

PROJECT BRIEF

Upgrading and Conversion of a 15-Storey Commercial Complex to a Hospital Facility with the TYFO® Fibrwrap® Composite System



Singapore
November 2000

A 15-storey commercial building built in the 1970's, located near the central business district of Singapore, was proposed to be converted into a modern medical facility. The feasibility studies revealed that a combination of retaining a main portion of the existing structure and erecting an adjoining new structure would yield a more cost-effective design than building a completely new structure on the existing site. A structural investigation revealed that the existing structure was unable to support the new loadings. The main beams in the existing building were found to be deficient in shear and flexural capacity. Reinstatement to their original design capacities and further strengthening to withstand the increase in loadings were required. Columns on the first and second levels were also found to be deficient; strengthening was required to increase their axial load-carrying capacities. The slabs and the foundation of the existing building were analyzed and determined by the consultant as structurally adequate.



The contract for this entire project called for its completion within a short period of 15 months. With the proposed increase in the loading due to the new usage and the installation of heavy medical equipment, it was necessary to adopt a time-saving method to strengthen the retained structure at the lowest possible cost. The TYFO® Fibrwrap® Composite System was selected to strengthen the deficient beams and columns over the original steel plate proposal due to the speed of application and overall cost effectiveness. The strengthening works were carried out within the allotted time frame and the new hospital facility was commissioned on time.

FYFE Asia Pte Ltd

8 Boon Lay Way, #10-03 Tradehub 21, Singapore 609964

Tel: +65 6898 5248 • **Fax:** +65 6898 5181 • **E-mail:** info@fyfeasia.com • **Web:** www.fyfeasia.com