CT220 Concrete mattress was selected to provide scour protection for Tarbert ferry. This involved two locations; the slipway (600 m²) and the jetty (188 m²) at which the ferry berthed overnight.

The concrete mattress provides a 220 mm thick cast in situ concrete slap of the bed, with interlocking ball and socket joints providing highly effective protection from propeller action.

This system was a new propulsion unit, which Proserve has not previously designed for. The level of protection required was calculated from the predicted flow levels in the worst case.

Proserve’s Engineers designed the mattress construction system to overcome the challenges of the sloping bed, out cropping rock (on the slipway) and the piles supporting the jetty, in consultation with the Main Contractor and Diver. Mattress panels were fabricated to suit, and Proserve provided detailed installation guidance, site visits, diver training and office based support to aid construction.

The Mattress was laid on a prepared bed. Mattress panels were filled using a diver filling. Restraints at the edge of the slipway and at the bottom of the wave screen allowed successful filling of the mattresses up their respective slopes. The edges of the mattress were protected in the form of a toe trench covered in rock armour, with a stone retention bolster in some locations.