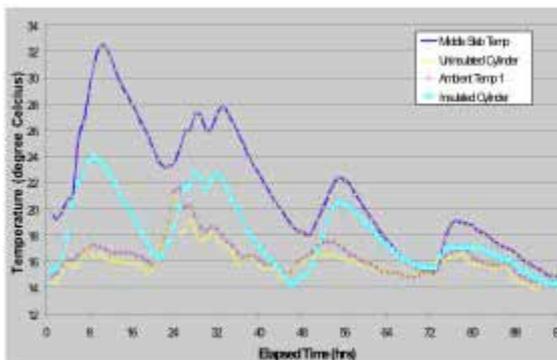


Pacific Square Development

Project Report - New South Wales

The Pacific Square Project located in Sydney's beach side suburb of Maroubra is a diverse and complex development. The Pacific Square Project incorporated retail areas, speciality shops, cafes, restaurants, with five residential towers, a town square, multi-level basement parking and extensive landscaping. Set over a one hectare site and undertaken in three stages, the nature of the project required high level technically based skills.



Sirivivatnanon, V., Baweja, D. and Khatri, R.P., "Evaluation of In-situ Concrete Strengths for Post-Tensioning of Concrete Slabs", Proposed for Concrete Forum, Refereed Journal of the Concrete Institute of Australia, 2008.

Specification requirements

The project was constructed using a post-tensioned concrete slab system commonly used in buildings of this type. Typically, early age compressive strengths are required for such concretes to enable initial stressing



and final stressing of tendons used for post tensioning. There was also a limitation on the use of fly ash in the concrete (10% maximum by weight of binder) as it was thought that excessive amounts would reduce early age strength. The project also called for concrete cylinders for assessing strength to be air cured.

Solutions developed and R&D Conducted

In consultation with the contractor and design engineer, a proposal was put forward to trial a conforming concrete mix and an alternative concrete mix incorporating higher levels of fly ash. The latter alternative had improved properties for constructability and also had better drying shrinkage performance. R&D was conducted by Holcim (Readymix) through work done on their behalf by the CSIRO Division of Manufacture and Infrastructure Technology. A paper summarising the findings of the R&D work has been written and will be published shortly .

It was found that the alternative mix performed as well as the conforming mix with enhanced constructability. In addition, questions were raised as to the validity of air-curing concrete specimens and how representative this was in reflecting concrete strength. Other curing methods investigated by CSIRO were found to be much more representative of slab strength.

Location	Maroubra, Sydney, NSW
Client	Alpine Hotels
Contractor	Abigroup Contractors
Engineer	Bonacci Rickard
Products supplied	24,000m ³ of post-tension concretes
Post-tensioning Contractor	Austress Freyssinet
Commencement	October 2003
Completion	August 2005