



# HAZARD ALERT

No. 2

## Use of steel fascia may affect the design of truss top chord overhangs

One of the design checks for truss top chord overhangs is for a person standing in the most critical position for the design of the overhang.

The Timber Structures code AS1720 and the Residential Timber Framed Construction code AS1684 both allow this load to be shared by adjacent members, lessening the point load used in the design of the overhang. This load sharing is achieved by fixing the overhangs to a relatively stiff fascia and by the over-lying battens or purlins which tie adjacent overhang members together.

Most of the load distribution is due to the fascia which is much stiffer than the over-lying battens or purlins. MiTek's software and AS1684 assumes that the stiffness of the fascia is equivalent to a 190 x 19 F7 timber fascia.

***If a fascia with equivalent stiffness is not rigidly fixed the top chord overhang then the design assumptions will be invalid and the resultant design may be inadequate.***

This situation could occur with some types of steel fascia, as the steel fascia stiffness, or the brackets used to attach the fascia, may not allow the load distribution to occur.

***As the use of steel fascia is becoming more common it is important for fabricators to know if an adequate fascia is to be used on each project.***

If steel fascia is specified then MiTek recommends the "no structural fascia" or "no load sharing for point live load on overhang" option be selected when inputting the design parameters into your truss design software. Although some types of steel fascia may provide sufficient stiffness, unless evidence of this is supplied by your customer or the steel fascia manufacturer it would be wise to assume that steel fascias do not effectively distribute the load.

MiTek 20/20 v4.46p2, RoofFAB v3.71p2, DataTRUSS Rel. 4.90 all have a facility for turning off load distribution when designing overhangs. AutoBEAM v3.30p3 also has a similar function for turning off the load distribution for rafter overhang designs.

***For all projects where structural fascia has been assumed MiTek recommends qualifying each quote with a warning that makes it very clear that the roof design has been based on a timber fascia being adequately fixed to truss top chord overhangs, and if a steel fascia is used in lieu of the timber fascia then the design of truss top chords may not be suitable.***

### Further information

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