

Grout Bag Engineering: Proserve Contractor: VINCI Construction Grands Projets, Dodin Campenon Bernard,



Proserve's foundation grout bag system is being used to form in situ concrete foundations to 48 No precast concrete bridge piers for the 'Nouvelle Route du Littoral' project in La Reunion, with a total foundation area of 16,420 m².

The new 5.4 km long bridge is being built 100 m offshore, replacing the current coastal dual carriageway which is prone to closure due to rock falls from the steep volcanic cliffs.

A specially commissioned jack-up barge 'Zourite' is used to transport, place and grout the pre-cast bridge pier elements.

Grout bags are pre-fitted to the underside of the 20 and 23 m base diameter precast concrete pier units, in the fabrication yard. Pier units are transported to the worksite and placed above the pre-prepared gravel bed using an on-board gantry crane, and 4 No temporary external jack legs for positioning control.

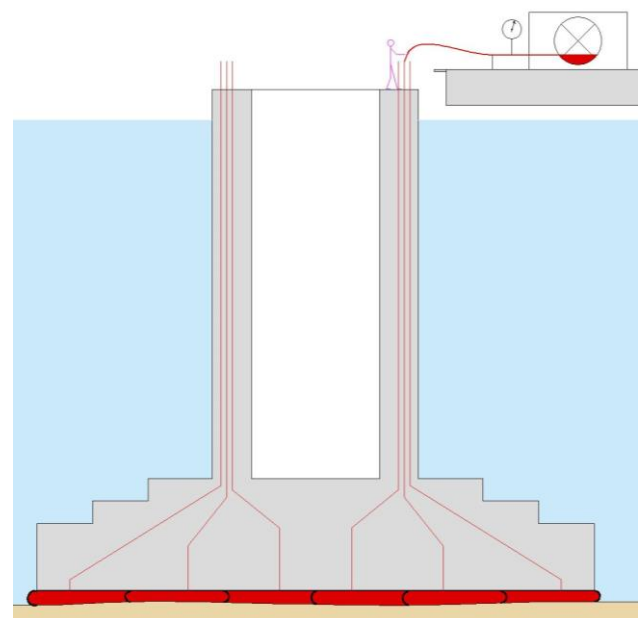
The grout bags are filled in situ in automated fashion from the surface via filler pipes cast into the tower with a highly fluid sand:cement micro concrete from the on-board batching plant. Intimate foundation contact is achieved using open vent sleeves to the perimeter of the base which control the filling pressure. Automated grout sensors in the vent sleeves indicate when grout bag filling is complete.

The grout bag foundation system allows high element positioning tolerances required for bridge deck construction to be reliably achieved. The 6 No grout bag compartments manage risk for

controlled grouting of each pier foundation in tremie fashion in some 12 - 16 hours.



Pier Base (Viaduct Littoral/Sébastien Marchal)



Automated Foundation Grout Bag System