

Strains and cracks in a new type of slurry wall: research field (1)

EpsilonRebar: Case Study

The subject of the project was the slurry wall made of a new type of material: fibre-reinforced concrete mixed with the ground. As this technology must be carefully checked before use, the **EpsilonRebars** were used for this purpose. The structural performance of the wall was monitored during deepening of the excavation area as well as load tests. Thanks to **Nerve-Sensors**, it was possible to detect cracks and fractures invisible to other techniques.







Benefits of application

- Distributed measurements of **strains and cracks** invisible to the naked eye
- Full **deformation and temperature control** along the entire length of slurry wall
- Simultaneous analysis of **both compression and tension zone**
- Measurements during **deepening of the excavation and load tests**

Example results

The slurry wall was loaded using concrete slabs. The figure shows example strain profiles obtained from **EpsilonRebar** during subsequent load steps. It can be clearly observed that a fracture inside the wall was detected under the excavation level. As there was no access for visual inspection, no other technique was able to provide such key information.

-  **7 200** measurement points
-  **72 m** of sensing path
-  **9 x EpsilonRebar**
-  **construction & load tests**



project
partner:



**Cracow University
of Technology**

