

Defining a temporary working area for the Cityringen project in Copenhagen

Public transport system in Copenhagen is one of the most advanced networks in Europe. In 2011 the construction works for the Cityringen Metro began and they were completed in September 2019. The underground circle line was developed as an extension of the existing metro network and supported the aim of the city of Copenhagen to become carbon neutral by 2025. Cityringen encircles the city with two 15.5 km long parallel tunnels and it ensures the mobility of 72 million people a year.

Since the construction process took place in the city center, there was a high risk of blocking the whole inner-city traffic because of the consistent material

flow. The investor decided to organize all transports by sea using a city center lake as the starting point for the tunnel boring machine.

A temporary working platform was built inside the lake and it was stabilized along the edges by gravity walls.

Maccaferri designed and developed the gravity walls and decided to use CubiMac prefilled gabions for several reasons. First of all, the lack of space was the main challenge: CubiMac could be filled up and closed outside the city and then it could be easily transported to the construction site ready-to-use. This type of solution allowed to strongly reduced the material flow inside the city center and ensured a safe and easy installation.



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Secondly, the entire platform had to be removed after completion of the works and therefore a easily deployable structure was required: CubiMac can be quickly installed and readily removed by lifting. Also, during the construction of the platform, the lake bottom had been protected by a geogrid together with a geotextile for filtration, in order to allow the de-construction after completion of the works. Moreover, as a permeable structure CubiMac has a great performance bearing high loads and its PoliMac coating ensures an excellent durability even at low temperatures.

