

PROJECT BRIEF

Blast Mitigation to Columns at Changi Airport Terminal 3 using TYFO® Fibrwrap® System



Changi Airport T3
Singapore
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The Changi Airport of Singapore has been consistently ranked one of the world's best airports in the world. In order to cater to its aspiration to be one of the busiest and modern airports, it has recently added a new terminal to its existing two terminals called Terminal 3. It has 380,000 square metres of built-up area in a seven-story building with 3 basements of carparks.



Due to its iconic stature, as well as its importance as a gateway into Singapore, its security against threat is of utmost consideration. One of the major concerns was a vehicle bomb being detonated beside the basement columns thus creating a progressive collapse. Such an occurrence would be detrimental to Singapore and the security perception of the region. The TYFO® Fibrwrap® Composite System was found to be the most appropriate system to mitigate these concerns and it affords advantages such as non-intrusive, localized disruption and having a quick installation procedure. Thus, the architect and consultants selected the TYFO® Fibrwrap® Composite System as an effective approach for strengthening of the columns against blast. To impart ductility to the structure, the carpark columns were encased with lightweight TYFO® SEH 51A and it was applied with the specially formulated Tyfo® S Epoxy.



The entire installation of the TYFO® Fibrwrap® Composite System to a total 223 columns of the Changi Airport Terminal 3 carpark was completed in 4 months time without any delay or loss in revenue while complying with the safety standards of the client.

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