

## Survey, Calculation & Report On Marine Crane Mounting Base

Technik Design were approached to conduct a survey on a crane mounting base onboard a small aluminium boat which had recently been outfitted with a new knuckle boom crane. A steel supporting framework had been fabricated and fitted under the deck of the boat which was then clamped between the two closest bulkheads. The client was concerned on the suitability of the framework fitted as no calculations were performed prior to fabrication and installation of the crane and the mounting base. The crane had been successfully load tested and inspected prior to the survey and was in operation.

When consulted Technik Design performed a retrospective dimensional survey on the framework and the boat hull from which an accurate 3D model of the arrangement was generated to allow finite element analysis (FEA) to be performed. A number of crane loadings, crane angles and crane extension scenarios were defined and calculated to provide the client with a detailed survey and calculation report. This report was able to confirm the crane mounting base arrangement as having an acceptable factor of safety and to be suitable for ongoing operations assuming regular crane load testing and inspections were carried out.

