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DO YOU HAVE A STRUCTURAL FASCIA?

Quite a few past GN Guidelines (95, 163 and 175) have been written on the importance of structural fascias in hip end and gable end corners.

But what about the fascias on standard truss overhangs around the remaining perimeter of the roof?

One of the design cases checked by all truss software is a point live load on the overhang simulating the weight of a person standing on the roof.

The span tables in AS1684 "Residential Timber Framed Construction" shares the point load over several overhangs because it assumes the presence of a structural fascia equivalent to 190x19 F7 along the eaves.

However, we do not often see a timber fascia being used today apart from extensions to older houses or for specific structural/architectural purposes. Metal fascias are now more commonly used in most residential buildings but they do not generally satisfy the structural fascia requirements of AS1684.

This is because the bracket connection between fascia and overhang (Figure 1) is designed to support only the weight of the gutter and is not sufficiently rigid to share the required point live load.

It is also a popular misconception that roof battens will redistribute the load, but because battens bend much more easily than a timber fascia board, they are nowhere nearly as effective. Therefore, any design assumptions made regarding this load distribution under these circumstances are invalid and may result in an inadequate design.

That is not to say that metal fascias cannot be used. If metal fascias are expected to be used on trussed jobs, then the overhangs should be designed to take the full point load without redistributing it to adjacent members. (There is one metal fascia product with a proprietary fixing bracket which claims to have the rigidity to form a structural fascia but to our knowledge, it is not widely known about or used.)

In such an important structural requirement which determines the

integrity of the overhangs, the presence or lack of a structural fascia should be clearly established at tender stage when design modifications can be made, either to the building or truss design. Once the trusses are on site it is much too late.

If a truss detailer bases his design on the presence of a structural fascia when

Communication between the fabricator and the customer/builder needs to be open and transparent to ensure the structural integrity of the roof structure.

A small note on the truss computations which says "Assumes the use of a structural fascia" or "Fascia as per AS1684" may not reach the builder



■ Figure 1: Ordinary metal fascias do not provide load sharing.

he is fully aware that a metal fascia will be used, he will be in breach of the Australian Standards and the National Construction Code (of which the BCA is a component).

An eventual failure of the overhang on site has the potential for severe ramifications on the detailer for wilfully under-designing the trusses.

Finally, the ABCB Structural Software Protocol places an obligation on the truss designer to declare all design assumptions clearly to the client.

on site and should be clearly noted on the construction drawings or truss layout.

It is always important to have full and clear communication between all stakeholders in a building project to ensure that the structural integrity of the whole structure is not compromised and provide the best outcome for everyone.

Should you have any questions about structural fascias and the design of your overhangs, please contact your nailplate supplier.

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