

Cotonou, Benin

Propeller scour protection to container berths using concrete mattress

Contractor: Bachy Soletanche
Engineer: Proserve Ltd
2011

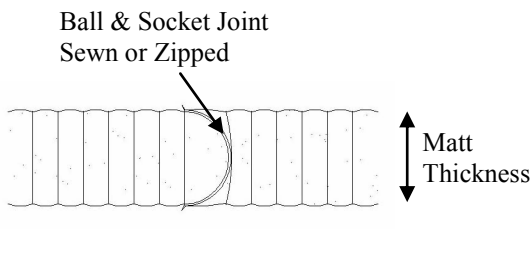


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Fabriform *proservemattress*

2 new container berths have been constructed at the port of Cotonou with a depth of 15m to accommodate larger container vessels. Proserve were engaged to design the scour protection apron and supply the required concrete mattress. The scour apron was designed to resist the suction forces due to container vessel propeller action 240mm and 150mm thick constant thickness mattresses were used.



The lower construction thickness of concrete mattress provided a cost effective solution and importantly minimised the span height of the quay wall and maximised its protected embedment depth.

A local micro concrete mix was developed and trialed with pumping and mattress filling trials initially. The mattress system was diver installed using the roll out technique and then pump filled automatically via pre installed lay flat hoses. 15,000m² was installed in some 6 weeks using 2 large dive teams.



A rip rap stone falling apron edge detail was provided to overcome edge scour in the sand and clay bed.

