

KRIOS - Online Setting-Out and Profile Measurement System

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HIGHLIGHTS

- Online measurement and analysis of profile controls as single measurement or in tracking mode
- Results in real time – no waiting periods for analysis
- Profile gantry can be replaced by KRIOS
- Measurements can be carried out by tunnelling staff (no complex calculations required)
- Automatic profile measurements at predetermined intervals
- Online setting-out in the project- and axis system



Controlling the final shotcrete layer with KRIOS

Area of Application

The KRIOS online system can be used to perform setting-out or profile control measurements on-site in tunnels or caverns. No technical staffs are required for the operation. The system is particularly advantageous for controlling and setting out large cross sections (e.g. caverns), or for the ongoing control of shaping work.

Profile checks can be automatically performed using discrete points or at regular intervals using predefined point spacing. For special cases such as for expansions and deflection areas the "ortho-function" is available, which enables a strict axis-orthogonal profile record.

Principle of Function

As the basis for profile recording, project-specific data such as axis geometry, standard profile and fixed points must be made available to the EUPALINOS control software. Generally, the survey is carried out using a tripod in accordance with the free stationing principle. Free stationing and orientation of the total station must be carried out in preparation for, and immediately preceding, the measurement. All remaining measurements are carried out automatically after brief training of the tunnel staff, without involving the surveyor. Identification of the measured points of the profile is performed using the integrated laser pointer of the total station.



Totalstation with PC on tripod

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Types of Measurement

- Measurement of individual points
- Continuous measurement (tracking) with predetermined recording intervals
- Automatic survey of predefined points at constant intervals
- Axis-orthogonal profile survey



Display of Results

All the results are displayed in real time on the control computer screen. Coordinates and elevations are shown as absolute figures in the project system and relative to the axis system. The profile survey can be analysed graphically on site, immediately after the measurements. The allocation of numbers to each point is referenced to the stations to facilitate subsequent analyses.

System Components

- Reflektorless Leica total station TPS1100 or TPS1200
- Field proven PC
- EUPALINOS *Surveying Software*
- Power supply

The following other data sheets are associated with this data sheet.

Software: *EUPALINOS Surveying Software*
Systems: *Profile checks*