Gang-Nail Guide Lines No.17

THE ALTERNATIVE LINTEL

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At the present time, solid timber lintels are the most commonly used type of beam over openings in timber framed wall construction.

Occasionally, when the lintel spans are large, steel beams are reluctantly incorporated if glulam beam spans are exceeded.

There are other alternatives to simple solid timber lintels. An example that is making headway is the parallel chord truss incorporating metal webs, such as the Posi-STRUT, used as a lintel.

Although these trusses are not designed for heavy loads, it is possible under certain circumstances to use them where the loads are fairly light.

The advantages that they offer as a lintel are

- Very light to handle
- Do not require further framing of the header
- Very economical
- Do not require ordering or stocking of beams

There is growing use of Posi-STRUT as a lintel over the garage entry supporting a gable end or hip end roof. As the lintel would not be supporting a heavy load, a heavy-duty glulam beam or steel beam would be overkill under these applications.

Typically the width of a double garage entry would be just under 5 metres. It is not uncommon to use a 270x65 glulam over this opening.

Substitution with a parallel chord truss lintel would reduce the cost of the beam by nearly two thirds, not to mention the additional savings achieved in not having extra framing around the glulam beam to form the header.

The depth of the lintel depends on the roof load width. Over the gable end, the required depth of this type of truss would be 250mm or 300mm depending on the header depth to match.

For a concrete tile hip end or dutch hip end with 2.4m setback, a 400mm deep Posi-STRUT lintel would be required.

If it is necessary to have a stronger beam to support a higher load, or a shallower beam to fit the size of the opening, then the laminated, nail-plated beam similar to ConstructaBEAM, is worth considering as an alternative.

In the hip end example cited above, the lintel depth may be reduced to around 300mm with softwood timber.

The nail-plated beam is a convenient product for a truss plant because it does not require additional material to be ordered into stock as it can be manufactured from normal stock material.

It is easy to fabricate on a small table press and would also prove to be cheaper than a glulam product.

Further improvement to this beam could also be made to reduce self-weight and timber material by incorporating the Vierendeel beam concept.

This variation is essentially a triple laminate beam with the middle laminate made up of short lengths which could be offcuts spaced apart at regular intervals.

FIG 3. - VIERENDEEL ConstructaBEAM