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Nu-Wall® Cladding
Wall requirements and seismic allowance bulletin

Nu-Wall Framing and Thermal Movement Requirements - Document overview.
This bulletin deals with Nu-Wall Claddings minimum framing accuracy requirements as well as key installation requirements to facilitate movement of boards in thermal and seismic expansion conditions.

Nu-Wall aluminium cladding is 11mm thick in section, with a typical face thickness of 1.8-2m. It is supplied in lengths 6-8m long.

To achieve an acceptable visual appearance, there are tolerances on straightness that need to be achieved, as the cladding will follow the framing line and any deviation will be visible, especially on horizontal cladding.

Table 2.1 below is taken directly from NZS3604.

Table 2.1 – Timber framing tolerances

Item	Tolerances
Deviation from the position shown on plan for a building	15 mm
Deviation from vertical	15 mm per 2 storey height (5 mm per 2.4 m)
Deviation from vertical for buildings in excess of 2 full storeys	20 mm
Relative displacement between loadbearing walls in adjacent storeys intended to be in vertical alignment	5 mm
Deviation from line in plan: (a) In any length up to 10 m (b) In any length over 10 m	 5 mm 10 mm total
Deviation from horizontal: (a) In any length up to 10 m (b) In any length over 10 m	 5 mm 10 mm total
Straightness of corners (where 2 walls meet at right angles) Other studs (gradual bow)	2 mm in 2.4 m in both studs 6 mm in 2.4 m
Wall framing: (a) At mid-height under 3 m long horizontal straight edge (b) At mid-height under 1.3 m long horizontal straight edge	 6 mm gradual bow 1.5 mm out of line

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1. Frame Straightness

Under the NZS3604 criteria, 5mm of deviation is permissible over a 10m run length.

The tolerance that is critical to Nu-Wall is that there should be no more than 2mm of deviation over the final 500mm of board length. This final meter deviation tolerance applies to both horizontal and vertically applied cladding.
Typically, misalignment is caused by a build-up of back flashings and tapes around corners and windows. If this build-up causes the cladding face to deviate more than 2mm over the final m of board length, then the cavity batten at the offending misalignment will need to have its thickness reduced to compensate.

If the batten is not thicknessed to alignment, flaring of the board will be visible.

2. Angular alignment

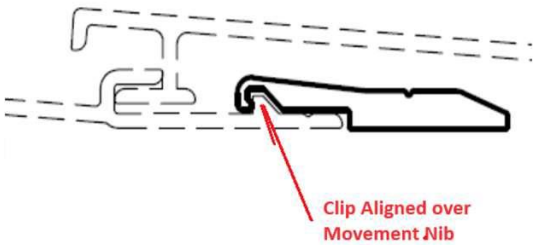
The standard Nu-Wall exterior/interior 2-piece corner (NC107/NC109) can tolerate +/- 3 degrees either side of 90 degrees. Your corner range is 87 – 93 degrees.
Outside of this range, you must use a custom folded “W” corner flashing.

3. Thermal Movement Consideration

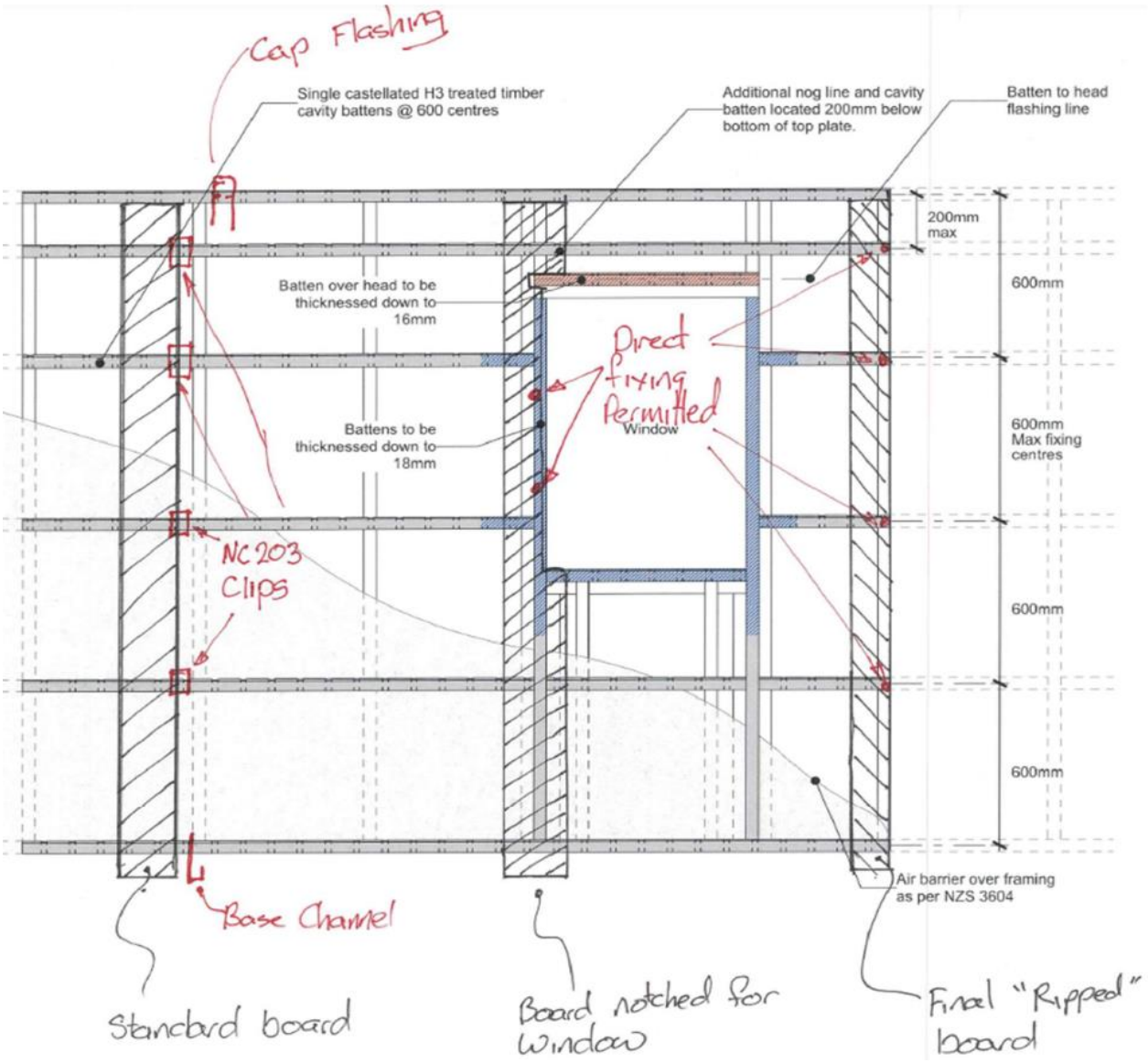
All metal roofing and cladding expands and contracts with changes in temperature.
The Nu-Wall cladding system is designed to allow free thermal movement of the cladding with temperature change, via the Nu-Wall clip system.

4. Vertical Cladding Installation notes

a) The cladding is seated in the base channel and all thermal board movement will be upwards with the maximum cladding displacement, at the top of the wall (1mm max movement per 1m of board length)
b) The first fixing clip should be installed at the first nog line above the base channel approximately 600mm. A clip is not required at the bottom as the board base is restrained by the base channel.
c) There should be 10mm of clearance from the top of the board to the underside of the cap flashing. ***Hint:*** *there is a small 0.5mm nib on the face of the cap back flashing that indicates the required board end position*.
d) Once the board is fully installed with all clips in place, you should be able to move it vertically up and down. This may require a bit of muscle to move as the board will still be reasonably well restrained by the clips.
e) Always use the Nu-Wall NC232F starter clip or NC203 or NC 203F fixing clips.
f) Ensure the NC203 or NC203F Clip is aligned square with the edge of the boards and centred over the movement nib.



g) Do not directly screw boards to the structure.
h) The only time you will ever directly screw fasten a board is the final ripped board or a large window jamb notch.
i) If fascia's, gutters or other light weight fittings need to be attached, please fix only to the Nu-Wall boards – not through to the structure.
j) Heavy weight fixtures will require a grommeted oversize hole drilled at the fixing points, so the board is still able to move freely.
k) Screens, Decorative Battens, window surrounds and other bolt-on components should not be fixed in a way where they clamp the boards restricting free board movement. Consider the use of lag screws through oversize grommeted holes.
- Consult Nu-Wall Technical team for these installations.



5. Technical Support

Nu-Wall® have extensive technical resources and services to support the design and installation of our product. If in doubt, please contact our friendly Technical Team.

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

Please refer to the Nu-Wall® website www.nuwall.co.nz