

Nu-Wall Aluminium Cladding – Specification Reference

1

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. Dwangs must be fitted flush between the studs at maximum 800 mm centres, except for Nu-Wall weatherboards installed in a vertical orientation where the dwangs 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 noggs 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. Dwangs must be fitted flush between the studs at maximum 800 mm centres except for u-Wall weatherboards installed in a vertical orientation where the dwangs must be installed at maximum 600 mm centres.

If the cladding is to be fixed direct to the framing, ensure that you specify a ‘breather’ type building wrap complying with NZBC Acceptable Solution E2/AS1,

Table 23. The building wrap must have a minimum 100 grams per square metre water absorbency for direct fixed installations. There is no absorbency requirement for building wraps used behind Nu-Wall weatherboards when they are installed over a drained and vented cavity. See information relating to 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-AAAA & NW-BBBB 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 NZBC Acceptable Solution E2/AS1, Table 23. 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, Table 2.
- **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, Table 2.
- **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, Table 2.

Copies of the above Appraisals are available upon request; alternatively they are available to be downloaded from the BRANZ website –

Nu-Wall Aluminium Cladding – Specification Reference

2

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 in either orientation. For more detailed discussion of these recommendations, please refer to the document “Nu-Wall Aluminium Cladding – detail weathertightness specifications”.

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 table entitled “Nu-Wall Aluminium Cladding – compatible window opening dimensions”.

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 Design Aluminium for guidance regarding this.

Fixing requirements

The Nu-Wall Universal Fixing Bracket, used as specified, has been verified for Wind Zones up to and including Very High on structures within the scope of NZBC E2/AS1. Projects which are outside of this scope would be the subject of specific design, possibly requiring an increased fixing density. We are able to supply data for this purpose upon request.

Inter-storey junctions

Inter-storey drained joints must be provided for walls over two storeys in height in accordance with the requirements of NZBC Acceptable Solution E2/AS1, Paragraph 9.1.9.4(b).

Masterspec Specification

Nu-Wall Branded Sections are available for use by subscribers to Masterspec. Sections are featured in both “Standard” and “Basic” areas. Additionally, the Nu-Wall Masterspec specification is available for download from the Technical Library area of the Nu-Wall website – www.nu-wall.co.nz – use subject to the terms specified thereon.

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.

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.