



New Zealand
TIMBER INDUSTRY FEDERATION
Incorporated

Residential Construction Sector Market Study

Submission by New Zealand Timber Industry Federation Inc

Summary

This submission from the New Zealand Timber Industry Federation outlines cost savings of around \$1,000 – \$1,500 that could be achieved for a typical 180m² home by using alternative grades of timber that cost less than the grade commonly used at present. The reasons why these savings are not currently being attained have been identified as product specification barriers and lack of allowable substitution, and the layout of NZS 3604 Timber Framed Construction not requiring Specific Design. The Federation claims that cost savings can be achieved if simpler rules and processes allowing substitution of timber grades within a design are permitted so long as relevant performance standards are complied with. Furthermore, this submission recommends that the layout of NZS 3604 be amended by moving tables for alternative grades including lower cost SG6 grade timber from the appendices to the main sections of the document.

Introduction

- 1.1 The Federation is a long standing organisation that represents the New Zealand sawmilling industry, in particular independent and family owned businesses. These businesses are located through the length of New Zealand and range from small owner operated companies to substantial private companies operating from multiple sites.
- 1.2 Almost all the membership of the Federation produces timber that is used in construction, whether it is timber used in outdoor constructions such as fencing, decks, walkways, pergolas, marinas and bridges and similar structures or timber that is used in structural elements in residential homes.
- 1.3 Timber used within the building envelope is required to meet the structure and durability requirements of the New Zealand Building Code. There are Acceptable Solutions that satisfy these requirements in the form of standards that specify the physical properties of structural timbers and standards that specify preservative treatments that meet the durability needs. The main relevant standards are *NZS 3622:2004 Verification of Timber* and *NZS 3640:2003 Chemical Preservation of Round and Sawn Timber*. Both physical properties and treatment are verified under the timber industry's Timber Quality Scheme (TQS). Under the TQS there are Standard Operating Procedures which set out quality assurance measures that must be followed by producers to ensure that their structural timber complies with the physical properties and treatment requirements. All producers are independently audited for compliance.

Housing Affordability

- 2.1 The Federation understands Government's concerns about housing affordability. In

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this regard it points out that structural timber, while it is a critical material in house construction, accounts for just 7% of the total cost of such construction as shown in the table on p11 of the *Residential Construction Sector Market Study Options Paper* of 6 November 2013.

- 2.2 Surveys of building material prices as plotted in the chart on p10 of the Options Paper show that framing timber prices between 1994 and 2008 have at best remained static. The situation since 2008 has remained unchanged even in spite of escalating sawlog prices, which account for roughly 50% of sawmill input costs, arising from export demand, especially from China.

Specification Barriers – Substitution of alternative grade or brand

- 3.1 The Options Paper on p18 refers to concerns about designers specifying products by brand.
- 3.2 Although framing timber is not generally promoted by brand the Federation supports the concept of specification by technical property. Framing timbers are identified by a grade number such as SG10, SG8 or SG6. These grades are associated with certain physical properties related to strength and stiffness and to a lesser extent compression and tension. Since performance is the key criterion in the selection of timber for a particular purpose the Federation believes that designers should specify by grade or where a brand is specified, substitution with a different brand should be permissible.
- 3.3 Specification by brand appears to reflect a degree of “awareness” among specifiers and results in “capture” of a market by a brand. In order to promote competitiveness and by definition achieve cost containment the Federation’s view is that BCAs should permit substitution of brands that may be specified with products with the same design properties and performance.
- 3.4 The Federation supports the options set on p26 that prevent specification of “no substitutes” and require specification by performance. We do not believe that such changes would result in any additional cost to the design process or to the consenting process as far as structural timber is concerned. Of the two options, specification by performance is the most relevant for timber and would have no unintended consequences.
- 3.5 Substitution of lower grade (lower cost) framing timber should be permitted in all cases so long as they meet the relevant performance specification and standards. For example where SG8 only framing is specified in a wall, substitution with SG6 should be permitted with additional studs as required or as set out in the tables of NZS 3604 provided the relevant performance criteria are met.

Specification Barriers - Capture by standards

- 4.1 NZS 3604:2011 is the primary standard specification for timber framed construction. It sets out requirements for the use of structural timber in separate building elements in residential construction under various environmental conditions such as wind zones, snow loading etc.
- 4.2 This standard is structured so that the timber use requirements for the various building elements such as wall frames, mid-floors and roof trusses covered in it’s main sections refer only to the use of SG8 graded timber. The result is that designers using this standard will always default to the specifications for using SG8 graded timber.
- 4.3 When NZS 3604 was revised in 2011 the Federation submitted that the tables in the main body of the document should cover not just SG8 graded timber but also other structural grades such as SG6 and SG10. This submission was not accepted and as a result the tables for the use of these other grades are hidden away as appendices to each of the main sections which we suspect are never referred to by designers.
- 4.4 If “equal” recognition were to be given to say SG6 graded timber then the chances are that designers would be encouraged to consider using this grade instead of SG8 with

likely savings in cost. Currently the price of SG6 graded timber is approximately 20% lower than SG8 graded timber. While it is true that closer stud spacing requirements may be necessary and a greater amount of SG6 graded timber than SG8 is needed for a given wall structure, the additional volume that is required is more than outweighed by the lower price. By substituting SG6 for SG8 framing timber the overall savings for a typical home maybe in the order of \$1000 to \$1500 with no resulting drop in performance or standard.

- 4.5 An additional benefit is that the greater specification and use of SG6 means greater timber availability thus avoiding temporary shortages in some sizes that may occur from time to time in some areas.
- 4.6 The Federation submits that NZS 3604 be amended by moving the tables for the use of SG6 and SG10 graded timber from the appendices to the main body of the document so that designers and other users of the standard can fully assess the use of the various grades of timber in their specifications.
- 4.7 The cost of following this Federation submission would relate to the cost of restructuring the standard and it's reprint. However this would be quite minor in relation to the potential cost savings that could be achieved in house construction. There should be no additional cost from a design and specification perspective. Designers may initially spend more time considering the alternatives but this should only be a short term cost or no cost at all. Over the long term we anticipate that designers would build up sufficient knowledge and expertise to allow them to consider use of alternative grades as an automatic part of their process.

Conclusion

- 5.1 The Federation believes that significant construction cost savings of up to \$1500 per house could be achieved by allowing full substitution of lower cost timber grades used in conjunction with the relevant performance standards. To achieve these savings the specification barriers to substitution by brand and or grade need to be removed and NZS 3604 needs to be amended to bring the lower cost grade design data from the appendices to the main body of the Standard.

Further information

- 5.2 The Federation appreciates this opportunity to provide submissions on this subject. Should any of our comments require clarification or expansion please feel free to contact us.

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