

■ Builder chooses precast for transfer podium

Not only has precast been the number one construction choice for Sydney builder Baseline Constructions over the last eight years, but their decision to construct the podium transfer structure of Stage 3 of Metro Village in Sydney's Rosebery has demonstrated the benefits to be gained from this more sophisticated exploitation of the potential of precast.

Hollowcore spans between beamshells

The decision to use precast to construct the podium for stage 3 was influenced by the structural layout that had the transfer beams in the podium located directly under the main loadbearing walls of the structure. Beamshells, generally 2000mm wide, were used with 150mm, 200mm and 250mm thick hollowcore floor planks spanning between the beamshells. The beamshells had all the bottom reinforcing that is required by the engineer cast in them with the top steel fixed on site. The flexibility of the beamshells, propped during construction, allows for simple column to beam connection. By also varying the heights of the beamshells, the steps required in the slab by the architect were easily catered for.

"The benefits of using precast in a project like this are considerable", according to Baseline Managing Director, Nicholas Bettar.

The 100 metre long working deck was erected in only 8 days and allowed the builder to quickly come out of the ground. The ground floor slab was left behind and, with the podium complete and the building being constructed in 2 halves, the builder was then able to work on 2 major work faces at all times thus keeping the erection and concrete finishing crews on site continuously.

The 60 apartments in Stage 3 were then constructed using loadbearing walling, hollowcore flooring and Transfloor balconies supplied by Rescrete Industries. The 1315 precast elements in this stage were erected in 45 days. "Site preparations began in late May of this year and construction is planned to be completed by February 2005" says Mr Bettar.

Metro transforms inner Sydney

As part of Green Square, (the master plan for the transformation of the inner Sydney industrial area covering the suburbs of Zetland, Alexandria, Beaconsfield and Rosebery), Metro Village is a collection of seven buildings built over 3 stages.



Hollowcore planks span between 2000mm-wide beamshells to form the transfer podium.

Stage 1 was completed in December 2002. It consisted of 1200 square metres of retail space and 111 apartments in 3 buildings: two 7-storey buildings and one 5-storey building and used precast panel walling and hollowcore flooring. A turnaround time of only 12 months was achieved, which included repatriation of contamination, piling, detailed excavation and footings.

Stage 2 also used precast panel walling and hollowcore flooring. Completed in January 2004, the 14 months construction time incorporated 2300 square metres of retail space and 104 apartments again in 3 buildings: one 7-storey buildings and two 5-storey buildings, and again including repatriation of contamination, piling, detailed excavation and footings.

Precast superior to insitu

The efficiency and simplicity of precast provided the solution to the builder's search for a faster delivery of a better product. Being quality tested and manufactured under controlled conditions, precast represents a superior product to insitu, plus there is the added benefit of an overall faster construction time which brings considerable cost savings.

The 487 hectare Green Square area is believed to be Australia's largest urban renewal project. When completed in 2016, the urban renewal of the area will see more than 25,000 people living in an area where industrial buildings once stood.

Project Team:

Precast Flooring, Stage 2 & 3 Walling:
Rescrete Industries Pty Ltd

Precast Stage 1 Walling:
Giolto Precast Pty Ltd

Architect: ARC Architects

Engineer: Meinhardt (NSW) Pty Ltd

Builder: Baseline Constructions Pty Ltd

efficiency & simplicity