

Trimming studs



BY TOM EDHOUSE BRANZ TECHNICAL ADVISOR KNOWING THE RIGHT SIZE TRIMMING STUDS TO USE IS EASY ONCE YOU KNOW YOUR WAY ROUND THE TABLES IN NZS 3604:2011. HERE, WE TAKE YOU ON A TOUR.

NZS 3604:2011 TIMBER-FRAMED BUILDINGS

includes the requirements that trimming studs:

- are to be the same width as the wall studs, i.e. if the wall studs are 90 mm wide, the trimming studs must also be 90 mm wide
- whether single or built up with multiple studs must have no holes or notches in the middle third of the height of the stud
- cannot include a doubling stud supporting a lintel that is more than 400 mm shorter than the wall studs.

Details of example

We are going to work through an example to show how to select the correct size of trimming studs. The specific details to be used (see Figure 1) are:

- single or top storey
- extra high wind zone
- maximum of 2.7 m stud length
- loaded dimension = 6 m
- stud spacing = 600 mm centres
- opening maximum = 3.3 m
- light roof.

Step 1 – Lintel size

Use NZS 3604:2011 Table 8.9 Lintel supporting roof only for all wind zones to determine the lintel size for the span and to make sure what is proposed is within the scope of NZS 3604:2011.

In this example, a light roof with loaded dimension of 6 m requires a 290 × 90 mm lintel to span an opening of 3.3 m (see Figure 2).

Step 2 - Wall stud thickness

Now go to Table 8.2 to determine the wall stud thickness required. This information is required to calculate the trimming stud size in Table 8.5.

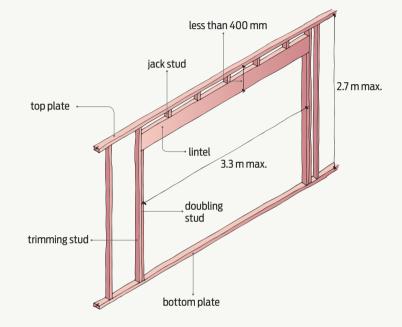




Figure 2

Example - lintel supporting roof only.

| | Loaded dimension* of lintel (m) | Maximum span for lintel sizes listed below (m) width x thickness (mm) | | | | | | | | | |
|------------|---------------------------------------|--|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|------------|------------|
| | | 90 x 70 | 06 × 06 | 140 x 70 | 140 x 90 | 190 × 70 | 190 × 90 | 240 × 70 | 240 × 90 | 290 × 70 | 290 x 90 |
| | | 5 | 0 | | 2.1 | 2.7 | 2.9 | 3.4 | 3.6 | 4.0 3.7 | 4.2 3.9 |
| | 2 3 | 1.2 1.1 1.0 | 1.4 1.2 1.1 | 2.0 1.7 1.5 | 1.9 1.8 | 2.4 2.1 1.8 | 2.6 2.4 2.1 | 3.0 2.7 2.2 | 3.3 3.1 2.7 | 3.2 2.7 | 3.7 3.3 |
| Light roof | 4 | 0.8 | 1.0 | 1.3 | 1.6 1.6 | 2.1 | 2.3 | 2.6 | 2.9 2.6 | 3.2 2.9 | 3.5 3.1 |
| Heavy roo | 2 3 | 1.0 0.9 0.8 | 1.0 0.9 0.9 | 1.5 1.4 1.3 | 1.5 1.4 1.2 | 1.9 1.7 1.5 | 2.0 1.9 1.7 | 2.4 2.2 1.9 | 2.0 2.4 2.1 | 2.6 2.3 | 2.9 2.6 |
| | dimension is de | 0.7 | 0.8 | 1.1 | | | | | d pailed | in accor | dance |

NZS 3604:2011 Table 8.9. Provided by Standards New Zealand under licence 001080.

| | | Stud sizes for maximum length (height) o | | | | | | 3.0 | | |
|-----------|--------------------------------------|--|--------------------|----------|-----------------|--------------------|------------------|---------------------------------|--------------------|----------------------|
| Wind | Loaded dimen- sion* of wall | 2,4 At maximum stud spacing (mm) of: | | | 11 maximum | stud space | ing (mm) of: | At maximum stud spacing (mm) of | | |
| | | At maximum stud spacing (mm) of: 300 400 600 (mm x mm) (mm x mm) (mm x mm) | | 200 400 | | 600 | 300 | 400 | (mm x mm) | |
| | | 300 | 400 | 600 | (mm x mm) | (mm x mm) | (mm x mm) | (mm x mm) | (mm x mm) | |
| 20110 | | (mm x mm) |) (mm x mm) | (mm x mm | (wi | dth x thickn | ess) | | | |
| | (m) | | | | | | | | 90 x 70 | 140 x 45 |
| Single | or top store | y - Light an | d heavy roof | 90 x 70 | 90 x 45 | 90 x 70 | | | 90 x 70 | 140 x 45 140 x 45 |
| a) Singic | 2.0 | | 90 x 45 90 x 45 | 90 x 70 | 90 x 45 | 90 x 70 90 x 70 | | 90 x 70 | 90 x 70 | |
| Extra hig | ah 4.0 | 1 2 | 90 x 45 | 90 x 70 | 0.5 | 20.70 | 90 x 70 | | 90 x 70 90 x 70 | |
| | 6.0 | - | 90 x 45 | | 90 x 35 x 35 | 90 | 0 x 70) x 70 | | 0 x 70 | |
| Very hig | | - | 45 | | x 35 | | .7 | | × 70 | |
| Very hig | at | | 45 | | 35 | | . 7 | 0 | | - |

Figure 3

NZS 3604:2011 Table 8.2. Provided by Standards New Zealand under licence 001080.

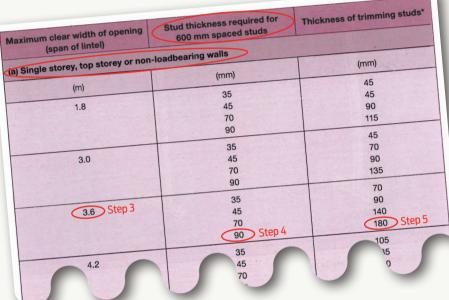
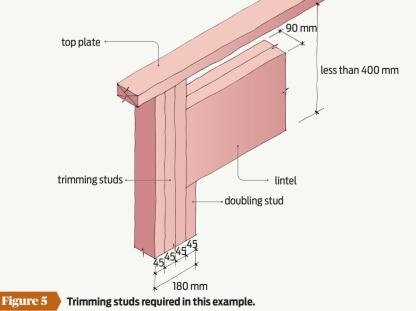


Figure 4

NZS 3604:2011 Table 8.5. Provided by Standards New Zealand under licence 001080.



For this example, choose (a) Single or top storey – light and heavy roof, extra high wind zone and loaded dimension of 6 m, then 2.7 m maximum stud length and maximum stud spacing of 600 mm. This gives a stud thickness of 90 mm (see Figure 3).

Step 3 – Maximum clear width of opening

Go to Table 8.5 Trimming studs.

For this example, choose (a) Single storey, top storey or non-loadbearing walls. The maximum width of opening is 3.3 m, so the opening is over 3.0 m but under 3.6 m. Choose maximum clear width 3.6 m (see Figure 4).

Step 4 – Enter stud thickness

Move to the centre column in Table 8.5 and choose the stud thickness that was obtained in step 2 – 90 mm in this example (see Figure 4).

Step 5 – Trimming stud size

Now read across to the right column in Table 8.5 to obtain the thickness of the trimming studs – 180 mm (see Figure 4).

Three 90 × 45 mm plus the doubling stud gives the required 180 mm trimming stud.

Because this lintel is less then 400 mm down, the doubling stud can be included in the total width of the trimming studs (see Figure 5).

Nailing

Nailing of built-up members was covered in *Build* 136 June/July 2013, page 33, together with the requirements for lintels, trimming studs etc.

Note A lintel of this size will require significant fixings in an extra high wind zone.