



SUNIL NARSEY

Senior State Engineer
MiTek Australia Ltd

OVERHANGS SUPPORTING GUARDRAILS

Guardrails around perimeters of roofs under construction are a common sight. After all, they are a basic requirement for working at heights.

When guardrail posts are installed on an overhang (eg Photo 1), they impose a significant bending action under full load. Can the overhang withstand it?

Safe Work Australia's Code of Practice for Preventing Falls in Housing Construction states the minimum guardrail post requirement to be 90x35 MGP12, and possibly more if posts are spaced further than 2.7m apart.

It is therefore common sense to ensure the truss overhang (to which a post is attached) should be equal to or greater than this size and grade. Yet most truss overhangs are constructed with 90x35 MGP10 top chords. So what must be done?

It is the responsibility of the guardrail installer and site safety supervisor to make sure that overhangs which are not strong enough by themselves are adequately strengthened wherever guardrail posts are attached.

Assuming posts at no more than 2.4m apart with 90mm overhangs, Table 1 indicates the overhang limits before a supplementary 90x35 MGP10 stiffener is required to be attached to it for reinforcement. (These calculations are based on handrail loads specified in AS1657).

This timber stiffener should extend from the tip of the overhang to the first panel point up from the heel of the



■ Typical guardrail post fixing to truss overhang



■ Guardrail post badly out of plumb, twisting the truss

truss, and preferably beyond if possible (Figure 1).

It should be fixed with 65mm long x 2.8mm diameter nails at 180mm staggered centres and with additional nails into the heel and tip of overhang (Figure 2).

A guardrail post should not be attached to the overhang of a gable end truss, but it may be attached to a short jack truss or rafter provided its backspan to the hip truss is equal to or greater than the cantilevered overhang.

The top end of any jack truss or rafter supporting a post should also be

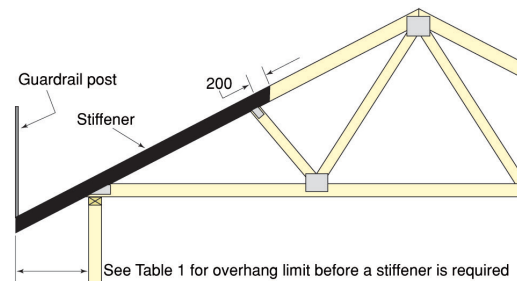


Figure 1: Position of overhang stiffener

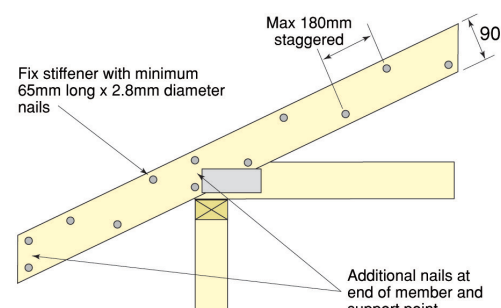


Figure 2: Stiffener fixing requirements

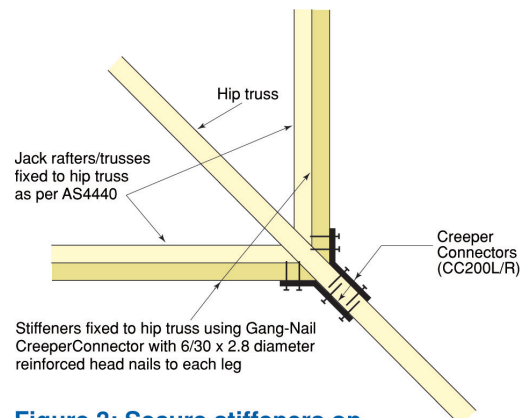


Figure 3: Secure stiffeners on jacks to hip truss with Creeper Connector

securely anchored to the hip truss with a creeper connector (Figure 3).

It goes without saying that all guardrail posts should be installed straight and true (Photo 2) so as not to impose any undue additional stresses on the overhangs. The safety of workers on the roof is paramount and deserves our full attention and care.

For more detailed information, please refer to the Fixing and Bracing Guidelines for Timber Roof Trusses from your nail plate supplier.

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Table 1 - Maximum permitted overhang without stiffener

Size/Grade	MGP10	MGP12	MGP15	Any LVL	F17
Sheet roof @ 900 mm max. spacing					
90 x 35	NA	700	900	950	900
90 x 45	NA	800	1000	NA	1050
Sheet roof @ 1200 mm max. spacing					
90 x 35	NA	600	750	800	800
90 x 45	NA	700	850	NA	900
Terracotta tile roof @ 600 mm max. spacing					
90 x 35	NA	650	1000	900	950
90 x 45	NA	1000	1050	NA	1000