

Five minutes with... Geotech

Medeo Olivares met with Grzegorz Czudec, chairman of Polish soil and rock sampling company Geotech, to find out about the company's range of services

Geotech chairman
Grzegorz Czudec
out in the field

Geotech was established in 1991. It provides soil and rock sampling services for engineering geology, geotechnical, hydrogeological, geophysical, and environmental projects. Within these areas it performs drilling, static and dynamic probing, geophysical and laboratory tests. It employs about 40 people, including engineers from fields such as construction, geology, geotechnics and hydrogeology.

What are the main areas in which Geotech operates?

Our activities are oriented on geotechnical and geological engineering, particularly in Poland, where for some time now there has been a focus on developing road infrastructure.

The main direction of our activity involves motorways (A4 Tarnow – Rzeszow), expressways (S-19 Lublin - Krasnik, S-69 Zywiec – Bielsko Biala) and tunnels (Milówka, Wegierska Górka). We have also been developing expert assessments and documentation, setting out soil and water conditions, and testing dynamic loads on the ground at wind farms, cement manufacturing plants and housing developments.

Which types of tests do you undertake?

We perform field research including full core drilling with collection of NNs (neural networks) samples in soils and rocks, dynamic probing, SPT (standard penetration test), FVT (field vane test), and static probing CPT (cone-penetration test) and CPTU (piezo-cone penetration test) as well as static triaxial tests.

In the laboratory, we can test the physical and mechanical properties of rock/soil using NNs Class 1 samples collected during the field research. The advanced field research equipment allows us to correlate research results with those obtained using laboratory equipment – eg in-situ seismic results are correlated with the results of bender element tests in the triaxial apparatus.

What are the main industries that Geotech is involved with?

Geotech performs lab and field tests for its own drilling projects and also for: general contractors, industrial, road and engineering construction, and environmental engineering. Our clients include: design offices, engineering and consulting companies, executive firms, academic entities such as universities, public infrastructure providers such as power stations, and surface-mining operations.



Please describe Geotech's laboratory testing capabilities

The laboratory has equipment for soil and rock testing. We can also test the aggressiveness of water in relation to concrete. All tests take place in the laboratory in accordance with current standards. These include:

- Tests for soil classification, identification and description (water content; consistency limits; and bulk density testing);
- Chemical testing of groundwater;
- Compaction testing of soil (CBR and Proctor tests), these are performed on a Controls SRL Uniframe press;
- Compression testing for soil (Odeometric compressibility testing); and
- Strength testing of soil and rocks (uniaxial and triaxial compression tests, and direct shear tests).

We have also bought the Autotriax System made by Wykeham Farrance – the Soil Mechanics Division of Controls SRL. This is an automatic system for triaxial tests on 50mm- and 70mm-diameter samples which allows us to perform tests according to EN and ISO standards. To apply pressure using the system we have a device to enter the precise circular pressures in the chamber and equalisation pressure in the sample. The frame allows us to adjust the speed from 0-9.9mm/min, with a maximum load range of 50kN. The whole system is controlled electronically using a device that links the press with the pressure system.

We also have two machines for compression, one electro-mechanical of 0-50kN, and one which provides 40-2,000kN, both are made by Controls.

For more information, visit www.geotech.rzeszow.pl

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