANZ to meet the **AS/NZS 4858** waterproof membrane requirement as required by E2/AS1. **StoFlexyl meshed waterproofing** must be flushed out to avoid mirroring/reading of the meshed waterproofing through the finishing.



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### 6.6 Stoplex W sealer

To clean dry rendered surfaces; apply a sealer coat of **Stoplex W sealer** by low pressure spray or by brush and roller at the approximate 8m<sup>2</sup>/litre.

### 6.7 Sealant Installation

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. Some manufactures 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.

### 6.8 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 3.0mm aggregate as selected**

#### Stolit K coloured finishing render

To all exterior plastered surfaces apply selected **Stolit K** coloured finishing render with a stainless-steel trowel gauging to the thickness of the aggregate size and finished with a plastic float to the requisite pattern and allow to dry normally overnight.

The spreading rate shall be approximately 12sqm/1.0mm, 9sqm/1.5mm 7sqm/2.0mm and 4sqm/3.0mm per pail.

- **StoColor façade paint selected**

All **Stolit K** surfaces shall receive a minimum 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<sup>2</sup> per litre. **Note:** Always maintain wet edges between cutting in and roll in tight to ensure an even film build is maintained. Refer **CI 8. StoService** for recoating requirements.

### 6.9 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, 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<sup>2</sup> per pail.

- **S-Protect SC stay clean 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 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.



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**Note:** All joinery, glazing and dissimilar surfaces must be masked off to prevent the **S-Protect SC stay clean** contaminating the surface and any excess product must be removed during application to avoid a surface film forming that can be difficult to remove. Refer **CI 8. StoService Assurance** for recoating requirements.

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

**Stolit MP** surface can be painted in two (2) coats of **StoColor** façade paint tinted to the selected colour and applied by brush and roller at approximately 6/7 m<sup>2</sup> per litre. **Note:** Always maintain wet edges between cutting in and roll in tight to ensure an even film build is maintained. Refer **CI 8. StoService** for recoating requirements.

#### 7. GENERAL NOTES

##### 7.1 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 25% LRV but above 15% 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.

#### 8. STOSERVICE ASSURANCE

##### 8.1 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](http://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](mailto: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 10 years where two coats 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.

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### 9. WARRANTY

#### 9.1 StoMiral Render System 15-year Warranty with StoService Assurance

When the **StoMiral 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 fifteen (15) 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.
- (d) The substrate under the render finish must be structurally sound. Cracks in the substrate that reflect through the render are not covered by the StoWarranty.

### 10. DISCLAIMER

#### 10.1 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.