



## **TYFO<sup>®</sup> Fibrwrap<sup>®</sup> For OUB Centre**

Overseas Union Bank (O.U.B) Centre is one of the prominent buildings in the central business district of Singapore. In addition to being one of the tallest in Singapore it also an iconic structure which shaped the Singapore skyline. Alfresco bar on the roof with restaurants at top levels, carpark in the basement, shopping & commercial complex in lower levels with office spaces filling up the rest of the building, it defines the modern urban landscape.

Major changes to the first 4 floors of the existing structure were proposed in tandem with the construction of new Tower 2. As a result of increase in live loads and changes to the structural frames, columns in lower basement levels experienced additional loads and moments. Lower basement levels, which serve as a car park, is highly congested area with severe space constraints. Further, the car park was utilized during alteration works which ruled out traditional column strengthening methods such as section enlargement and steel plate bonding due their disruptive nature.

Based on analysis results provided by structural consultants, engineers from Fyfe Asia Pte Ltd identified a strengthening solution which was adequate meet new axial loads and moments of columns. Tyfo<sup>®</sup> SEH51A and TYFO<sup>®</sup> S epoxy provided the best solution in terms of required level enhancement and flexibility in installation, while meeting the expected budget.

Strengthening works was carried out at isolated areas of car park with no more than 3 parking spaces adjacent to the column were closed, minimizing noisy and disruptive effects to the users.