FYFE Asia Pte Ltd

"THE FIBRWRAP® COMPANY"

PROJECT BRIEF

INDIA

Capacity Enhancement of Building Columns due to Low Concrete Grade at an IT-Park with the TYFO® Fibrwrap® Composite System

Hyderabad, India

July 2004

In an on-going, fast-paced, new Information Technology (IT) Park construction project for a major U.S.A. software company, the twenty-eight day concrete cube test results of a particular batch of ready-mixed concrete was found to be unsatisfactory. This batch of concrete was used to cast a few columns on the lower floors of the structure and was a cause for concern to the owners and structural consultants. It adversely affected not only design safety criteria but also the project duration as the upper floors could not be cast until the particular columns in question were considered structurally adequate. Subsequent *in-situ* non destructive and partially destructive tests confirmed that concrete had not achieved desired compressive strength.

The owners and the projects consultants decided that the columns would need strengthening. Various options of external strengthening materials and techniques were examined by the consultants with respect to time, cost, and execution method criteria. The TYFO® Fibrwrap® Composite System was an obvious choice due to multiple advantages it offered over conventional strengthening techniques such as concrete jacketing and steel plate bonding. A design proposal using the Tyfo® Fibrwrap® System submitted to the consultants was accepted. Various wrap configurations were designed to cater to specific deficiencies brought about by the low concrete grade. The entire strengthening process was completed in a week, thereby facilitating the construction of the upper floors.

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