

PROJECT BRIEF

Strengthening of Beam-Column Junctions of the Domestic Airport at Santacruz with the TYFO® Fibrwrap® Composite System


Mumbai, India
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Over the last few years, the government run Airports Authority of India have taken up a countrywide modernization program to upgrade, expand and modernize India's outdated airport facilities to conform to international standards and to keep pace with the projected large increase in passenger traffic and cargo volume expected in the next 5-10 years. The domestic airport Terminal 1-B in Santacruz, Mumbai, built in 1958 is once such facility that was recently upgraded structurally as well as architecturally. It currently serves all private domestic flights in and out of Mumbai and is one of the busiest airport terminals in India.

Due to the age, the structure had areas where the reinforced concrete had deteriorated due to environmental conditions; a thorough structural investigation was performed and the terminal building was checked for its design stability. Although no major design deficiency was encountered, it was found that the column steel reinforcement links and beam stirrups, particularly near the beam-column junctions were not in accordance with current Indian code requirements. In addition this steel was found to be exposed and corroded at various locations throughout the building.

In view of the fast track completion schedule, the structural consultants and the authorities required a retrofit system that would be least intrusive, localized and having a quick installation procedure. The TYFO® Fibrwrap® Composite System was found to be the appropriate system to satisfy these requirements. The columns and beams were strengthened with the TYFO® SEH51 System by wrapping with designed number of layers to replace steel that was lost due to corrosion and the various locations.

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