

modularisation

The Tip Top project in East Brunswick will potentially use modular techniques; reducing the construction time on site and reducing the impact on neighbouring buildings.



By Kim Lowman

Whilst not a new concept, modular construction is currently the talk of the development industry.

The principles behind the prefabricated holiday house and modest mining 'donger' are being adapted for multi-storey residential construction. With industry demand for affordability and speedy delivery, this may be the future for viable apartment projects.

Traditional multi-storey apartments have a similar construction cost, whether built in the city or on the outskirts of Melbourne. However, housing affordability clearly differs between each location. The upshot of this demographic discrepancy is to either significantly devalue the land component, provide smaller, affordable units or to offer cheaper, more efficient building systems. Modular, prefabricated construction is a positive step towards achieving a quality efficient building solution within budgetary constraints.

Both the Australian manufactured systems, and the cheaper, overseas import versions, combine traditional construction for associated cores, car park and services with their prefabricated modules. However, not all sites and designs are appropriate for modular construction. Prior to electing a construction system, the developer should assess the potential opportunities and constraints.

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Clear Advantages

- Construction speed, given appropriate lead times and professional management;
- Factory-quality - as modules are made in a controlled environment, defects and waste are minimised;
- Reduced foundation requirements due to lightweight construction. This is ideal where loading existing structures;
- Often a cheaper construction cost;
- Reduced neighbourhood impact during construction.

This is a relatively new innovation in Australia and as such certain head contractors may initially be a little wary of the risk profile, supply and nuances of modular construction.

ROTHELOWMAN is currently assessing numerous sites for suitability to prefabricated modular construction. As always, ROTHELOWMAN encourages well considered industry innovation.

While acknowledging the pursuit of what could be the next generation of construction, ROTHELOWMAN is designing buildings that retain the flexibility to be either traditional or prefabricated modular construction.

Other Considerations

- Crane access / traffic management;
- Management of fire, services, structural bracing, movement and waterproofing;
- Size constraints - lightweight construction requires higher floor-to-floor heights and thicker party walls;
- Size of modules must be transportable;
- The rigorous structural grid encourages apartment layouts to be rectilinear;
- Modules must interface with traditional construction methods;
- Façade systems need full co-ordination. Ideally there would be minimal additional cladding post modular installation. Combinations of modules inform façade design detail;
- Local verses imported product;
- Market and financial institution acceptance.

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