

Composite decks meet growing storage space calls

Albion Self Storage facility, Brisbane QLD

With cityscapes along Australia's eastern seaboard crowded with cranes as the boom in smaller apartments persists, there is a quieter revolution occurring in the suburbs as increasing numbers of those downsizing for inner-city lifestyles drive more urgent demand for self-storage.

This trend is proving valuable for suppliers of steel formwork for composite decking due to its ability to more than halve time onsite installing floors compared to concrete slabs using conventional temporary formwork.

Typical of this new trend is a series of new multilevel self-storage facilities underway using BONDEK® profile steel sheeting as permanent formwork for decking.

The method also works as composite slab combining steel's inherent strength in tension and concrete's robustness to compression whilst saving on concrete formwork and reinforcement costs.

The client was so impressed with its speed of installation in developing one of its new facilities at Carrara on the State's Gold Coast that is a large multi-level warehouse facility consisting of structural steel framing, sheet metal cladding and both concrete and lightweight flooring, the company specified the same approach for its three new facilities across Brisbane, the first at Albion.

Project Manager for this project from TMD Contractors, **Graeme Brock** said that they had to look at a more time-efficient alternative than traditional formwork decking due to the tight deadlines given for construction of these warehouse facilities.

"Most concrete slabs are poured into formwork which is a temporary mould fabricated out of timber and plywood that holds the concrete in place until it has set and cured, but construction and removal of formwork supports is difficult and extremely time consuming," he said.

He said that whilst the loadings requirements for the elevated floors were several times that of commercial office or residential multilevel builds, there is profiled steel sheeting readily available on the local market that could satisfy that industrial grade of decking strength.

"Lysaght recommend the use of one millimetre BONDEK® profile steel sheeting widely accepted by the building and construction industry as highly efficient, versatile and robust."

Mr Brock said that the project achieved floor cycle times averaging 500sqm a day, more than halving the usual rate using temporary formwork so it didn't take long to install around 4000sqm using the steel formwork.

"The decking works at Albion Self Storage were constructed in record time and with huge success and great results," he said.

Approval has already been given for TMD Contractors to use the same decking method on two more similar facilities in Brisbane.

Project Manager at the project's steel fabricator BridgeFab, **Anthony Ridout** said the factors that favour steel decking primarily are prefabrication to exacting standards and quicker erection times.

The second factor is important as he cited reducing project timeframes for most projects as a key market focus.

He added that it was also relatively easy to convert to composite decking using steel formwork on a typical steel framed portal structure.

"Essentially these facilities are built utilising a purlin bearer and joist system with a standard bolting arrangement," Mr Ridout said.

"Existing rigging companies have no issues adapting to this new form of construction as it is similar to what has been traditionally used in most roof steel projects."

BONDEK® decking is the original steel formwork system made from DECKFORM® zinc coated high tensile steel, developed by BlueScope specifically for the steel decking market.

The range boasts excellent spanning capacities for greater strength and less deflection and features slip-free embossments and ribs at 200mm centres for safer platforms for working at height.

PROJECT TEAM

Client: Steel Storage Australia

ASI Steel Fabricator: BridgeFab

Onsite formwork/decking: TMD Contractors

Decking supplier: BlueScope Lysaght



New multilevel self-storage facilities are riding a wave of greater demand with substantial footprints in urban areas.