

Nu-Wall Aluminium Cladding – Specification Reference

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Introduction

This document is published as an aid to Specifiers when incorporating Nu-Wall Aluminium Cladding into designs relating to new construction, or renovation, of residential or commercial buildings. It should be used in conjunction with published specification drawings, copies of which are available upon request. These drawings are also available for downloading from the website – www.nu-wall.co.nz – in various formats including PDF and a range of CAD formats.

The standard specification drawings cover general Nu-Wall detailing when installing on to timber framing. Nu-Wall can also be installed over steel framing and other substrates, including over-cladding. While not all are covered in this document and referenced drawings, assistance is available with detailing of such specifications. Similarly, assistance is available with detailing of other situations arising during the design process; e.g junctions with other claddings.

Please refer to the document “Nu-Wall Aluminium Cladding – General Information” for advice on the selection and care of the product’s pre-finished surface.

Structure and framing

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 NZS 4203. 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. Dwargs must be fitted flush between the studs at maximum 800 mm centres, except for Nu-Wall cladding installed in a vertical orientation where the dwargs must be installed at maximum 600 mm centres.

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 75 mm web and 32 mm flange. Steel thickness must be minimum 0.55 mm. In all cases, studs must be at maximum 600 mm centres. Dwargs must be fitted flush between the studs at maximum 800 mm centres except for Nu-Wall cladding installed in a vertical orientation where the dwargs must be installed at maximum 600 mm centres.

If the cladding is to be fixed direct 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 absorbcency requirement for underlays used behind direct-fixed, non-absorbent claddings. There is no moisture absorbcency 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.

The Nu-Wall Cavity System must incorporate a PVC or aluminium vent strip, punched with 3-5 mm holes or slots complying with NZBC Acceptable Solution E2/AS1, Paragraph 9.1.8.3. The vent strip must provide a minimum ventilation opening area of 1000 mm² per lineal metre of wall. See drawings #NW-H001C & NW-H002C for information relating to cavity construction.

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 are used, the fixing length must be increased by a minimum of the thickness of the sheathing.

NZBC Acceptable Solution E2/AS1

Nu-Wall is categorised as an Alternative Solution for exterior cladding within the NZ Building Code and has been appraised by BRANZ as being suitable for such use. Details of the Appraisals issued, and the types of Nu-Wall installation to which they relate are as follows :

- **Appraisal #550;** Nu-Wall weatherboards in a horizontal orientation installed over a drained and vented cavity can be used as an external wall cladding for buildings with a risk score of 0-20, calculated in accordance with NZBC Acceptable Solution E2/AS1, Tables 1, 2 & 3.
- **Appraisal #870;** Nu-Wall weatherboards in a vertical orientation installed over a drained and vented cavity can be used as an external wall cladding for buildings with a risk score of 0-20, calculated in accordance with NZBC Acceptable Solution E2/AS1, Tables 1, 2 & 3.
- **Appraisal #557;** Nu-Wall weatherboards in a horizontal orientation installed direct fixed to frame can be used as an external wall cladding for buildings with a risk score of 0-12, calculated in accordance with NZBC Acceptable Solution E2/AS1, Tables 1, 2 & 3.

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- **Appraisal #556;** Nu-Wall weatherboards in a vertical orientation installed direct fixed to frame can be used as an external wall cladding for buildings with a risk score of 0-20, calculated in accordance with NZBC Acceptable Solution E2/AS1, Tables 1, 2 & 3.

Copies of the above Appraisals are available upon request; alternatively they are available to be downloaded from the Nu-Wall website (www.nu-wall.co.nz) or from the BRANZ website (www.branz.co.nz). Further information relating to the performance of Nu-Wall can be found in the document “Nu-Wall Aluminium Cladding – Statement of Performance”.

Cladding orientation

All of the Nu-Wall profiles are suitable for horizontal application. For aesthetic reasons it is recommended that some profiles only be installed horizontally; other profiles are able to be installed either horizontally or vertically.

Designing to cladding module sizes

It is recommended that, during the design process, attention is paid to the positioning of details relating to doors, windows etc. to be compatible with the cover width of the Nu-Wall profile being specified. This is of particular benefit in the area of window & door heads occurring in horizontally installed cladding. Installation of cladding around these details will be greatly facilitated if window & door heads are planned to occur coincident with a full board and it is likely a neater finished result will be achieved. Guidance is available by referring to the document entitled “Nu-Wall Horizontal Cladding set-out to joinery head”.

Weatherboard maximum lengths

While stocks of most Nu-Wall profiles are maintained in 5.0M & 6.0M lengths, all profiles are able to be drawn in custom lengths, subject to quantities required. Maximum practical lengths vary, depending upon the particular profile – please contact Nu-Wall for guidance regarding this.

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 by the incorporation of an inter-storey junction as specified in Paragraph 9.1.9.4 of Clause E2/AS1 of the NZBC.

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 such undulations and consideration should be given to the viewing perspective and colour to be applied when selecting the profile. Profiles having a textured face are normally more “forgiving” in this regard.

Design responsibility

The Specifier for the project must ensure that the details in this literature are suitable for the intended application and that additional detailing is provided for specific design or any areas that fall outside the scope and specifications of this literature. For applications which are outside the scope of this literature and details which are not in this literature the specifier must ensure that the design meets the relevant performance requirements of the NZBC. Assistance is available from Nu-Wall Aluminium Cladding Ltd in development of non-standard detailing.

Building regulations

The Nu-Wall cladding systems, if designed, used and installed in accordance with the statements and conditions of this literature and the supporting BRANZ Appraisal, 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

Installation process

Nu-Wall is essentially a weatherboard product; the only fabrication required prior to installation being cutting to length and some longitudinal ripping of the extruded sections. As such, installation should be well within the capabilities of a competent builder.