

PROJECT BRIEF

Restoration of Nanyang Technological University’s Chinese Heritage Centre with the TYFO® Fibrwrap® Composite System



Nanyang Technological University, Singapore
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The Chinese Heritage Centre building has been standing on the grounds of Nanyang Technological University for about 50 years. Due to its strong history and unique architecture, this 1953 building was gazetted as a National Preserved Monument on 18 December 1998.



Over the years, severe carbonation of concrete has occurred in the concrete roof beams and slab of the Chinese Heritage Centre. The resulting corrosion of the steel reinforcement in the concrete has caused progressive cracking and spalling of the concrete cover.



The TYFO® Fibrwrap® Composite System was proposed and chosen for the strengthening of the existing beams and slabs due to its non-intrusive and far cleaner application process. The system uses aerospace technology and works on the concept of wrapping structural members such as beams, columns, slabs and walls to enhance the load carrying capacity and ductility of the members. The TYFO® Fibrwrap® Composite System has high tensile strength and was used to compensate for the loss of steel reinforcement in the RC beams and slabs due to corrosion. In addition to providing structural strengthening, the system can further protect the concrete from future carbonation and corrosion by forming an impermeable barrier against the elements.

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