

Contractor: Domarcons



Pile Jacket System with Temporary Steel Frame



Reinforced Concrete Piles

Proserve's pile jacket system was used to provide 100 mm thick insitu concrete encasement to 29 N° 2 m diameter reinforced concrete bridge piers, filling cracks which had developed over the lifetime of the structure, and protecting against further damage to the piers from cracking and corrosion of the existing reinforcement.

The pile repairs were undertaken by contractor Domarcons as part of wider refurbishment works on the European Route E81 at Călimănești, Vâlcea. A 6 m encasement length was undertaken on all piles. The piles were accessed on pontoon working platforms via a truck mounted underbridge inspection unit, for mobile working under the bridge with live traffic overhead. The system was installed by divers, assisted by operatives on the working platforms.

A temporary steel frame was used for additional support of the reusable mesh corset to provide improved vertical filling and cover control for the large 2.2 m diameter pile encasement.

Pile jackets were filled with a highly fluid sand:cement micro concrete via filler sleeves at 2m centres vertically up the piles. Filling was undertaken in tremie fashion to avoid washout. Upon reaching the top of the protection length, the mix was allowed to set and the temporary box sections, mesh corset and top and bottom friction clamps, were removed the following day. The lightweight pile jacket system enabled concrete encasement of the large diameter piles beneath the live carriageway without the need for heavy lifting or floating plant.