

Fastening Decorative Rafters with Truss Screws and Engineered Timber Screws



As a builder when you take on a project with lots of customized features, we all find that it is always very exciting and extremely challenging to find the most efficient installation methods while creating a strong structure. We will show you in a case study with a local builder what issues he faced and how he solved those challenges.

THE CHALLENGE

This new build is located at the lifestyle block area of Wainui, north of Auckland. It is a two-story house of about 500m² floor area and faces the open view of Wainui Golf Course. It is not an ordinary house; each part of the house has unique features from interior design to exterior structure, such as the natural stone wall linings and open ceiling with decorative rafters.

With the exposed rafters that have been specified, making plumb cuts and perfectly matching the decorative ridge boards, or aligning the hidden ceiling joists is not an issue. However, one of the challenges the team at J. Steuart Builders was facing is to attach dozens of rafters securely, easily and efficiently. Particularly when working on the ground floor level in rooms with very high ceilings on a 3-4m high mobile platform. Justin thought there must be a better solution out there to fasten the

PROJECT INFORMATION

Project Category

Exposed Truss and Rafter

Project Name

Wainui House

Builder

J. Steuart Builders

Simpson Strong-Tie Products

SDWC Truss Screws
ESCRC Engineered Timber Screws

Project Start Date

June 2020

CHALLENGE

How to attach dozens of exposed rafters securely, easily and efficiently? What products and technology are available out there to make the job easier?

SOLUTION

Used SDWC truss screws with fully-threaded shank and ESCRC partially threaded countersunk structural engineered timber screws.

RESULTS

It was so easy to work on the high ceiling with these structural fasteners. They were one of the main reasons the builders were able to produce such an amazing overall high end finish.



Simpson Strong-Tie® CASE STUDY

dressed timber without using nails or connectors.

He likes to find the best solution before he jumps into the job at hand. He researches what products and technology are in the market and if they are available to make the job easier?

THE SOLUTION

Structural fasteners from Simpson Strong-Tie was the first thing that popped up in his mind as Justin has used their products before. Yes, that's right as the expert in timber structural fastening, Simpson Strong-Tie provides solutions with purposely designed products for many timber to timber connections.

During an onsite meeting, Darian the Product Manager from Simpson Strong-Tie explained to Justin that the 150mm SDWC Truss Screw with fully-threaded shank engages the entire length of the fastener providing a secure connection. It has also been tested in accordance with ICC-ES AC233 (screw) and AC13 (wall assembly and roof-to-wall assembly) for uplift and lateral loads between wall plates and vertical wall framing and between the top plate and the roof rafters or trusses. Its cap head countersinks fully into timber; torx drive reduces cam-out, enabling easier driving and less effort for the installer.

"For engineered timber the ESCRC partially threaded countersunk structural timber screw would be a perfect fit for fixing the exposed rafters." Darian explained.

"Its 15mm dia. countersunk head provides huge clamping force, working alongside the partially threaded shank and knurling, allows the rafter and ceiling to close up firmly. This ESCRC has a full range of sizes from 80mm to 320mm length to suit any size of engineered timber."



ESCRC Engineered Timber Screws

THE RESULTS

The team of Simpson Strong-Tie visited the job while Justin and his gangs were busy crafting these decorative rafters for this high end house. The results are amazing and his team were so happy with the Simpson Strong-Tie structural fasteners they had chosen.

"Open ceilings with exposed, decorative rafters need a lot of work and attention to detail, which are part of the great features for this house." Justin adds, "It is critical that you don't mess around with dressed timber on a 5m high ceiling. These structural fasteners are just bang on at the first drive!"



SDWC Truss Screws



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Simpson Strong-Tie® New Zealand Ltd
 Call **09 477 4440**

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