

SUBMERGED CAISSON INSTALLATION



MARINE ENGINEERING



TWD designs are often used in projects involving near- or offshore marine installations. To support these works, TWD operates a dedicated in-house Marine Engineering team.

The services of our Marine Engineers span from high level project planning, installation engineering and selection of suitable project equipment up to the execution of the detailed mooring and stability analyses required.

“ TWD’s marine engineering team has the know-how to successfully complete complex marine construction and installation projects. Together with the vast experience in the design of temporary works, TWD becomes the partner to consult on large scale marine works. ”

PORT OF NADOR EXTENSION

For the construction of the new port of Nador West in Morocco a total of 253 caissons, weighing up to 9.000t, were installed to form 2 breakwaters, petroleum stations and a container terminal. TWD advised the consortium STFA-SGTM-JDN about best practices for the construction of the caissons, their load-out on the semi-submersible vessel, their safe transport and their controlled submerged installations.

OUR SERVICES

- BARGE BALLAST AND LOAD-OUT DESIGN
- BARGE STABILITY ANALYSES
- CAISSON BALLASTING AND SUBMERGING ANALYSES
- STRUCTURAL DESIGN OF AUXILIARY EQUIPMENT
- ON-SITE OPERATIONAL ASSISTANCE

INSTALLATION ENGINEERING

TWD's marine engineers prepared the installation procedure of the caissons encompassing every step of the operation: from skidding of the caisson on to the semi-submersible barge, to the float-out, towage to the final installation position and submergence to 20m below sea level. Furthermore, TWD assessed the workability of the different marine operations and advised on the suitable sea-states to assure a safe operation.

STRUCTURAL DESIGN

The 9000t caissons were fabricated at an on-site factory, before being skidded on to a semi-submersible barge. TWD designed the essential temporary works such as the skidding grillages and the required deck reinforcements to assure the integrity of the barge when loaded with the caissons. Furthermore, TWD designed a reusable pump skid grillage on top of the caisson, used for the ballasting operations of all 253 caissons.



ON-SITE ASSISTANCE

TWD services are not limited to the required desk studies assuring a safe and smooth load out. TWD's marine engineers provide on-site assistance too, being readily available to advise during critical caisson lowering operations.



TWD'S TRACK RECORD

With over 10 years of experience in the marine construction market, TWD's Marine Engineering department has built a significant track record on a wide variety of construction projects:

- JETTIES, QUAY WALLS AND BREAK WATERS
- OVER-WATER BRIDGES
- SUBMERGED CAISSONS AND COFFERDAMS
- MARINE OUTFALLS AND TUNNELS

For additional information or technical enquiries, please use the contact information below.

GET IN TOUCH

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