



STO MIRAL PLASTER OVER BRICK SPECIFICATION

STO MULTISCREED PLASTER OVER NEW OR OLD BRICK CONSTRUCTION

Based on BRANZ Appraisal No 515 - ACAD Details www.sto.co.nz building with Sto

Project:

Prepared for:

StoMiral Plaster over Brick Veneer Construction

This specification is detailed for the application of the **StoMiral Plaster System** incorporating;
Multiscreed meshed basecoat plaster, primed with **Stoplex W** sealer, finished in selected **Stolit K** coloured finishing render coated with **StoColor Maxicryl** facade paint on brick veneer construction

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 – 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 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 with lintel beams H3.1 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 rebate.

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 information contained in this Specification is based on our experience and testing and represents the latest information available at the date of production. No responsibility is taken for uses to which this information may be put, but we advise that where application of products and processes is in complete conformity with this specification an appropriate warranty is available. We reserve the right to alter or update information parameters and formulations at any time without prior notice.

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 weathertight detailing 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.

Brick Construction

The 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. STOMIRAL 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.

General

Plaster installation shall be carried out in stages incorporating; preparation, **Multiscreed** meshed reinforcement plaster to straighten the surface, sealed with **Stoplex W** and finished in selected **Stolit K** coloured finishing render tinted to selected colour coated in **StoColor Maxicryl** facade paint.

Materials

Stoanz Ltd supplies all the following materials;

Multiscreed meshed reinforcement plaster

Stoplex W sealer

Stolit K coloured finishing render

Sto uPVC joinery flashings, drip edges, S/S angles, pre meshed corners and control joints

Sto Flexyl waterproofing

StoColor Maxicryl facade paint

Control Joints

Any control joints in the brick veneer as designated by the project drawings or set out by the engineer must be incorporated into the plaster system using Sto PVC 8mm Control Joints in accordance with Sto CAD details.

Aluminium Joinery

Ensure **all joinery is flashed or set out accordingly** before commencing.

Multiscreed meshed basecoat plaster

To clean, cured dry brick surfaces apply a basecoat of **Multiscreed plaster** by hawk and trowel at required thickness to straighten the surface minimum 3.0mm. While the plaster is still wet, lightly embed Sto mesh, ensuring adjacent drops of mesh are overlapped by a minimum of 75mm, 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 dry and apply one further coat of **Multiscreed** at approximately 2.0mm by hawk and trowel to leave an even straight plane surface free of hollows and deviations.

Note: Any 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 ready for subsequent topcoat.

Plastered Brick Caps

All plastered horizontal surfaces must have a minimum 10° fall (sills 15° fall). On plastered **parapets** or **balustrades tops 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 1.5mm. Extend membrane 75 mm up or down adjacent vertical surfaces and allow to dry overnight. Apply **Sto Flexyl meshed waterproofing** over the **Multiscreed** meshed basecoat before the second coat of plaster to avoid a shadow line.

Note: Sto Flexyl meshed waterproofing has been evaluated by BRANZ to meet the **AS/NZS 4858** waterproof membrane requirement as required by **E2/AS1**.

Stoplex W sealer

To clean and dry plastered surfaces; apply a sealer coat of **Stoplex W sealer** by brush and roller at the approximate spreading rate of 8m²/litre to seal the plastered surface.

Sealant Installation

After the sealer has dried, 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. Fixings may be used to position shapes correctly or for mechanically securing large profiles. The profiles shall be pre meshed or receive a StoArmat mesh coat. Profiles are placed after the reinforcement mesh coat and are edge meshed on to the surface at the perimeter junction.

Finishing Section - select finish

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 m² 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 7/8-year period to maintain long-term integrity and a pristine condition 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 **StoMiral Plaster System** described in this specification is warranted for a period of fifteen (15) years on new work and ten (10) years on existing 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.

