

PREFABRICATION HAS become a very important part of the construction industry in recent years due to the ability of engineers and architects to better manage building programs through in-factory quality control.

The advent of self-supporting Cross Laminated Timber (CLT) panelisation such as that used in Melbourne's Forte building, the manufacture of self-contained pods that were craned into position in Auckland University's University Hall and the panelised construction method based on pre-clad frames and trusses used for the Sino-Canada Wood Eco Home that was constructed on-site in 60 hours for the Beijing Green Building Show, all demonstrate the advantages of using technology to reduce time on site and maintain high quality results.

Bali Prefab Wooden Houses is a company that is incorporating technology in the form of Computer Aided Design to streamline what is very much a handcrafted product to supply international demand.

The company was established in Bali by May Janssen in early 2001. Drawing on advice from her husband, Robert who is a qualified civil, structural, geotechnical and coastal engineer with a long history in engineering gas-handling shipping terminals for an international engineering firm based in the Netherlands, the company was set up to manufacture and

market Bali styled houses. A typical Bali style house is recognized by its Dickey roof and an open roof structure with or without cupola. There are generally no ceilings except in bedrooms and sometimes in bathrooms. Kitchens are

separated from living areas and definitely not part of an open living area. These design elements work well in tropical areas

as the high pitched open roof guarantees natural air flow and thus cooling. The addition of a cupola helps increase the air flow.

The approach the company takes to pre-fabrication is to completely build the

structure in Bali before then dismantling it and packing it in a container for shipping. The build system uses no nails and all components are numbered and colour-coded to simplify re-erection using the supplied drawings and photographs taken of the structure during its original construction.

After a slow start where the first structures sold were a couple of gazebos to a customer in the Cayman Islands, the company now exports to a number of tropical destinations including the Caribbean, Pacific and Hawaii apart from supplying the Indonesian market.

Working with local agents in countries outside Indonesia, the housing designs have been adapted to meet local standards and by-laws so they conform to requirements such as insulation and the ability to withstand hurricane force winds.

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Australia to ensure local engineering verification of their designs meeting local building regulations and that local constructors can be trained in building these houses.

The company has already done considerable work to ensure their product meets AQIS standards and only use wood sourced under Indonesia's V-Legal certification scheme. As such, they are aware of Australia's requirements regarding importing wood/plant-based products and are actively looking to keep ahead of the game when it comes to clearing hurdles.

Using traditional carved details, the company's houses present a look that many Australians are familiar with given the vast numbers of tourists who have travelled to the island over the years.

With craftsmanship that ensures the houses don't look mass-produced and a list of styles and materials that runs to some 35,000+ options, it is likely that each house that is sold in a location will be unique.

Which just goes to show that, no matter what prefabrication method is used, it is the ability to provide high level design with high quality control that will be most attractive to the end user rather than just the mass production of a single design that can be efficiently and economically pre-fabricated.