

Soilmec SR-45 ADV. Flexibility for the environment.

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The innovative hydraulic drilling rig SR-45 ADV was used in the foundation construction for a commercial building using the displacement piles technique. The DP technology creates piles with increased bearing capacity without using drilling mud and with a minimum amount of spoil material ensuring the cleanest environmentally friendly construction site.

The project originally envisioned reinforced concrete piles, cast in situ, as piles foundation for a commercial building in the industrial area of Novazzano, in Ticino, located on the border between Italy and Switzerland. The Geopali S.A., a Lugano company, in partnership with Geo-Engineering Srl of Malegno (BS) opted for the displacement piles technology in order to mitigate the environmental impact and reduce transport costs and disposal of waste materials.

The morphology of the subsoil lends itself to compaction as it is characterized by clays, clayey silts, and cohesive soils whose strength depends on the surface tension of capillary water between the soil particles. In this kind of soil, the tool displaces the surrounding soil against the pile wall like "butter on bread".

The Novazzano job site required 600 mm diameter piles to be performed at a maximum depth of 20.5 m. To achieve diameter and depth requirement, a Soilmec SR-45 hydraulic drilling rig owned by Geotecnica Edilpali S.r.l. from Bologna was set in DP configuration with 4° line pull.

Thanks to the high-level performance of the machine and the operator's skills, the job site was completed with high-quality standards and on time reaching a peak production of 10 to 11 piles per day.

Source: SOILMEC Spa