

PROJECT BRIEF

Strengthening of Beams due to Concrete Cube Failure at an Elevated 2.5 Million Litre – Water Tank Structure with the TYFO® Fibrwrap® System



Tanjung Gemuk, Rompin
Pahang, Malaysia
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This 2.5 million litre water storage structure at Tanjung Gemuk, Kuala Rompin was completed in 2003. The concrete strength of the reinforced concrete beams at the 25m level were found to be lower than the designed strength during routine quality checks prior to handing over and commissioning of the water storage facilities to the local authority.

The challenge for this particular installation was that the beams were located at 25 meters above ground. Thus work access to the member and ease of installation were the main criteria in selecting the appropriate strengthening method to remedy the above shortfall due to the potential danger of falling from this height when carrying out any installation works on the structure.

Due to the ease of installation, long term track record and cost effectiveness, the TYFO® Fibrwrap® Composite system was chosen as the preferred system to be used to strengthen the concrete beams to enhance its performance, ensuring its long term durability and preserving the integrity of the structure throughout its life span.

The patented TYFO® Fibrwrap® Composite system uses aerospace technology and materials, i.e. carbon/glass/aramid fibres and epoxy composites and works on the principle of wrapping structural members such as columns, beams, slabs and walls to enhance ductility and load carrying capacity of the members.

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