



# No strings attached



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WRITER

A team at BRANZ designed some simple details for timber deck attachment and deck barriers and then handed them to BRANZ engineers to test. The outcome? Deck details you can be confident will perform.

**STRINGERS ARE USED TO SUPPORT** and attach a deck to a building. When these fail, the result can be tragic, as seen too often in media reports.

While we have previously published options for attaching stringers to buildings, there has not been any real data of how well they are likely to perform when loaded.

A similar situation exists for the design of the deck platforms to support barriers. In NZS 3604:2011 *Timber-framed buildings*, there are three quite complicated platform options.

### Devised, assessed and tested

To remedy this, the BRANZ Channel Delivery team came up with several simple details for deck attachment and deck barriers. The BRANZ engineering team then assessed these for performance (see pages 74–75). Some didn't pass the first engineering assessment.

The viable options were tested so a verifiable performance label could be assigned to them. All tests were done using 190 mm and H3.2 treated timber. Fixings need to comply with NZS 3604:2011 section 4.

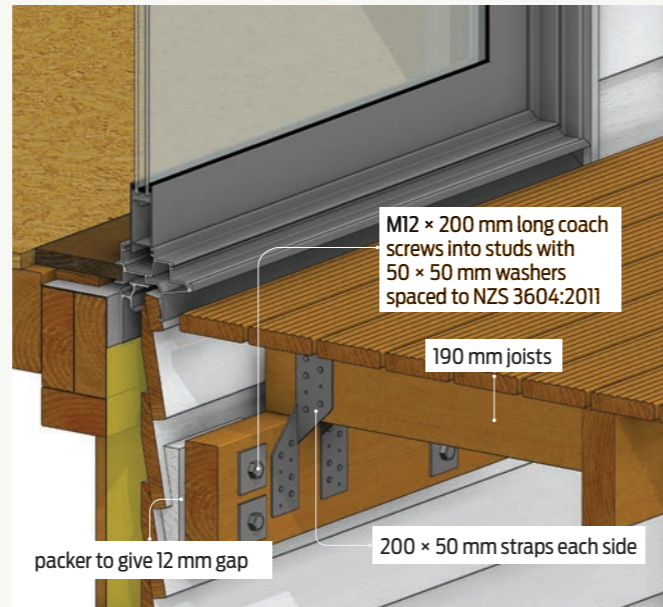
### Several verified details

As a result, the performance of several deck details has now been verified as meeting the requirements of AS/NZS 1170 *Structural design actions* and NZS 3604:2011 as appropriate.

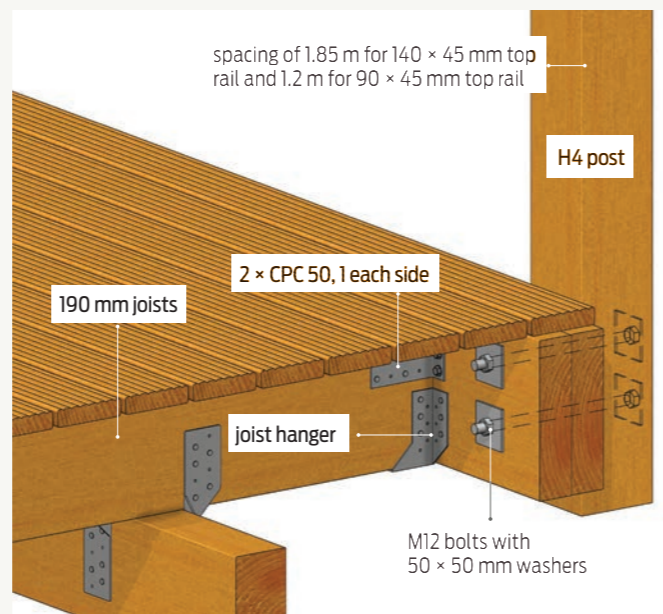
Testing has shown that the deck attachment details in Figures 1 and 2 give more than adequate performance when load tested, provided the coach screw stringer anchors are inserted into the stud framing of the building.

For cantilevered deck barrier supports, Figures 3 to 5 give a relatively simple construction solution that meets barrier loading criteria for a cantilevered post or framed wall. Figure 6 details the situation where the deck foundation support is also used as the barrier support.

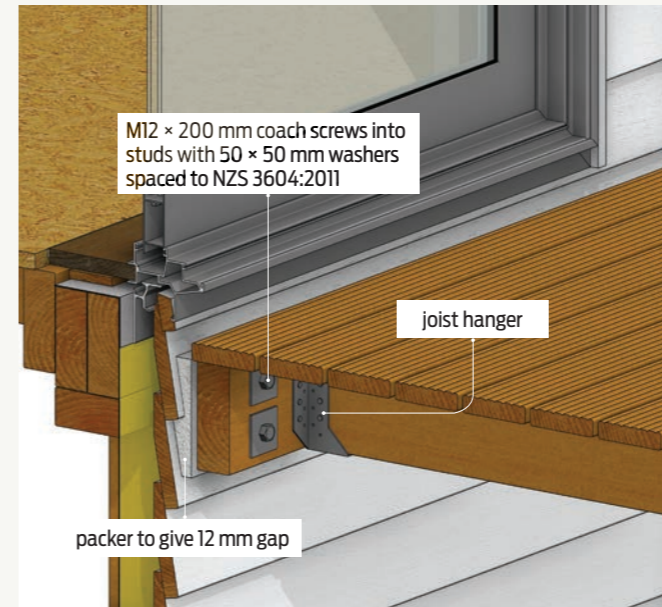
**Note** Full details will be available with the published CAD drawings through [www.branz.co.nz](http://www.branz.co.nz) later this year.



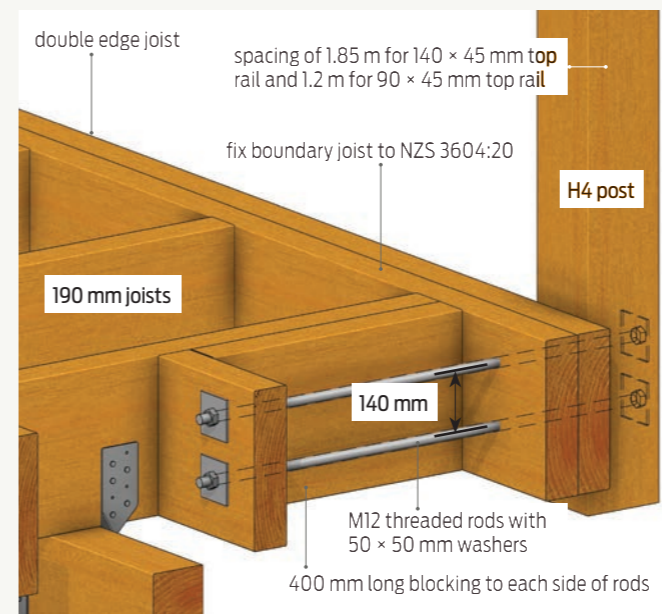
**Figure 1** Deck attachment details 1.



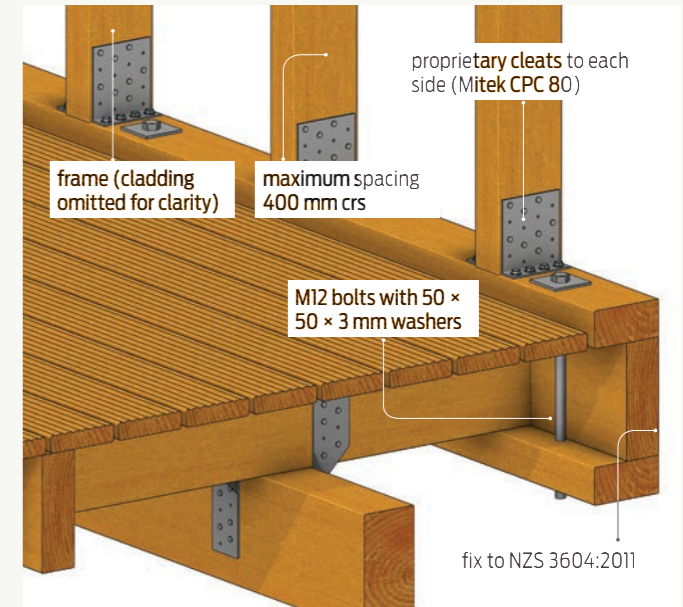
**Figure 4** Vertical deck barrier support 2.



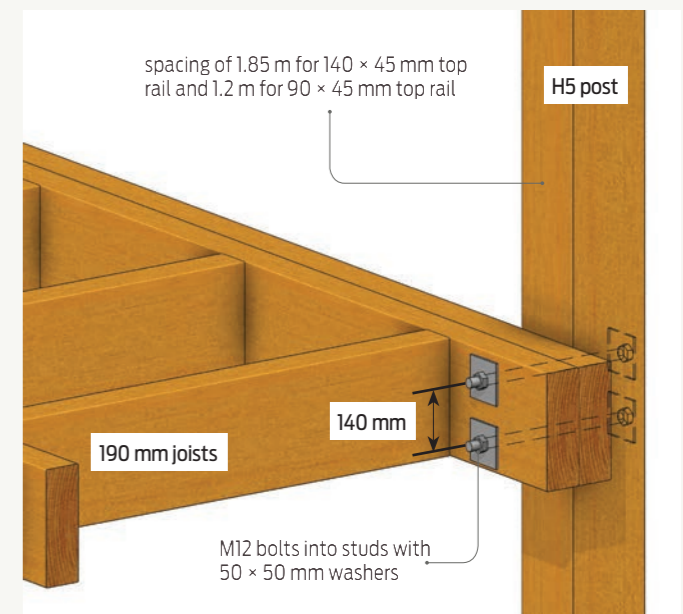
**Figure 2** Deck attachment details 2.



**Figure 5** Vertical deck barrier support 3.



**Figure 3** Vertical deck barrier support 1.



**Figure 6** Deck foundation support also barrier support.