



Classic Stone Limited

Location: Timaru, NZ

Classic Stone – Cladding System
Technical Manual

Document No. Classic Stone TM#2

Classic Stone Limited

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Introduction/ Contact Details	Classic Stone TM#2	01.04.08	1.2	2/14

Introduction

Classic Stone Limited was formed on 1/11/2000 due to demand for an alternative solution to natural stone. Since then demand for Classic Stone Limited's stone veneer products has greatly increased and the company now sells its products nation wide.

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General Description & Product Range	Classic Stone TM#2	01.04.08	1.2	3/14

General Description

Classic Stone Limited manufactures a high end, quality, stone veneer range of products. These stone veneers are used as part of a cladding system for buildings and for the landscape industry. Typical building applications are exterior & interior chimneys/fire places, wall claddings and columns etc.

The benefits of the Classic Stone veneers are:

- A proven and tried product
- We only replicate NZ stone – No imports!
- Unique colouring system created specifically to match NZ stone
- High level of quality bringing incredible realism
- Superior speed of installation
- Lightweight – ne need for footings or wall ties
- 30 year manufacturers warranty
- A cost effective cladding solution
- Low maintenance
- Installation service by local installers

Product Range

- Southern Lakes - SmartFit
- Colonial Schist
- Mt Shale
- Southern LedgeStone
- River Stone
- Canterbury River
- High Country Boulder
- NZ Basalt

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Compliance and Performance	Classic Stone TM#2	01.04.08	1.2	4/14

Compliance

The Classic Stone product, installation methodology and materials have been tested and evaluated by BEAL (Building Element & Assessment Laboratory).

BEAL have appraised and verified that the Classic Stone system meets the performance requirements of the New Zealand Building Code, and have issued their appraisal certificate #C716 – Classic Stone’s Manufactured Stone Veneer Cladding System (copy available from the Classic Stone website – www.classicstone.co.nz).

Performance

Specific Performances with the NZ Building Code:

Clause B1 - Structure

The Classic Stone Cladding System when used in accordance with the BEAL appraisal – C716 Classic Stone’s Manufactured Stone Veneer Cladding System will meet the Performance Requirements of B1.3.3 (a), (b), (f) and (h) of the New Zealand Building Code.

Clause B2 - Durability

The Classic Stone Cladding System when used in accordance with the BEAL appraisal – C716 Classic Stone’s Manufactured Stone Veneer Cladding System will meet the Performance B2.3.1 (b) of the New Zealand Building Code. In other words, the product as appraised will be durable for at least 15 years.

Clause C3 - Spread of Fire

The Classic Stone Cladding System when used in accordance with the BEAL appraisal – C716 Classic Stone’s Manufactured Stone Veneer Cladding System will meet the Performance C3.3.5 of the New Zealand Building Code.

Clause E2 - External Moisture

The Classic Stone Cladding System complies with clause E2.3.2 of the Building Code when installed in accordance with the BEAL appraisal – C716 Classic Stone’s Manufactured Stone Veneer Cladding System. In other words, the product as appraised will “prevent the penetration of water that could cause undue dampness, or damage to building elements”.

Clause F2 – Hazardous Building Materials

The product contains no hazardous materials and complies with clause F2.3.2 of the Building Code.

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Design Considerations	Classic Stone TM#2	01.04.08	1.2	5/14

Design Considerations

Stone Veneer Design-

The precast manufactured stone veneers have been designed not only to achieve the authenticity of real stone but to also assist in the ease of production, packaging and installation.

The design of the stone has allowed not only the correct quantity to be packaged into each box but also the correct variation of sizing and colour. This then flows onto the stone arriving on site, where the correct blend mentioned above assists with the installation process, enabling an authentic stone appearance.

The Classic Stone Cladding System can be installed over timber framing complying with NZS 3604 and over light-weight steel framing complying with NASH 3405:2006 Steel Framed Buildings.

Choice of backing sheet-

The use of **Eterpan fibre cement sheets** is limited to the use of 9mm thick sheets sealed both front and back, installed in Low to Medium wind zones only, up to two stories and shall be fixed using stainless steel fixings as described in the manufacturer's fixing instructions (4201V Ventclad Cladding System).

BGC - Stonesheet fibre cement sheets may be installed in all wind zones covered by NZS 3604 and shall be fixed using stainless steel fixings as described in the manufacturer's fixing instructions (BGC Stonesheet Fixing Guide).

It is essential that the fixings are not closer than 12mm from the edge of the sheets and not over-tightened. Concrete block when used as a substrate to a specific design shall comply with AS/NZS 4455 and AS/NZS4210.

Concrete tilt-up panels when used as a substrate to a specific design shall comply with the guidelines described in TM 34, Tilt-up Technical Manual from Cement & Concrete Assn. NZ.

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Specific Requirements - Framing	Classic Stone TM#2	01.04.08	1.2	6/14

Specific Requirements - Framing

The Classic Stone cladding system must be used in conjunction with framing and other components of a wall assembly that comply with E2/AS1 in all respects, except as varied herein, in order to meet the Performances of the Building Code claimed in this Appraisal. This limitation includes restricting the use of the products to timber framed buildings complying with NZS 3604: 1999 'Timber Framed Buildings', to wall wraps that comply with Table 23 of E2/AS1 and lightweight steel framing that complies with NASH 3405.

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Limitations & Weather Conditions	Classic Stone TM#2	01.04.08	1.2	7/14

Limitations & Weather Conditions

Classic Stone products should not be assumed to add to the load bearing capacity of a wall.

Product should not be used below water level, such as for swimming pool liners. Chlorine and other chemicals may discolour the Classic Stone product and other masonry materials. The Classic Stone wall veneer should not be used for paving applications.

When Classic Stone veneer is being applied in hot or dry weather, the back of each piece must be moistened with a fine spray of water or a wet brush so as to prevent excessive absorption of moisture from the mortar.

If being installed over concrete, masonry or scratch coat substrate, the substrate surface area should also be dampened before applying mortar. Applications should be protected from freezing as mortar will not set up properly under such conditions. Do not use antifreeze compounds to lower the freezing point of mortar.

For further reference see BRANZ's Stucco Good Practice Guide 2004.

Fibre Cement Sheet –

BGC – see BGC's documentation on the Technical page of Classic Stone's web site.

PBS – Eterpan sheet:

The Eterpan sheet can only be installed with Classic Stone veneer under the following limitations:

- a) Seal both front and back with Taubman's UltraProof acrylic enamel, mixed 50:50 with clean water and applied by roller (dries in about 5 minutes)
- b) Use only 9mm thick Eterpan product
- c) Use either stainless steel fixings as recommended by the Eterpan manufacturer or M5 18x30mm Fibre ZIP Screws, with emphasis on not over tightening!
- d) Use in only low or medium wind zones up to two stories
- e) Ensure each installation (job) is inspected before commencing the application of the replica stone system.

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Materials, Fixings or Accessories Provided By The Owner/Builder	Classic Stone TM#2	01.04.08	1.2	8/14

Materials to be provided by the owner/builder

Substrates

Classic Stone's Manufactured Stone Veneer Cladding System has been appraised to be used in conjunction with:

- sealed concrete block
- sealed tilt-up concrete panel
- Stonesheet fibre-cement sheet supplied by BGC
- Eterpan fibre-cement sheet supplied by PBS Group, which is limited to the use of 9mm thick sheets sealed both sides with an appraised sealer and installed in Low to Medium wind zones only, up to two stories. Fixing shall be by way of stainless steel nails or screws as described in the manufacturer's fixing instructions (4201V Ventclad Cladding System). Taubmans UltrProof acrylic enamel diluted up to 50% with clean water is an appraised sealer.

Fixings and accessories to be provided by the owner/builder

All substrates and there corresponding components, fixings or accessories directly associated with the installation of the substrate are the responsibility of the owner/builder.

E.G. Substrate – Fibre Cement Sheet.

- BGC - Stonesheet
- Tapes
- Sealants
- (fixings) Nails & or Screws

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Materials, Fixings or Accessories Provided By The Installer	Classic Stone TM#2	01.04.08	1.2	9/14

Materials, Fixings or Accessories Provided By The Installer

The installer is to provide the following:

- Classic Stone manufactured veneer
- Sand & Cement
- Appraised sealer to seal the substrate
- Approved mortar additive (needed to produce the adhesive mortar)
- Appropriate tools – trowel, pointing trowel, grinder etc
- Oxides for tint blending
- Sealer for the exterior stone work

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Specifications & Requirements of a Mortar Additive & Sealer	Classic Stone TM#2	01.04.08	1.2	10/14

Specifications & Special Requirements of Any Components, Fixings or Accessories

Eterpan Sealer – Taubmans UltrProof acrylic enamel

**Mortar Additive – Equus's – Thermexx Binder
Rhom & Haas's – Primal MC76LO**

Stone Sealer – Equus's – WB2

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Bond Coat	Classic Stone TM#2	01.04.08	1.2	11/14

Bond Coat

The CS adhesive admixture - a proprietary acrylic- modified sand and cement based adhesive is manufactured and supplied to Classic Stone to an in-house standard.

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Installation

Stage 1

The owner/builder should ensure that all wall construction should comply with the requirements of the New Zealand Building Code. If the wall is of timber frame then it should meet the NZS3604 standard. Concrete block when used as a substrate to a specific design shall comply with AS/NZS 4455 and AS/NZS 4210. Concrete tilt-up panels when used as a substrate to a specific design shall comply with the guidelines described in TM 34, Tilt-up Technical Manual from Cement & Concrete Assn NZ.

Any specifications or limitations cited in the Classic Stone appraisal - (C716 Classic Stone's Manufactured Stone Veneer Cladding System) regarding substrates must also be complied with.

Stage 2

The Classic Stone installer shall in the first instance ensure that the substrate which is to receive the stone veneer-

- Is an approved substrate as per the Classic Stone appraisal
- Has been properly installed and is in satisfactory condition

If Eterpan sheet is used, then it is to be sealed both sides with Taubman's UltraProof acrylic enamel diluted up to 50% with clean water and ensuring that the entire surface of the substrate is sealed.

An acrylic-modified sand & cement based bond coat is then applied evenly to the substrate to ensure the provision of a sound 'mechanical key' for the adhesive to bond to.

Having touch tested the bond coat to make sure it has cured properly; the modified mortar is now placed on the back of the stone veneer and is applied to the substrate. Special care is taken at this stage to ensure that the mortar spreads past the surrounding edges of the stone 'locking - in' the stone veneer both to the substrate and the other stone veneers.

With the stone work now completed and the mortar having fully set, sealing of the stone surface can now commence. A water-repellent (Equus – WB2) is now applied in a two coat 'wet on wet' application. The installer is to ensure that the repellent is to cover the entire stone surface including all mortar surfaces.

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Maintenance	Classic Stone TM#2	01.04.08	1.2	13/14

Maintenance

Most applications require little maintenance. Exterior applications where excessive dust or dirt accumulates should be washed down with water occasionally. Repeated applications of a water based sealer should be applied as per the recommendations of the manufacturer.

An annual inspection of stone and substrate is advisable especially with regards to possible building movement.

Cleaning

Use detergent and water with a soft bristle brush. Do not use a wire brush as it will cause damage to the surface. Rinse immediately with fresh water. Do not attempt to clean using acid or acid based products. A low pressure power washer may be used.

Scuffing

Scuffing occurs on all natural stone. Occasionally, some scuffing will occur on the surface of Classic Stone products. Some scuff marks can be removed by cleaning as described above.

Efflorescence

On rare occasions, efflorescence may occur on all masonry products. Most efflorescence wears off naturally over time. For more difficult efflorescence problems please contact your local distributor.

Sealing

Apply a water based sealer (Classic Stone will advise on the correct sealant to use) to the entire (stone, pointing etc) application, following the directions provided (coverage, frequency etc) by the sealant manufacturer. Typically those areas of the building prone to greater weathering should be resealed more often (refer to manufacturers specifications).

Inspection

As with most exterior claddings an annual inspection should be made of the stone veneer, taking note of the condition of the stone and any pointing. Should any deterioration be observed please contact your local distributor/installer.

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Detail Drawings	Classic Stone #TM1	01.04.08	1.2	14/14

Detail drawings are now provided as download files in PDF and DWG formats from the Technical page on the Classic Stone web site: **www.classicstone.co.nz**.