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# Nu-Wall® Cladding BPIR Product Statement - Class 1

## 1. Company Details

Aluminium Product Brands NZ Limited  
24b Greenpark Road  
Penrose  
Auckland  
09 582 0040  
[www.nuwall.co.nz](http://www.nuwall.co.nz)

## 1b. Manufacturers Details

McKechnie Aluminium Solutions Ltd  
36 Paraiti Road  
Bell Block  
New Plymouth 4372  
New Zealand

<https://www.mckechnie.co.nz>  
Tel: 0800 625 000

## 2. Trademark

Nu-Wall® is the Registered Trademark of Aluminium Product Brands NZ Limited

## 3. Declaration - Ban and Warnings (Section 26 NZ Building Act 2004)

Nu-Wall cladding has never been subject to any product warning or ban under section 26 of the New Zealand Building Act.

## 4. Additional Documents to be referenced.

The following freely available documents should be used as additional reference to this BPIR declaration:

- Nu-Wall Branz Appraisals
- Nu-Wall Product Technical Statement (PTS)
- Nu-Wall General Product Performance Statement (GPS)
- Nu-Wall installation documents

All documents are available on <https://nuwall.co.nz/technical-resources/documentation>

## 5. Product Description

The Nu-Wall® cladding system is a direct fixed or cavity-based, inter-locking aluminium weatherboard system. It is designed to be used as an external wall cladding system for residential and light commercial type buildings where residential construction techniques are used. It is suitable for residential or commercial works as exterior cladding for the entire structure, or in combination with other cladding products. Nu-Wall® is also suitable for use in interior applications.

Nu-Wall® weatherboards are manufactured from 6063 T5 or 6060 T5 aluminium alloy and are produced in a variety of profiles with affective cover ranging from 100 mm to 200 mm. The



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extruded aluminium profiles are supplied factory prefinished in a wide range of powder coat or anodised colours. When installed, the cladding is effectively 14.5 mm thick. Nu-Wall® weatherboards are supplied in 6 m lengths as standard but can be supplied up to 8.3m long.

## 6. Manufacture

Nu-Wall® is proudly manufactured in New Zealand by our extrusion partners McKechnie Aluminium who are an ISO 9001 certified manufacturer. The boards are manufactured using 6063 T5 or 6060 T5 aluminium alloy in accordance with NZS 3504:1979, Amend. 1:1998, clause 5.1.1,

The product complies with NZBC Acceptable Solution B2 Durability for a durability of not less than 15 years, in accordance with the requirement stated in Table 1 for Non-structural Wall Cladding. The extrusions are manufactured with an approximate 85% locally sourced recycled component.

Nu-Wall® profiles are extruded to order and supplied pre-finished in a wide range of powder coat or anodised colours.

Cladding profiles range in weight from approx. 5.25 – 7.90 Kg/M2 and are supplied to a maximum length of 8.3m for prefinished (powder coated) boards.

### a) Lead-times

Supply to most projects requires a production lead-time of approximately 4 weeks, allowing time for extrusion of the main profiles and application of finishes. In some situations, involving smaller projects, sufficient mill-finish material may be held in stock, only requiring application of finishes; lead-time for these is reduced to approximately 2 weeks.

### b) Supply chain

Nu-Wall® offers various options for obtaining supply of our cladding product either directly from ourselves or via your appointed building contractor. We also offer the product via an experienced third-party installer as part of a supply/install contract.


## 7. Nu-Wall® cladding system- componentry inclusion

Nu-Wall weatherboards are characterised by a universal jointing system that allows various profiles and flashings to be used seamlessly across the profile range. The boards are fastened using a proprietary hidden fixing clip @600mm centres and are complimented by a range of universal ancillary profiles used for flashing the cladding and rendering it watertight.

This product declaration covers the following components of a typical Nu-Wall cladding system:

- Solid Aluminium AliBat cavity battens
- Solid extruded boards with typical cover of 200mm (~20 profiles)
- Solid extruded flashings/ancillaries (~20 profiles)
- Solid extruded fixing clips (3 types)
- Isolation tape
- Foam seals
- Plastic soaker strips
- Stainless timber screws of varied lengths
- Stainless TEK screws of varied lengths
- Concrete screws of varied lengths



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## 8. Specifiers

This document should be used in conjunction with published specification drawings which are available for download in various formats on the Nu Wall website. The standard specification drawings cover general Nu-Wall® detailing when installing onto timber framing under NZS3604 requirements. Nu-Wall® can also be installed over steel framing and other substrates, including over-cladding.

Nu-Wall® technical team can assist with detailing of all installation variations and junctions with other claddings.

Please refer to the following documents for further advice:

- Nu-Wall® Product Technical Statement (PTS's)
- Nu-Wall® Colours and Textures Guide

### a) Resources for Specifiers

Nu-Wall® Cladding Ltd maintain extensive technical and compliance resources relating to design/detailing and installation procedures. These are all available on our website [www.nuwall.co.nz](http://www.nuwall.co.nz)

### b) Designing to cladding module sizes

For Nu-Wall® boards in the Vertical orientation it is not a requirement that windows, and doors be positioned to align with the module sizing/cover of the profile selected. Boards and jamb flashings are cut and flashed around the window irrespective of its location.

For Nu-Wall® boards in the Horizontal orientation, Installation of cladding around window head and jamb flashings will be greatly facilitated if window & door heads are planned to align with a full board and it is likely a neater finished will be achieved.

### c) Design responsibility

The designer/specifier on the project must ensure that the respective details provided on <https://nuwall.co.nz/technical-resources> are suitable for the intended application on the project. Any additional detailing needs to be provided for specific design or any areas that fall outside the scope and specifications of the BRANZ appraised Nu-Wall system.

For applications which are outside the scope of the BRANZ appraised Nu-Wall system the Specifier must ensure that the design meets the relevant performance requirements of the NZBC.

Please contact the Nu-Wall® technical team for assistance in the development and review of non-standard detailing.

## 9. NZ Building Code Compliance

### a) *Alternative Solution*

Nu-Wall® is categorised as an Alternative Solution for external cladding of constructions within the scope of NZBC Clause E2/AS1 – External Moisture (Third Edition, Amendment 6; February 2014).



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The Nu-Wall® cladding system, if designed, used, and installed in accordance with the statements and conditions of this literature and supporting BRANZ Appraisals, will meet the following provisions of the New Zealand Building Code:

- Clause B1 Structure
- Clause B2 Durability
- Clause E2 External Moisture
- Clause F2 Hazardous Building Materials

*b) BRANZ Appraisals*

The product has been determined by BRANZ as being suitable for installation as an exterior cladding, per the following Appraisals:

- Appraisal #550; Horizontal over a drained & vented cavity (risk scores 0 – 20)
- Appraisal #870; Vertical over a drained & vented cavity (risk scores 0 -20)
- Appraisal #556; Vertical Direct fixed (risk scores 0 – 20)

*c) Spread of fire*

Nu-Wall® Cladding consists of a solid extruded aluminium substrate coated with a surface finish less than 1.0mm thick. And is regarded as being non-combustible element as defined in NZBC Clause C/AS2.,

Section 12 and 13 of the Nu-Wall BRANZ appraisals confirms Nu-Walls non-combustibility status.

Where there is a requirement on a project for a non-combustible cladding system, this can be achieved through installation over a cavity formed using non-combustible AliBat (by Nu-Wall) Structural Aluminium Cavity Battens.

Further Information relating to AliBat can be downloaded from [www.alibat.co.nz](http://www.alibat.co.nz) or <https://nuwall.co.nz/technical-resources>

## 10. Scope


The Nu-Wall® cladding system has been appraised as an external wall cladding for buildings within the following scope:

- The limitations of NZBC Acceptable Solution E2/AS1, Paragraph 1.1
- A risk score of 0-20, calculated in accordance with NZBC Acceptable Solution E2/AS1,
- Wind Zones up to, and including, Extra High to a maximum ultimate limit state (ULS) of 2.5 kPa.
- BRANZ EM7 E2/VM2 rating for use on structures up to 25m (vertical boards only)

Nu-Wall® can make available the following evidence to support the above statements.

- BRANZ - Appraisal 870,550 and 556
- BRANZ EM7 E2/VM2 (vertical boards only) - allowing for use on structures up to 25m with a ULS of 3.6Kpa.
- BRANZ (ST0847/1) Seismic P21 racking test
- BRANZ (ST12795-01-1) Face load test for Mono 400 which provides for a ULS of 5.83 kPa
- NZS4284 (TR14-15) Commercial face load test which increases the maximum ULS to 3.6 kPa
- BRANZ (ST1234-001-02) AliBat aluminium structural cavity batten face load test which increases the maximum ULS for the cladding to 4.5kPa when used in conjunction with AliBat.



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## 11. Finishes

Approximately 100 stock colours are available with further options, such as custom or corporate colour matches, being able to be made to order. Finishes carry warranties from the powder manufacturer relating to film- and colour-integrity.

Warranty periods of up to 25 years are available, depending upon the grade of powder selected.

### a) *Powder coat*

Exterior grade finishes from reputable manufacturers are applied to the chemically prepared aluminium profiles, following which they are baked in an oven. Adhesion of the coating to the metal is superb and meets or exceeds relevant New Zealand and Australian standards.

Please refer to the Textures and Colour guide available for download on <https://nuwall.co.nz>

### b) *Anodised*

This is an electrolytic oxidisation process which converts the aluminium surface to a coating. In addition to Natural Silver, anodising can also be applied in a range of bronze shades and Black. Anodising is a durable and reliable process, but one which cannot always guarantee total uniformity of appearance. Some apparent difference can occur between finished boards. Anodising can be applied in a range of film thicknesses; please refer to AS1231 for guidance on appropriate film builds for your application.

### c) *Sublimation*

Unique textures such as a timber finish can be recreated on the boards through a process called sublimation. Sublimation (or metal print) is a coating method of applying a woodgrain image onto our cladding. It's basically a double powder coat: first a base layer is baked in, then a transfer film with a high-definition image of real timber is applied and baked into the base layer. More information about the woodgrain options can be found on

<https://www.powdercoating.co.nz/metwood/>

## 12. Installation - Structure and Framing

### a) *Installation General*

Nu-Wall® cladding system is essentially a weatherboard product; the only fabrication required prior to installation being cutting to length and some longitudinal ripping of the extruded sections. Installation is well within the capabilities of a competent LBP builder.

The bulk of the Nu-Wall® profiles are suitable for Vertical and Horizontal application. For aesthetic reasons it is recommended that some profiles only be installed Horizontally.


### b) *Handling and storage*

Short-term storage outdoors, raised off the ground, in cardboard cases is acceptable, though care should be taken to protect the material from the elements during this period. Longer-term storage should be indoors. The material should be always kept dry prior to installation.

### c) *Timber framing*

Must comply with NZS 3604 for buildings or parts of buildings within the scope limitations of NZS 3604. Buildings or parts of buildings outside the scope of NZS 3604 must be to a specific design in accordance with NZS 3603 and AS/NZS 1170.



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Where specific design is required, the framing must be of at least equivalent stiffness to the framing provisions of NZS 3604.

In all cases studs must be at maximum 600 mm centres. Dwangs/nogs must be fitted flush between the studs at maximum 600 mm centres, except for Nu-Wall® cladding installed in a Horizontal orientation where the dwangs/nogs can be installed at maximum of 800 mm centres.

*d) Steel framing*

Must be to a specific design meeting the requirements of the NZBC. The minimum framing specification is 'C' section studs and nogs of overall section size of 90mm web and 45mm flange.

Steel thickness must be minimum 0.75 mm. In all cases studs must be at maximum 600 mm centres. Dwangs/nogs must be fitted flush between the studs at maximum 600 mm centres, except for Nu-Wall® cladding installed in a Horizontal orientation where the dwangs/nogs can be installed at maximum of 800 mm centres.

*e) Drained and vented cavity*

The drained and vented cavity must comply with NZBC Acceptable Solution E2/AS1, Paragraph 9.1.8.3. and incorporate a PVC or aluminium vent strip, punched with 3-5 mm holes or slots. The vent strip must provide a minimum ventilation opening area of 1000 mm<sup>2</sup> per lineal metre of wall.

*f) Direct fixed*

If the cladding is to be fixed directly to the framing, ensure that you specify a wall underlay which is compliant with Table 23 of Clause E2/AS1 of the NZBC. Note that there is a minimum moisture absorbency requirement for underlays used behind direct-fixed, non-absorbent claddings.

There is no moisture absorbency requirement for underlays used behind Nu-Wall® cladding when it is installed over a drained and vented cavity. See paragraph below "NZBC Acceptable Solution E2/AS 1" for guidance relating to the type of installation.

*g) Unlined gables*

All buildings must have barriers to airflow in the form of interior linings with all joints stopped, or alternatively, unlined gables and walls must incorporate a rigid sheathing or an air barrier which meets the requirements of Table 23 of Clause E2/AS1 of the NZBC.

Where rigid sheathings (RAB) are used, the fixing length must be increased by a minimum of the thickness of the sheathing.

*h) Inter-storey junctions*


Where cladding is installed over a drained & vented cavity, the vertical height of the cavity should be limited to 7.00 metres as specified in Paragraph 9.1.9.4 of Clause E2/AS1 of the NZBC. This requirement is met by the incorporation of a proprietary Nu-Wall® inter-storey junction that is available with prefabricated internal and external corner flashings.

*i) Aesthetic considerations*

The extruded cladding profiles will follow any undulations in the substrate to which it is being fixed; hence it is essential that close attention is paid to the structural framing in terms of stiffness and being straight and plumb. Cladding profiles having a flat face are more likely to exhibit any undulations and consideration should be given to the viewing perspective and





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colour when selecting the profile. Profiles having a textured face are normally more “forgiving” in this regard.

### **13. Maintenance**

The benefit of a powder coated aluminium cladding solution is its low maintenance requirement. Depending on the location and exposure zone Nu-Wall® cladding should be washed periodically to maintain its appearance. In most situations washing annually should suffice, though more frequent washing may be necessary in harsh environments (e.g. coastal marine, industrial, geothermal).

\*\*Please refer to the Nu-Wall® Maintenance guideline document or call our technical team for advice.

### **14. Warranty and Durability**

The Nu-Wall® aluminium substrate is warranted in normal use against rotting, rusting, cracking, or distorting for 100 years (or the lifetime of the building). See information relating to powder coat finishes for details of powder coat warranties.

Nu-Wall® cladding systems are expected to have a serviceable life ranging from 15 to 50 years provided the system is maintained – refer table 1 of the BRANZ appraisal.

### **15. Environmental, Sustainability and waste reduction**

Our extrusion partners McKechnie Aluminium are the only aluminium extruder in NZ to have a remelt facility, meaning that's its products have a high recycled content and a low carbon footprint.

McKechnie® is the first NZ Aluminium extruder to achieve third-party Toitū carbon reduce (previously CEMARS®) product certification by Enviro-Mark Solutions Ltd, Achieving a carbon footprint of 1.35kg of CO<sub>2</sub>e per Kg of Aluminium on a Scope 1 and 2\* basis which is 88% better than the global average (11.5kg<sup>^</sup> CO<sub>2</sub>e per kg of aluminium) Toitū carbon reduce (previously CEMARS®) third party certified.


*(\*Full Life Cycle is 8.19kg of CO<sub>2</sub>e per kg of Aluminium. ^Source: Rio Tinto)*

The cast aluminium billets used have a high recycled content of typically 80% to 90%. They mix this high recycled content billet with primary ingots in the remelt process to maintain chemical and mechanical properties of alloys required for them to meet or exceed applicable Australian and New Zealand standards for alloy composition/properties.

Approximately 85% of the aluminium used to produce Nu-Wall® profiles is sourced from the New Zealand aluminium scrap market, which significantly reduces landfill construction waste. At the end of a building's life the Nu-Wall® cladding system can be fully recycled. Recycling enables recovery of most of the energy used to produce the aluminium and has an additional positive impact on reducing construction waste.

Please consult Nu-Wall® for further information



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## 16. Technical Support

Nu-Wall® have an extensive library of technical resources and services to support the design and construction industry. These include:

- Compliance documentation
- Full CAD library
- 3D construction assembly videos
- Design advice and detail peer review
- RFI assistance
- Onsite training

Please refer to the Nu-Wall® website <https://nuwall.co.nz/technical-resources/> for all updated technical literature which must be read in conjunction with BRANZ appraisals.