

Case study

## Preserving integrity: structural repair of I-beam walkway supports

### Client challenge

Several I-beam walkway supports faced severe corrosion issues, including through-wall penetration in both the flange and web sections, necessitating a restoration of their structural integrity. Our client needed a solution that avoided the high cost and unacceptable hot work associated with the like-for-like replacement of the supports.

### What we did

Our approach involved providing an engineered design, implementing a Technowrap™ structural strengthening repair solution, and deploying trained personnel for the repairs. The repair design was meticulously crafted to withstand full applied loads, with a targeted design life of 20 years as per the client's specifications. The complexity of the corroded beam areas required the use of a hand lay-up technique, as prefabricated plates were not feasible. ICR personnel underwent extensive training and testing at the Aberdeen headquarters, mastering various structural scenarios to ensure the effective application of repairs to intricate geometries.

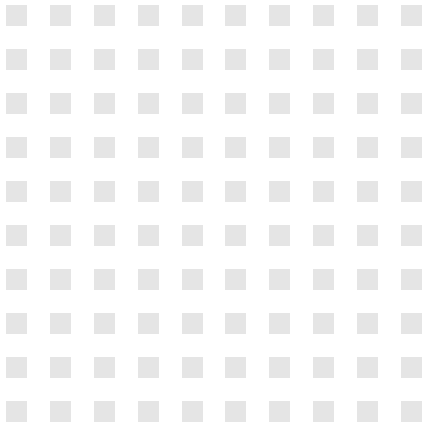
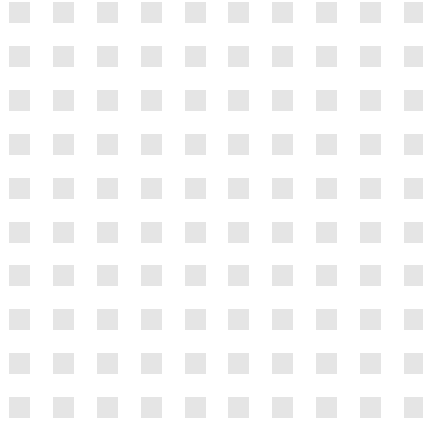
### Results

A Technowrap™ carbon fibre structural solution was successfully applied to the external surfaces of the supports, reinstating the integrity of the structure and the repairs were

executed seamlessly while the platform remained in operation and production, eliminating the need for isolations, downtime, or platform shutdowns. The before-and-after visuals depict a notable transformation, showcasing the effectiveness of the implemented solution in restoring the I-beam walkway supports to their optimal condition.

“

The repairs were executed seamlessly while the platform remained in operation and production, eliminating the need for isolations, downtime, or platform shutdowns.



*Walkway beams before repair*



*Walkway beams after repair*