

At A Glance

Technowrap™ - Structural Repairs



Technowrap™ carbon fibre repairs are fast becoming the repair method of choice across a range of structural integrity challenges. ICR specialise in the repair of structural components using two carbon fibre offerings: Technowrap SRS and Technowrap HPPRS. Technowrap SRS is a quadraxial stitched fabric, generally used where a uniformly distributed load is considered as it forms a quasi-isotropic laminate. Technowrap HP PRS is a unidirectional stitched fabric, primarily used to restore strength where there is a single load path forming an isotropic laminate. For more complex loading scenarios a combination of the two fabrics can be used, forming a laminate bespoke to the repair scenario. Each fabric can be used with various Technowrap resins, to best suit the repair scenario.

DECK REPAIRS

The major engineering challenge in designing a repair system for deck plates is to ensure that the damage tolerance of the repair system can withstand day to day impacts alongside the applied design loads. As a result, ICR have developed Technowrap DRS (Deck Rehabilitation System). The repair technology combines the properties of Technowrap SRS carbon fibre and DRS, a rubber toughened epoxy resin system. Where a standard epoxy composite repair would not be suitable for deck areas as they are more brittle and have a lower strain to failure value, this unique design ensures that the quasi-isotropic laminate can withstand the applied loads and impacts associated. This deck repair can then be combined with an anti-slip external coating that is applied as a final layer if required.

CAISSONS

Corrosion of caissons and risers can lead to leaks, structural failure (dropped object) and lost production. Traditional replacement options for example removing damaged sections can introduce range of safety risks associated with heavy lifting and welding. These activities require a shutdown of production whilst the replacement is being carried out, which can significantly escalate costs. ICR's Technowrap Splashzone resin can be applied live either on wet/damp surfaces or within wet/submerged environments which makes it the ideal solution for caisson applications. The hydrophobic epoxy resin displaces moisture from the bond line between the substrate and the composite, ensuring the appropriate level of adhesion is achieved. Caisson repairs follow a

similar design premise to pipework however they must also consider external loadings, including bending moment induced by wind and wave loading; axial load; often from the weight of the caisson in event of full separation resulting in further analysis being carried out on the adhesive bond.

ROOFS AND DECKS



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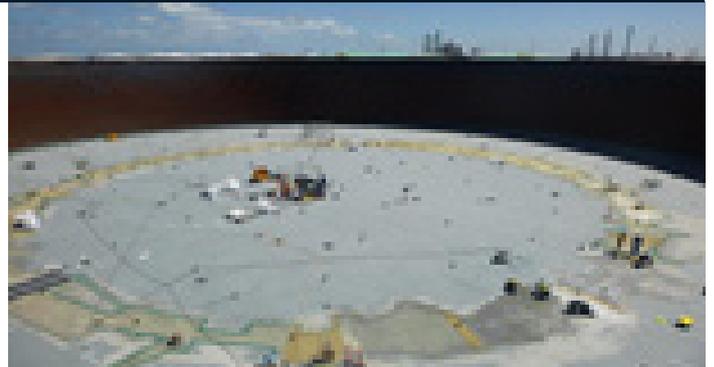
ACCOMMODATION MODULES, WIND WALLS AND BLAST WALLS



BEAMS, STRUTS, STAIR TOWERS AND STRUCTURAL COMPONENTS



TANK AND VESSELS



CAISSONS AND RISERS

