

# Formwork leverages plastic and styrene

AN innovative formwork system that utilises plastic and styrene planks is providing an effective and time-saving solution on a restrictive inner city building site in Melbourne. The insitu concrete walls of the three-level commercial/residential development in Toorak are being formed up with formwork supplied by Melbourne-based ICF Contracting. The lightweight, strippable plastic planks are used as formwork for the exterior facade of the external wall, while the styrene planks are used on the internal face as permanent insulation. ICF has worked closely with concrete supplier Readymix to develop a specific concrete mix for optimum flow inside the formwork.

David Grant, of construction contractor Avanzi Constructions, says the ICF Contracting system is well suited to the tight Toorak site. Although tilt-up panels were used for the basement car park walls, they were not an option for the three upper levels because there was no crane access to the bottom of the 45m long by 12m wide site. "The project was originally designed for concrete blockwork," says Grant who reckons the ICF system is simpler and faster than



The exterior face of the wall after the plastic planks have been stripped away.

the old way of forming up with plywood.

The use of the styrene planks as permanent formwork on the interior faces also delivered time saving advantages in terms of finishing off, as well as design benefits. "The insulation value of the styrene planks was a major factor in our decision to go with the system. If we had gone with conventional blockwork we would have had to frame up with a lightweight stud frame, then install the insulation. The ICF Contracting system acts as both structural support and insulation. You fix the plasterboard directly to the plastic ties in the styrene and that's it. It also makes for a much cleaner site. You do not

have mud and mess everywhere as you do when you are laying blocks," explains Grant.

The 50 mm styrene planks used on the Toorak project have an insulation value of 1.5, which in combination with the 150 mm concrete wall, delivers an overall rating of 1.78. The styrene planks can also be used as permanent formwork for external facades for thermal and acoustic insulation. "In the case of external facades, you render over the styrene and paint," says ICF managing director, Ari Schupak. The major advantage of the lightweight plastic planks is their ease of handling. They can be stripped in and out quickly and can be reused up to 50 times.