

## CASSETTE FLOORS

Building is starting to undergo somewhat of a mini-revolution. This began in mid-rise commercial construction when builders aimed to speed up erection time on site. The best way to do this is via pre-fabrication in a factory. When in a controlled environment there can be better checks on quality, there are no delays due to weather, and you can stockpile a building to be ready for a fast assembly at the appropriate time. There are different levels of pre-fabrication which range from complete modules (volumetric) down to individual panels (flat pack).

The residential market is now following, and floor systems are an ideal starting point. Flooring cassettes form instant working platforms to give WHS advantages, adding to the faster speed of construction and increased quality of build.

There are a number of items to consider when looking at cassette floor concepts and these should be combined to get the best result for the particular project:

- Repeatability is an important factor when manual assembly occurs. Cassette floors tend to become cost effective when there are more than 5 panels to be made that are identical. This is not a concern if using an automated assembly line.
- Overall weight of the panels can determine maximum size depending on final location. Small panels that can be man handled are still extremely quick to install and may be necessary on difficult sites where access is restricted.
- Transport limitations will affect the size of the panels. As they are being built in a factory and then moved to site the panels need to easily fit onto a truck.
- Cassette floor material sizes will affect panel size. For large format panels the optimum panel width seems to be either 2.4m or 2.7m to fit in with common sheet flooring such as particleboard or OSB.
- On large sites the number of lifts is an important factor. These sites are measured by "crane time" so reducing the number of panels is the most cost effective solution.
- The cassette components are usually existing materials such as hyJOIST or hySPAN so optimisation of these may affect the final layout.
- Flooring can be rigidly bonded to the substrate (using Polyurethane or similar adhesive). This allows the flooring to act as a stressed skin rather than moving independently of the joists, and can increase stiffness by up to 40%.
- Cassette manufacture may occur at various points depending on the project. With precision docked raw materials available from the distributor (Meyer Timber) the assembly can be done by the distributor, the F&T plant, the merchant, the builder, or by a third party contracted by anyone of the above. This flexibility is based around provision of accurate and detailed panel production drawings.
- Provision of lifting point and methods of lifting need to be assessed from the beginning to ensure you can crane the panels safely and easily into position.

### DIFFERENT CASSETTE FLOOR OPTIONS



*There are many projects, both houses and multi-residential, that would benefit from using floor cassettes. Each situation is different and you should review the project and discuss with the builder the different options to get the best fit. Remember that there are many people who are available to help. Feel free to contact Meyer Timber if you need more information or need assistance to work through the process with your customers.*

*George*

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