

SPOIL TREATMENT WITH GHT DECANter CENTRIFUGE FROM JET GROUTING WORKS

Fondamenta Srl is carrying on the ground improvement and is producing high quantity of spoil.



View of San Giorgio building site

The several application fields of the decanter centrifuge by Getech Srl – Gennaretti® include the spoil treatment from jet grouting works. In fact, due to continuous workings and high volumes of material to be treated, Fondamenta Srl has chosen the Gennaretti® product for its construction site in Sona (Italy), where they are carrying on the ground improvement in order to enable the excavation of the tunnel for the new Brescia – Verona HS railway line (High Speed) that will be carried out later.

FONDAMENTA SRL

Fondamenta Srl is born in 1993 and is specialised in the construction and foundation sectors. It has completed over 1000 commissions and has worked for the most important Italian infrastructures (roads, motorways, railways, airports, undergrounds etc.) and for civil and construction works both in the public and private sector. It has always operated with its workforce and equipment and thanks to years of experience and continuous adaptation of the machineries to the evolution of the technological sector, it can carry out every type of subsoil work, the whole management of excavations, waterproofing and foundation works in concrete.

THE WORK AND THE GOALS

Fondamenta has been working for several months for the ground improvement in San Giorgio in the province of Verona, Italy. The company has the task to strengthen the ground, by means of jet grouting techniques, and to improve the mechanical features before the execution of the excavation for the San Giorgio in Salici tunnel for the construction of the new HS railway line. The area is extended for about 400 m and it is near the A4 motorway that is an area used for agricultural activities. For this reason, in order to avoid every type of problem related to the spoil production and to its drying, to improve the geotechnical properties of the ground and to allow the excavation of the tunnel, the whole area must be previously treated.

By using three drilling rigs and executing massive injections, a high quantity of liquid spoil is generated, making its management and handling difficult, because the drying process is subject to delays and the works get slower.

The significant production of spoil requires a treatment by means of Gennaretti® decanter centrifuge in order to accelerate the spoil disposal.

GENNARETTI® SOLUTION

Getech Srl – Gennaretti® supplied the S.P.A.C.I. 22 plant with GHT 403VF-75 decanter centrifuge for the spoil treatment from jet grouting works.

The plant is a 20' standard container, in which the GHT decanter centrifuge, an electric panel, an automatic station for the additives preparation and other components for the system functioning are installed.

Why choose GHT?

After the jet grouting works, the spoil is collected into a tank where a peristaltic pump draws it, sends it to the desander plant and then to the homogenization tanks, whereby it is initially mixed. Then, some organic-based additives are added in order to help the separation process of the

GHT decanter centrifuge with the liquid discharge



material. Later, the spoil is input the decanter centrifuge, which separates it into dry solid and clarified water. The solid and liquid quantity depend on the incoming spoil density.

The provided plant is the solution for the spoil separation, thanks to its dimensions and to the possibility to treat high volumes of material.

Moreover, the spoil is abrasive and Gennaretti® decanter centrifuge is suitable for the treatment of abrasive slurries, since the main components are casted in stainless steel and in HARDOX 450, anti-wear and anti-abrasiveness.

THE PROJECT DEVELOPMENT

Before the supply of the solution, Gennaretti® technicians **studied** the incoming spoil in the field. Then, the plant was **designed depending on the specific needs** and, after its installation, it was set up according to the requests for the proceeding of the works. The GHT decanter centrifuge treats the spoil and separates the dry solid from the water. The first one is **left drying** in order to make it stackable, while the water is **recycled** and **reused** in construction site activities.

The function of the decanter centrifuge is to **accelerate the drying** of the dry solid. In fact, after the separation, it is collected and transported shortly to the dump. This helps the operation from a logistic point of view, as well as for reducing the disposal times and for facilitating the management.

WHAT THEY SAY ABOUT US

"We have already had other experiences with Gennaretti® before, therefore our relationship with them is not new" declares Ing. Ivan Pollazzon, the construction manager. "We already knew their *modus operandi* and even this time we are not disappointed. Despite the plant could seem difficult at first glance, absolutely it is not" says Ing. Ivan Pollazzon. "It is very intuitive in terms of interface and parameters regulation. In fact, after one month, we were already independent and we could manage the system in order to make it work properly." Furthermore, Ing. Ivan Pollazzon affirms that thanks to Gennaretti® and his technicians' collaboration, the plant was organised within a month with the appropriate formation of the operators in the construction site to make it work correctly, after the system has been started up.

S.P.A.C.I. plant with the solid discharge

