



**BRANZ Appraised**

Appraisal No.471 [2005]

BRANZ Appraisals

Technical Assessments of products  
for building and construction

**BRANZ  
APPRAISAL  
No. 471 (2005)**

Amended 30 August 2013

**NU-AGE  
NU-SOLID**

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## Product

1.1 Nu-Age NU-SOLID is an un-reinforced solid plaster system for use as a finishing system over a solid backing of concrete masonry, clay or concrete brick or in-situ or pre-cast concrete.

1.2 The plaster system consists of a 10 mm thick base coat of modified render followed by an optional 2-3 mm thick layer of Skim Coat plaster, finished with a 2-5 mm thick finishing texture coat of either Sponge or Adobe plaster. The plaster system is finished with a latex based exterior paint system.



## Scope

2.1 Nu-Age NU-SOLID has been appraised as a solid plaster system for buildings within the following scope:

- with substrates of concrete masonry, in-situ concrete or pre-cast concrete up to 3 storeys, with a maximum height from ground to eaves of 10 m; and,
- with substrates of clay or concrete brick veneer designed and constructed in accordance with the scope limitations of NZBC Acceptable Solution E2/AS1, NZS 4210 and NZS 4229; and,
- with floor plan area limited only by seismic and structural control joints; and,
- with supporting structures designed and constructed in accordance with the NZBC; and,
- detached and located one metre or more from the relevant boundary.

2.2 Nu-Age NU-SOLID must only be applied on vertical surfaces except for sills which must have a minimum 15° slope and be waterproofed in accordance with the requirements of the building designer.

2.3 Installation of plasters and accessories supplied by Nu-Age Plaster Limited must be carried out only by Nu-Age Plaster Limited approved applicators.

## Building Regulations

### New Zealand Building Code (NZBC)

**3.1** In the opinion of BRANZ, Nu-Age NU-SOLID if designed, used, installed and maintained in accordance with the statements and conditions of this Appraisal, will meet or contribute to meeting the following provisions of the NZBC:

**Clause B2 DURABILITY:** Performance B2.3.1 (b), 15 years and B2.3.1 (c), 5 years. Nu-Age NU-SOLID meets these requirements. See Paragraph 10.1.

**Clause E2 EXTERNAL MOISTURE:** Performance E2.3.2. Nu-Age NU-SOLID meets this requirement. See Paragraphs 14.1 and 14.2.

**Clause F2 HAZARDOUS BUILDING MATERIALS:** Performance F2.3.1. Nu-Age NU-SOLID meets this requirement and will not present a health hazard to people.

**3.2** This is an Appraisal of an **Alternative Solution** in terms of New Zealand Building Code compliance.

## Technical Specification

**4.1** System components and accessories supplied by Nu-Age Plaster Limited for Nu-Age NU-SOLID are:

### Plasters

- *Modified Render* is a polymer-modified Portland cement based plaster comprising a coarse sand, polypropylene fibres and additives. It is supplied in 25 kg bags and mixed on site with clean water. It is trowel or pump applied as a base coat in a 10 mm thick layer.
- *Skim Coat* is a polymer-modified Portland cement based plaster comprising a very fine sand and additives. It is supplied in 25 kg bags and mixed on site with clean water. It is trowel or spray applied to achieve a smooth, even plaster surface for the application of finishing plasters in a 2-3 mm thick layer.
- *Adobe Finish* is a polymer-modified Portland-cement based plaster comprising a fine or very fine sand and additives. It is supplied in 25 kg bags and is mixed on site with clean water. It is trowel applied to give a sculptured undulating finish, 3-5 mm in thickness.
- *Sponge Finish* is a polymer-modified Portland-cement based plaster comprising a fine sand, hydrated lime and additives. It is supplied in 25 kg bags and is mixed on site with clean water. It can be trowel or pump applied to a thickness of 3 mm.

### Accessories

- Starter strip - Z275 galvanised steel with white unplasticised uPVC capping over the exposed bottom edge. The starter strips are available in 3000 mm lengths.
- Control joint - Z275 galvanised steel with white unplasticised uPVC capping over the exposed face. The control joints are available in 3000 mm lengths.
- Widra corner bead - stainless steel, available in 2950 mm lengths.

**4.2** Accessories used with the system which are supplied by the applicator are:

- Flexible sealant - sealant complying with NZBC Acceptable Solution E2/AS1, or sealant covered by a valid BRANZ Appraisal for use as a weather sealing sealant for exterior use.

## Paint System Specification

**4.3** A latex exterior paint system complying with any of Parts 7, 8, 9 or 10 of AS 3730 must be used over the finishing plasters to make the system weathertight and give the desired finish colour to exterior walls. Paint colours must have a light reflectance value of 40% minimum regardless of gloss value. Proprietary paint systems have not been assessed and are outside the scope of the Appraisal.

## Handling and Storage

**5.1** Handling and storage of all materials supplied by Nu-Age Plaster Limited or the approved applicator, whether on or off site, is under the control of Nu-Age Plaster Limited approved applicators. Dry storage must be provided on site for the bags of plaster mix.

**5.2** Bags of Nu-Age plaster must be used within the designated shelf life of six months from the date of manufacture.

## Technical Literature

**6.1** Refer to the Appraisals listing on the BRANZ website for details of the current Technical Literature for Nu-Age NU-SOLID. The Technical Literature must be read in conjunction with this Appraisal. All aspects of design, use, installation and maintenance contained in the Technical Literature and within the scope of this Appraisal must be followed.

## Design Information

### Solid Substrates

#### Concrete Masonry

**7.1** Concrete masonry must be designed and constructed in accordance with NZS 4210 and either NZS 4229 or NZS 4230.

#### In-situ and Pre-cast Reinforced Concrete

**7.2** In-situ and pre-cast reinforced concrete walls must be specifically designed in accordance with NZS 3101 and AS/NZS 1170 using the design guidelines.

#### Clay and Concrete Brick Veneer

**7.3** Clay and concrete brick veneer must be designed and constructed in accordance with NZBC Acceptable Solution E2/AS1, NZS 4210 and NZS 4229. Ventilation opening requirements must be adhered to.

### General

**8.1** At ground level the bottom edge of the Nu-Age NU-SOLID system must be kept clear of paved surfaces, for example footpaths, by a minimum of 100 mm and unpaved surfaces by 175 mm. The bottom edge of the plaster system must be finished against a starter strip.

**8.2** The exception to the ground clearance requirements in Paragraph 8.1 is where the NU-SOLID plaster system is used to plaster concrete foundations and is continued below ground. This is outside the scope of this Appraisal and approval for its use is by specific design.

## Control Joints

9.1 Control joints in the Nu-Age NU-SOLID plaster system must be constructed in accordance with the Technical Literature, and be provided as follows:

- at maximum 6.0 m vertical and horizontal centres; and,
- aligned with any control joint in the solid substrate; and,
- where the system covers different solid substrates.

## Durability

### Serviceable Life

10.1 Nu-Age NU-SOLID installations are expected to have a serviceable life of at least 15 years provided the paint finish system is maintained in accordance with this Appraisal, and the NZBC external moisture and internal moisture provisions are met.

## Maintenance

11.1 Regular maintenance is essential for Nu-Age NU-SOLID installations to continue to meet the NZBC durability performance provision and to maximise their serviceable life.

11.2 Annual inspections must be made to ensure that all aspects of the plaster system remain in a weatherproof condition. Any damaged areas or areas showing signs of deterioration which would allow water ingress, must be repaired immediately. Sealant, paint coatings or the plaster system must be repaired in accordance with the relevant manufacturer's instructions. Any damage to the substrate must be repaired and the advice of the substrate manufacturer must be sought.

11.3 Regular cleaning (at least annually) of the NU-SOLID plaster system is recommended to remove grime, dirt and organic growth, to maximise the life and appearance of the coating. Grime may be removed by brushing with a soft brush, warm water and detergent.

11.4 Recoating of the paint system will be necessary throughout the life of the plaster system. The interval between recoats depends on the paint colour, orientation and quality of the application, and will be at approximately 5-10 yearly intervals in accordance with the paint manufacturer's instructions.

11.5 Minimum ground clearances as set out in this Appraisal must be maintained at all times during the life of the plaster system.

(Note: Failure to adhere to the minimum ground clearances given in this Appraisal and the Technical Literature will adversely affect the long term durability of Nu-Age NU-SOLID.)

## Control of External Fire Spread

12.1 Nu-Age NU-SOLID is suitable for use on buildings with an SH Risk Group classification, a building height of  $\leq 10$  m and at a distance of  $\geq 1.0$  m to the relevant boundary. Refer to NZBC Acceptable Solutions C/AS2 – C/AS6 Paragraph 5.8.1 for the specific exterior surface finishes requirements for other building Risk Groups.

(Note: The scope of this Appraisal limits building heights to 10 m in accordance with the limitations of NZBC Acceptable Solution E2/AS1, Paragraph 1.1(a). The building heights referenced in Paragraph 12.1 above are as defined in the Definitions Sections of NZBC Clauses C1 - C6 Protection from Fire.)

## Prevention of Fire Occurring

13.1 Separation or protection must be provided to the Nu-Age NU-SOLID plaster and finishing system from heat sources such as fire places, heating appliances, flues and chimneys. Part 7 of NZBC Acceptable Solutions C/AS1 – C/AS6 and NZBC Verification Method C/VM1 provide methods for separation and protection of combustible materials from heat sources.

## External Moisture

14.1 Nu-Age NU-SOLID installations when installed and maintained in accordance with this Appraisal and the Technical Literature will meet code compliance with NZBC Clause E2.3.2.

14.2 The detailing of junctions between the Nu-Age NU-SOLID plaster system and external joinery, other wall penetrations, e.g. meter boxes, and other cladding and roofing junctions are the responsibility of the designer for compliance with the NZBC. These details have not been assessed and are outside the scope of this Appraisal.

## Installation Information

### Installation Skill Level Requirements

15.1 Installation and finishing of components and accessories supplied by Nu-Age Plaster Limited and the approved applicator must be completed by trained applicators, approved by Nu-Age Plaster Limited.

## System Installation

### Nu-Age NU-SOLID Plaster System

16.1 Components and accessories supplied by Nu-Age Plaster Limited and the approved applicator must be installed in accordance with the Technical Literature by Nu-Age Plaster Limited approved applicators.

### Finishing

16.2 The paint coating manufacturer's instructions must be followed at all times for application of the paint finish. Plaster must be cured a minimum of 7 days before commencing painting.

### Inspections

16.3 The Technical Literature must be referred to during the inspection of Nu-Age NU-SOLID installations.

## Health and Safety

17.1 Safe use and handling procedures for the components that make up the Nu-Age NU-SOLID system are provided in the relevant manufacturer's Technical Literature.

## Basis of Appraisal

The following is a summary of the technical investigations carried out:

## Investigations

18.1 A durability opinion has been given by BRANZ technical experts.

18.2 Site visits have been carried out by BRANZ to assess the practicability of installation, and to examine completed installations.

18.3 The Technical Literature for Nu-Age NU-SOLID has been examined by BRANZ and found to be satisfactory.

## Quality

19.1 The manufacture of the plasters has been examined by BRANZ, including methods adopted for quality control. Details regarding the quality and composition of the materials used were obtained by BRANZ and found to be satisfactory.

19.2 The quality of materials, components and accessories supplied by Nu-Age Plaster Limited is the responsibility of Nu-Age Plaster Limited. The quality control system of Nu-Age Plaster Limited has been assessed and registered as meeting the requirements of the Telarc Q-Based Code by Telarc Limited, Registration Number 631.

19.3 Quality on site is the responsibility of the Nu-Age Plaster Limited approved applicator.

19.4 Designers are responsible for the building design, and building contractors are responsible for the quality of construction and installation of the solid substrates, joinery, flashing tapes, airseals and joinery flashings in accordance with the instructions of the building designer.

19.5 Building owners are responsible for the maintenance of Nu-Age NU-SOLID in accordance with the instructions of Nu-Age Plaster Limited.

## Sources of Information

- AS/NZS 1170: 2002 Structural design actions.
- NZS 3604: 2011 Timber-framed buildings.
- NZS 3101: 1995 Concrete structures standard
- NZS 4210: 2001 Masonry construction: Materials and workmanship.
- NZS 4229: 1999 Concrete masonry buildings not requiring specific engineering design.
- NZS 4230: 2004 Design of reinforced concrete masonry structures.
- Compliance Document for New Zealand Building Code External Moisture Clause E2, Department of Building and Housing, Third Edition July 2005 (Amendment 5, 1 August 2011).
- Ministry of Business, Innovation and Employment Record of Amendments for Compliance Documents and Handbooks.
- The Building Regulations 1992.

### Amendment No. 1, dated 31 January 2012.

This Appraisal has been amended to update clause changes as required by the introduction of NZS 3604: 2011 and NZBC Acceptable Solution E2/AS1 Third Edition, Amendment 5.

### Amendment No. 2, dated 30 August 2013.

This Appraisal has been amended to update clause changes as required by the introduction of NZBC Fire Clauses C1 – C6 Protection from Fire and A3 Building Importance Levels.



**BRANZ**

**In the opinion of BRANZ, Nu-Age NU-SOLID is fit for purpose and will comply with the Building Code to the extent specified in this Certificate provided it is used, designed, installed and maintained as set out in this Certificate.**

**The Appraisal Certificate is issued only to the Certificate Holder, Nu-Age Plaster Limited, and is valid until further notice, subject to the Conditions of Certification.**

### Conditions of Certification

1. This Certificate:
  - a) relates only to the product as described herein;
  - b) must be read, considered and used in full together with the technical literature;
  - c) does not address any Legislation, Regulations, Codes or Standards, not specifically named herein;
  - d) is copyright of BRANZ.
2. The Certificate Holder:
  - a) continues to have the product reviewed by BRANZ;
  - b) shall notify BRANZ of any changes in product specification or quality assurance measures prior to the product being marketed;
  - c) abides by the BRANZ Appraisals Services Terms and Conditions.
3. The product and the manufacture are maintained at or above the standards, levels and quality assessed and found satisfactory by BRANZ.
4. BRANZ makes no representation as to:
  - a) the nature of individual examples of, batches of, or individual installations of the product, including methods and workmanship;
  - b) the presence or absence of any patent or similar rights subsisting in the product or any other product;
  - c) any guarantee or warranty offered by the Certificate Holder.
5. Any reference in this Certificate to any other publication shall be read as a reference to the version of the publication specified in this Certificate.

For BRANZ

P Robertson  
Chief Executive

Date of issue: 8 June 2005