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## ESTIMATING WITHOUT STRESS

Although estimating or detailing a large commercial project can be a rewarding experience for a person who likes a challenge, these projects come with a whole different set of scenarios that will test both experienced and not so experienced players.

Commercial work often requires additional engineering input by the manufacturer or supplier. If these costs are not included in your tender, it may be too late to recover the cost of what they may entail at a later stage.

By the time an engineer is consulted, the detailer may find that some key structural elements have been overlooked. Here I hope to provide some basic advice to assist in the preparation of your quote and avoid the stress and possibility of losing money.

Unlike residential buildings, the contract documents for commercial jobs are generally split into three components: architectural drawings, engineering drawings and specifications.

Within each of these documents is relevant information that you must know to accurately complete the job. It is important to glance through them all and closely study any requirements that affect you. Here are some of the typical things to look for.

### CERTIFICATION

One commonly missed component is the requirement for a qualified engineer (e.g. RPEQ) to certify the job.

If stipulated, this is usually found in the roof truss section of the specifications or engineering drawings.

Certification could be for the design or installation of the structure – or both. This is a cost that must be included in your tender price because if it is missed, your profit margin will be eaten away.

It could also affect your supply timelines if production cannot commence until the designs for the entire job have been checked, approved and certified.

### WIND CLASSIFICATION

A commercial job is not normally assigned with a simple wind classification.

It typically has a specific design wind

speed calculated in accordance with AS/NZS 1170.2:2011 Structural Design Actions Part 2: Wind Actions attached to it.

There is even a possibility that multiple buildings on the one site may each be assigned different wind speeds depending on varying factors like building height, orientation and so on.

It is important to get this right at tender stage to cover your costs. If unsure, get it checked by either the project or nailplate engineers.

### SUPPLEMENTARY LOADS

The roof spaces in commercial buildings often contain services which add concentrated loads at specific locations (e.g. A/C units) and general distributed weight across the ceiling for ducting, sprinklers, cable trays and so on. There may be mechanical services drawings which you have to get your hands on to pick up on these items.

### TIE DOWNS

Consider the supporting structure. If the walls are made with concrete, blocks or steel, are there cleats or a timber ribbon plate on them? With a ribbon plate, how will the builder fit a looped strap between the plate and block/steel?

Maybe other tie down options need to be considered, which your nailplate engineers can help with at tender stage.

### BRACING

Most commercial jobs have large open spaces and suspended ceilings which means that a special structural ceiling bracing system will be required.

This can vary from metal cross bracing to horizontal wind trusses depending on the lateral forces and distance between bracing walls.

While top chord bracing can be guided by AS4440, if it is outside the scope, it will need to be checked by an engineer. Large span bracing bays, cantilever and end vertical bracing are also easily missed during quantity take offs.

Estimators must be fully conversant with bracing requirements to ensure that an adequate amount of bracing is factored into the quote.

Your nailplate supplier's engineers are there to assist you with commercial jobs and to help you achieve an accurate tender price by ensuring all items are covered.

It will also expedite the eventual certification process if they have been involved with the project from the start.

If everything goes to plan, then working on these larger projects should be a stress free challenge from your day-to-day standard house.

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