Sensory Anomalie measurement SAM

INN - surface sensor technology for obstacle evaluation in a construction field.

Co. **GeoNeutron**

INN - borehole sensor technology for obstacle evaluation behind buildings.

Co. **GeoNeutron**

Sensory Anomalie measurement SAM

INN - sensor technology for obstacle evaluation at the working face.

Co. **GeoNeutron**

Surface radar for obstacle evaluation in a construction field.

Co. **EDM**

Surface radar for obstacle evaluation in a dike structure.

Co. **EDM**

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Sensory methods for obstacle evaluation

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Basics

Before the technical implementation of construction measures, planning and costing have to be carried out. Planning and calculation can only be as good as the input values allow.

Before interventions in the building ground such as earthworks with excavators, pile foundations or soil improvement measures, maps, plans or archaeological documents are evaluated in order to obtain information about possible obstacles.

Examples of such obstacles are explosive ordnance, supply or disposal lines, relics such as foundations, earthworks or fillings with building remains, but also cavities in unfilled or partially filled cellars etc..

In practice, target and actual values often do not match, so that planning and calculation cannot be implemented, resulting in additional costs and time delays.

The sensory obstacle evaluation offers the possibility to recognize different obstacles in the ground as well as under or behind existing buildings at an early stage and to consider the results in planning and calculation.

The basis of the non-destructive obstacle evaluation is the sensory anomaly measurement SAM in the examination area.

Radar

Various physical processes are available for this purpose, individually or in a technical combination.

The SAM is followed by data evaluation for obstacles in the ground and behind or under buildings.

A sensory method of SAM is the Ground Penetration Radar GPR.

The technical basis of the radar sensor technology is a transmitter of electromagnetic waves and the antenna(s), which receives the reflected electromagnetic waves. The ground and the buildings are scanned.

(Remaining) buildings, pipes, fillings or cavities etc. form an evaluable contrast to the surroundings. The measurement is carried out according to location, extension and depth.

The results are transferred to scale in an evaluated plan. They form the basis for planning and calculation but also for the protection of buildings or archaeological structures worthy of preservation.

A subsoil with a high metal content (slags, reinforced foundations, Recyclingmaterial etc.) or damp, cohesive soils dampen the probing depth.

INN - Technic

Another technical investigation method of the Sensory Anomaly Survey SAM is the INN technique, an isotope method (neutrons).

The technical basis of the INN technology is a generator for the generation of the neutron field and two detectors for recording and registering the neutrons.

This process can be used regardless of soil types, water content or metallic materials such as scrap or slag as well as components such as sheet piling and reinforcement etc..

Soil and structures are X-rayed either from the surface, in the borehole or at the working face during driving.

In addition to (residual) structures, pipes, fillings or cavities, this method can also be used to differentiate between materials and density differences within the same materials and to represent them in their correct positions.

The results are transferred to scale in an evaluated plan. They form the basis for planning and calculation but also for the protection of buildings and archaeological structures worthy of preservation.

The regulations of occupational health and safety must be observed.