

Soil improvement

Trenchmix

STORAGE PLATFORM

MONTEREAU - FRANCE



Trenchmix used as ground treatment in preparation for the construction of a storage platform



Dream Box Agency

The TRENCHMIX® process is based on a special tool constructed by Mastenbroek

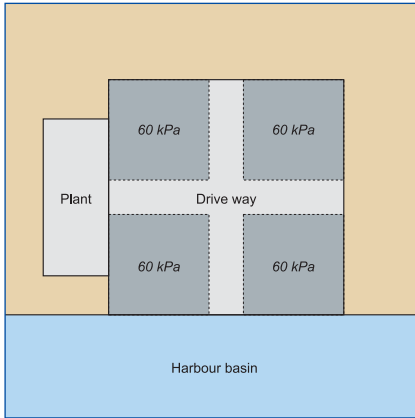
Solétanche Bachy was awarded the contract for the construction of a logistics platform at the Montereau river port (77). The platform measures approximately 32,400m² and comprises 4 areas that bear a maximum load of 6 t/m², separated by traffic lanes. Ground treatment works consisted in the use of Trenchmix (sections of soil mixed with a hydraulic binder) and the construction of a load distribution blanket. The Client

CLIENT:	PORT AUTONOME DE PARIS - SEINE AMONT PORTS DIVISION
SUPERVISING ENGINEER:	PORT AUTONOME DE PARIS - EQUIPMENT AND ENGINEERING DIV.
CONTRACTOR:	SOLÉTANCHE BACHY
DURATION OF WORKS:	AUGUST 2007 - OCTOBER 2007

MAIN QUANTITIES:

- Approximately 60 Trenchmix trenches measuring 180 linear meters.
- Ground treated: 33,000m³





Block plan view of the storage platform

View of the completed platform



Settlement criteria were 2cm of differential settling over 2m (1%). Service load of 6 t/m² during the service stage (75m loading strip/ 13.5m services lane)



opted for the alternative solution using Trenchmix because of its technical and financial competitiveness compared with compacted column foundations and with rigid inclusions.

Ground surveys revealed a very heterogeneous subsoil along the lateral extension with a capping of old alluvia at depths varying from 2.6 to 5.2m below the natural ground surface. The water table is approximately 3m below the natural terrain.

After stripping off the topsoil, a 0.4m thick working platform was constructed on land treated with lime. This

platform was designed to provide access for various site vehicles and for the purpose of deploying the "dry method" process:

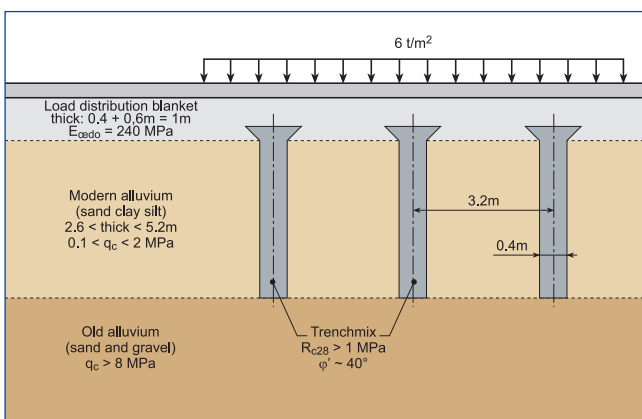
- the hydraulic binder in the form of cement powder is poured into a shallow preliminary trench;
- a tractor and a trailer are driven over the area several times in order to spread the hydraulic binder powder;
- Trenchmix proper: the soil was broken down and mixed in the trench with the previously deposited binder.

The upper stratum of the load distribution blanket consisting of a layer measuring approximately 0.6m thick

of material treated using the binder consisting of lime + cement was then laid. The 0.4m working station acts as part of the load distribution blanket, thus providing a 1m thick distribution layer.

No foreign materials were required for the completion of these works

Up to 500m of Trenchmix with an average depth of 4.5m was put in place per day. The Trenchmix component took less than 6 weeks to complete.



Cross sectional diagram of ground treatment using Trenchmix



Excavating the preliminary trench