

Glulam

wins in sustainability stakes



Auspine has opened the only major timber-framed distribution facility in WA, an impressive 7500sqm building made from glued laminated timber beams – glulam.

Such large facilities are generally built in steel or concrete, but Auspine used timber to encourage commercial builders to consider it as an alternative. Glulam is smaller sections of timber, finger-joined and laminated together with Resorcinol glue, producing a very strong final product. It can be made in much longer lengths than conventional timber and with its superior stability, will not cup, bow, twist or spring.

In an increasingly green-minded industry, this construction material scores particularly well: the beams are made from shorter lengths of timber, so residue material can be used. But more importantly, a building such as Auspine's stores 350 tonnes of carbon that would otherwise be stored in the atmosphere as carbon dioxide. And on top of that, much less energy is

used in the production process compared to other manmade products such as steel, concrete and aluminium.

"With the emphasis on carbon trading and carbon impact on the environment, we realised there's certainly some room to promote timber as a very good facilitator of storing carbon," Auspine WA manager Paul White says. "If more people did it, we would certainly go a long way in offsetting carbon emissions. Timber, particularly plantation pine, is a renewable resource and the use of engineered glulam beams is an efficient use of wood fibre."

WA catching on

While the project is groundbreaking for WA, the concept of using glulam to build warehouses is not new to the rest of the

world, or even the rest of the country. It is quite common practise in Victoria, NSW and Queensland and Auspine has built this type of facility even in South Australia and Tasmania.

"In WA, the market hasn't really been shown any way other than steel and concrete," White explains. "That's what we know here." For that reason, the cost of building Auspine's new WA warehouse in Canningvale was considerably more in labour than if it had been built elsewhere in Australia. Labour had to be imported from Mt Gambier in South Australia because they found no tradespeople in Perth with experience in the process. But local trade operators saw the huge new distribution facility being built and were surprised at how easy it could be.



Perth and stored on site until construction began. It took 12 weeks for the erection of the timber framework of the warehouse; the total build time was 26 weeks. The Canningvale warehouse and distribution facility opened in January, supplying to timber merchants such as Colli & Sons and building material suppliers like Bunnings.

Opportunity

The opportunities for glulam timber construction are extensive, particularly in the commercial sector. It is ideal for warehouses and distribution centres, as storage facilities for corrosive products, and in high humidity areas such as swimming pools, where steel would normally corrode over time. Already glulam beams are used widely in homes, for verandahs, carport beams, and internally as structural beams.

More info

At the Australian Timber Design Workshops, at UWA on 16-to-17 June, Auspine is presenting a case study into the construction of its new warehouse. Auspine will also feature it at the Designbuild expo in Perth next October.

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Auspine WA manager Paul White says. “If more people did it, we would certainly go a long way in offsetting carbon emissions...”

“Being the first building of that type in WA made it more costly,” White commented. “All it takes for this to change is education on how to build using timber beams. If more people considered using timber, local trades would get the know-how and labour costs would be reduced.”

Fast construction

The Canningvale facility was designed by structural engineer Bruce Jordan around dimensions specified by Auspine. The warehouse and adjacent office complex is 65m wide and 115m long with a 7.5m canopy on either side.

Production of the required 400 cubic metres of beams took three months at Auspine’s factory in Portland, Victoria. The beams were transported via truck and train to

