

ANOTHER MITEK ADVANTAGE

PROPER LIFTING OF TRUSSES

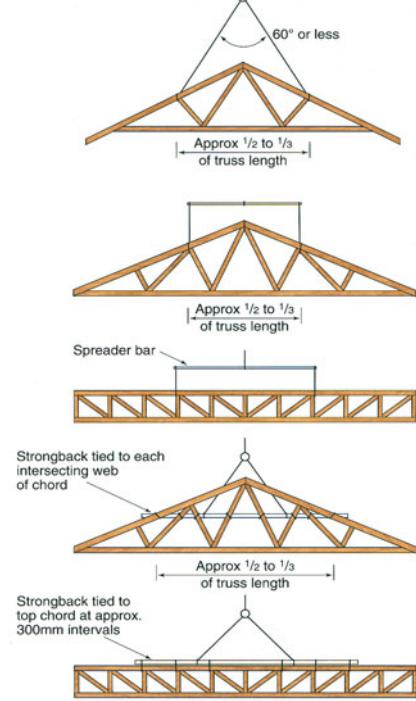
Continuing a series on the "Proper Handling of Trusses" that began with truss storage in Guidelines No 92 (February 2005) we now come to the subject of truss lifting.

Until they are firmly set in place and fully braced, trusses can easily be flexed and twisted during lifting causing damage that may or may not be noticed until it is too late.

Although most builders do handle trusses with care, some have never been properly instructed or have read MiTek's recommendation for lifting trusses. This is a summary of the basic requirements for the proper handling of trusses during installation. Workplace, health and safety requirements is another subject on its own that builders should take into consideration.

Lifting Points

Trusses should never be lifted using a single lifting point and certainly not from the apex joint. There should be at least two lifting points for each truss located between one third to one half of the truss span apart. These lifting points should always be at, or very close to, web panel joints and not a mid panel point or off webs.



Fundamental ways to lift trusses

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Right – This is a good example of how a truss should be lifted.



Wrong – Trusses should not be lifted from a single point, and especially not from the apex nor from mid-panel between joints.

Slings or Spreader Bars

For spans of less than 9m, trusses may be lifted with slings. Each leg of the sling should make an angle no more than 60° apart at the top. For spans greater than 9m, spreader bars should be used. As an alternative, a strongback can be attached to multiple points along a truss to spread the load and stiffen the truss.

Orientation during Lifting

Chains should be attached at points above the centre of gravity of the truss and equidistant from it so they are level during lifting and land squarely on their supports. They should also be lifted upright rather than on their side, as flexing them on their side will put great strain on both timber and nailplated joints.

Some trusses are not as symmetrical as they may appear. For example, they may be cantilevered on

one side or rely on internal supports. Additional care must be taken to ensure that they are located on their supports the right way around so that support points marked on the truss actually rest above their supports.

Temporary Bracing

In the process of standing trusses on their supports, it is important to ensure that adequate temporary bracing is in place to secure them against buckling and collapse. Adequately secured temporary bracing is necessary to ensure the assembly is stable before leaving the roof unattended. Further useful information on this subject may be found in Guidelines No 46.

Manual Lifting

Short trusses are sometimes lifted by hand rather than by crane. They may be placed on top of the walls by pulling up on skids no more than 3m apart, taking similar precautions as above.

Handling your trusses with care will ensure they are in the best condition to carry the design load and assure a safe and trouble free roof for the life of the building.

TTN



This apex plate of a girder truss failed under load because it was weakened by being lifted from the apex.



This plate was torn because the heavy double truss was lifted flat on its side from the middle causing severe flexing and stress.