



## **STOARMAT MIRAL PLASTER ON BRICK SPECIFICATION**

### **STOARMAT MIRAL PLASTER OVER NEW / OLD BRICK VENEER**

Based on BRANZ Appraisal No 515 - ACAD Details [www.sto.co.nz](http://www.sto.co.nz) building with Sto

#### **Project:**

#### **Prepared for:**

#### **StoArmat Miral Plaster over new or existing brick veneer construction**

This specification is written for the application of the **StoArmat Miral Plaster System** incorporating; **Multiscreed** basecoat plaster, **StoArmat Classic** meshed reinforcement plaster, finished in selected **Stolit K** coloured finishing render coated with **StoColor Maxicryl** facade paint.

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## **1. NEW CONSTRUCTION**

### **Responsibility**

All work in this section shall be the responsibility of the Main Contractor, unless otherwise expressly agreed. The Main Contractor is to ensure that they are fully conversant with all Sto ACAD installation and fixing details (see [www.sto.co.nz](http://www.sto.co.nz) – Building with Sto) and their responsibilities before works commence. The Main Contractor is to be responsible for all liaison with the various sub contractors to ensure that all items relating to weather tightness, junctions, joinery, etc affecting the Sto Plaster System are strictly in accordance with Sto ACAD standard or project specific details, i.e. items such as dissimilar materials junctions, electrical wiring, flashings, plumbing etc or any items that are adjacent or penetrate the Plaster System.

A Sto QA Form is required to be filled out by the various parties involved for the Sto Warranty.

### **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 Building 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. All framing shall be true in vertical and horizontal planes with particular attention to intersections of top plate/floor joists/bottom plate in multi-storey construction. Adequate timber framing & blocking shall be provided by the Main Contractor to facilitate membrane up stands and exterior fixtures. The timber grade and level of treatment shall be in accordance with the latest requirements contained in NZS 3602 generally, a minimum treatment level of H1.2 and an overall maximum moisture content of 24% prior to the cladding being installed.

A concrete foundation is required for brick construction with a minimum 50mm high rebate and a minimum height of 150mm to unpaved ground or 100mm to paved surfaces from the top of the concrete rebate or floor.

### **Wall insulation**

NZBC Acceptable Solution H1/AS1 or NZBC Verification Method H1/VM1 can be used for housing, communal residential, communal non-residential and commercial buildings.

For buildings with a glazing area of 30% or less of the total wall area, the minimum wall R-values required for non-solid construction are: Climate Zone 1 & 2 – R 1.9 and Climate Zone 3 – R 2.0. The Thermal resistance of building elements may be verified by using NZS 4214. The BRANZ House Insulation Guide Fourth Edition provides thermal resistances of common building elements based on calculations from NZS 4214.

### 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. A wall underlay meeting the requirements of E2/AS1 shall be installed in strict accordance with the manufactures instructions. The wall underlay shall always be returned into the recesses of all openings and double lapped and flashing taped as per E2/AS1, WANZ or a BRANZ appraised wrap specification.

**Note:** Ensure any items requiring fixing or penetrating the timber frame such as fixing brackets etc are installed and flashing taped onto the building wrap in accordance with E2/AS1. Proprietary rigid sheathing systems shall be installed in accordance with the manufacturer's instructions. Generic sheathing materials shall be selected and installed in accordance with NZBC Acceptable Solution E2/AS1 Table 23. Generic sheathing materials shall be overlaid with a flexible wall underlay in accordance with E2/AS1 Table 23.

### Aluminum Joinery

Such joinery shall be fixed before the plaster application with a proprietary aluminium head flashing, brick weather tight details and a 10/15mmmm gap at the jambs and sill for installation of the plaster and sealant between the plastered brick rebate and joinery. Sealing the joinery perimeter after the mesh coat with MS Sealant then forms a primary seal before applying the **Stolit K** finishing plaster. A Sto uPVC pre meshed drip edge is recommended at the lintel to shed wall water from the window head.

**Note:** as required **StoPoren PVC Stick On Sill & Jamb flashings** can be used for a positive seal but they need to be positioned **before or as** the bricks are placed ensuring the joinery edges are clean before adhering flashings in place.

### Penetrations

Penetrations such as waste pipes and fixing brackets shall be flashed with flashing tape to the wall underlay in accordance with E2/AS1 Fig 68. All penetrations through the bricks shall be adequately sealed using MS Sealant installed over a backer rod. All electrical wiring etc shall only penetrate the cladding system with the appropriate sized uPVC conduit installed at minimum 5° down wards rake. Plumbing piping should be set at a downwards rake and sealed using MS Sealant before plastering.

### Render Brick

The Render Brick 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 galvanised 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. To prevent cracking install snake wire reinforcing at 800 centre's on corners, above large joinery openings, across narrow widths and at stress points. The manufactures required curing time (normally 5/7days weather dependant) shall be allowed after placement, for curing and stabilization to take place, before application of the **Sto Plaster System**. All Maximum Tolerances shall be in strict accordance with NZS 4210: 2001 2.7.1.4 Table 2.2, 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 plaster commences and shall be cured enough to accept the base/mesh coat plaster. The Main Contractor is to ensure that any areas or details adjacent to the Sto Plaster System have been adequately waterproofed / flashed to avoid any water migration behind the Sto Plaster System.

### **NOTE: MAIN CONTRACTOR & ALL SUB TRADES INVOLVED IN ANY EXTERIOR WORK**

**All Details must be in strict accordance with E2/AS1 and Sto standard or project specific details**

## 2. STOARMAT MIRAL PLASTER SYSTEM

### Responsibility

All work in this section shall be the responsibility of the **Sto Contractor** up to and including provision of external plaster, sealant beads and coating system. The **Sto Contractor** shall satisfy themselves that the surface is satisfactory before proceeding with any plastering.

### Existing Brick Surfaces - Moss Kill Treatment

All existing surfaces to be refurbished shall be treated with a chemical solution to kill all moss and mould spores ensuring the stipulated kill times are observed before commencing.

### Existing Brick Surfaces - Cleaning

All existing surfaces to be refurbished shall be water blasted using a 3000psi machine to remove all contaminants and debris supplemented by removing any loose or friable coatings, texture, etc to establish a clean sound substrate. Cracks or failed joints are to be striped out as necessary to remove all defective material and any coatings that are adhesion impairing will require removal.

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

### Multiscreed basecoat plaster

To clean, cured dry brick surfaces apply a basecoat of **Multiscreed** plaster by hawk and trowel at approximate thickness of 3 - 4mm to leave an even straight plane surface free of hollows and deviations. Once dry remove any ridging etc of finished surface with a Sto rasp.

### Plastered Balustrades Caps

All plastered horizontal surfaces must have a minimum 10° fall (sills 15° fall). On plastered **parapets** or **balustrades caps Sto Flexyl** must be correctly mixed (drill mix 1/1- with **fresh** cement) and applied over the basecoat 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 1.5mm. Extend membrane 75 mm up or down adjacent vertical surfaces and allow to dry overnight. **Note: StoFlexyl waterproofing** has been evaluated by BRANZ to meet the **AS/NZS 4858** waterproof membrane requirement as per **E2/AS1**.

### StoArmat Classic meshed reinforcement plaster

To clean dry plastered surfaces apply one coat of **StoArmat Classic** by hawk and trowel at approximate thickness of 1.5 to 2.0mm. While the **StoArmat Classic** is still wet, lightly embed **Sto Mesh**, ensuring adjacent drops of mesh are overlapped by a minimum of 75mm and the mesh is encapsulated into the **StoArmat Classic**. Allow to dry and apply one further coat of **StoArmat Classic** at approximately 1.0mm thick by hawk and trowel to leave a level plane surface free of voids or deviations. Once dry remove any slight ridging etc of finished surface with a Sto rasp ready for subsequent finishing coats.

### Sealant Installation

All junctions between joinery and adjacent dissimilar surfaces and the Sto Plaster and around penetrations details shall be sealed with **MS Sealant**.

### Architectural Profiles

Any Architectural shapes used to create detailing shall be correctly cut to size and fitted using **Gluecoat Mortar** applied to the back of the shape with a notch trowel prior to placing. Profiles are placed after the reinforcement mesh coat and are edge meshed on to the surface at the perimeter.

### Stolit K coloured finishing render as selected

#### Stolit K texture is available in a flat 1.0mm , 1.5mm or 2.0mm coloured render

To all exterior plastered surfaces apply selected finishing render **Stolit K** tinted to the selected colour, applied with a stainless steel trowel gauging to the thickness of the aggregate size and finished with a plastic trowel 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 -/per pail.

**StoColor Maxicryl façade paint**

All **Stolit K** surfaces shall receive one (1) full coat of **StoColor Maxicryl** 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 rolling in tight to ensure an even film build is maintained.

**3. GENERAL NOTES****Colour**

As selected by Architect or client with a recommended minimum light reflectance value of 20%. If required the applicator is to prepare a sample for approval before plastering commences.

**4. MAINTENANCE****Refer; Sto Maintenance Schedule for comprehensive guide**

The Sto Plaster System must be cleaned annually by washing to remove all existing surface contaminants with special attention to non-rain washed areas. When recoating is required at the 9 – 10 year period to maintain long-term integrity this can be carried out using the appropriate Sto coating over a cleaned surface. Physical damage must be repaired using the appropriate Sto Plaster materials as required. Where a colour change is required, Stoanz Limited should be consulted for a specific specification.

Annual inspections are to be implemented after completion to clearly identify any faults in the cladding, sealant beads, flashings and any other connections. A repair process must be implemented immediately to address any faults so the long-term warranty is not compromised.

**5. WARRANTY**

The **StoArmat Miral Plaster System** described in this specification is warranted for a period of fifteen (15) years from the date of practical completion. This is to comply with the relevant clauses in the New Zealand Building Code; B2 Durability, E2 External Moisture and F2 Hazardous Building Material for this type of building element provided normal maintenance requirements as set out in the Sto Maintenance Schedule are followed..

The warranty is supplied by the Sto Contractor on completion and includes a five (5) year workmanship warranty signed by the Sto Applicator carrying out the work. The warranty is issued and backed by the Stoanz Limited as to the quality of the material supplied provided that;

- (a) All specified work is carried out by the approved Sto Contractor who must complete and sign the Sto QA Compliance Procedure Forms and a PS3 Workmanship Warranty
- (b) All work is carried out in accordance with this Specification or any written amendments issued by the Manufacturers.
- (c) The warranty does not cover situations where the plaster system is subjected to physical disturbance, chemical spillage or interference.

