

Monitoring of the development of forces in ground anchors, Prague Ring Road, Myslbekova – Pelc Tyrolka

Project

The construction of Prague Ring Road, part Myslbekova – Pelc, Tyrolka, excavations of the Brusnice tunnel

Following a successful tender for Prague municipality, INSET company carried out works concerning geotechnical monitoring of the constructions of Prague Ring Road between Myslbekova and Pelc Tyrolka in 2009.

Benefit for the customer

The measuring of force development in ground anchors and the geodetic methods for measuring of the of anchor head position are used to check the stability of the constructions, i.e. the security of the tunnel excavations, and to verify designer's static calculations.



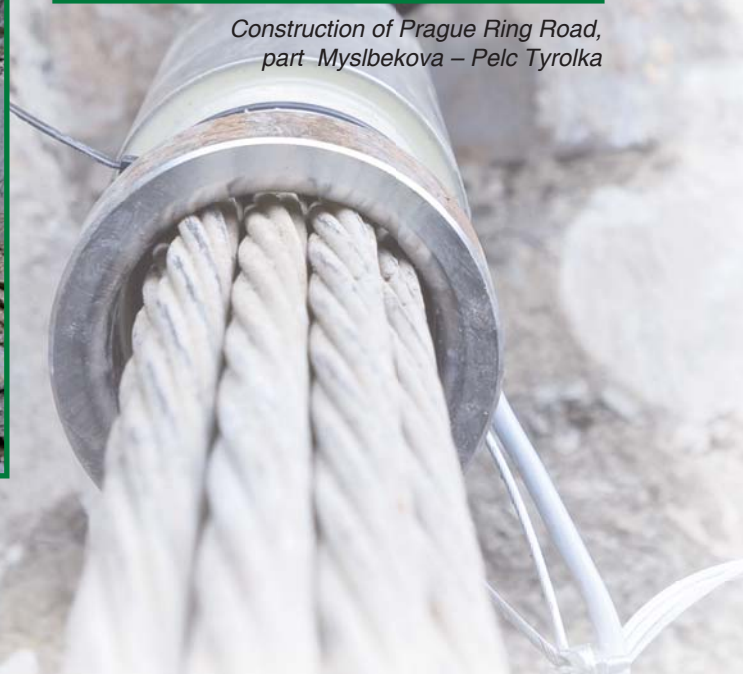
Sensor installation on a ground anchor



Adjustment of connecting cables



Construction of Prague Ring Road, part Myslbekova – Pelc Tyrolka

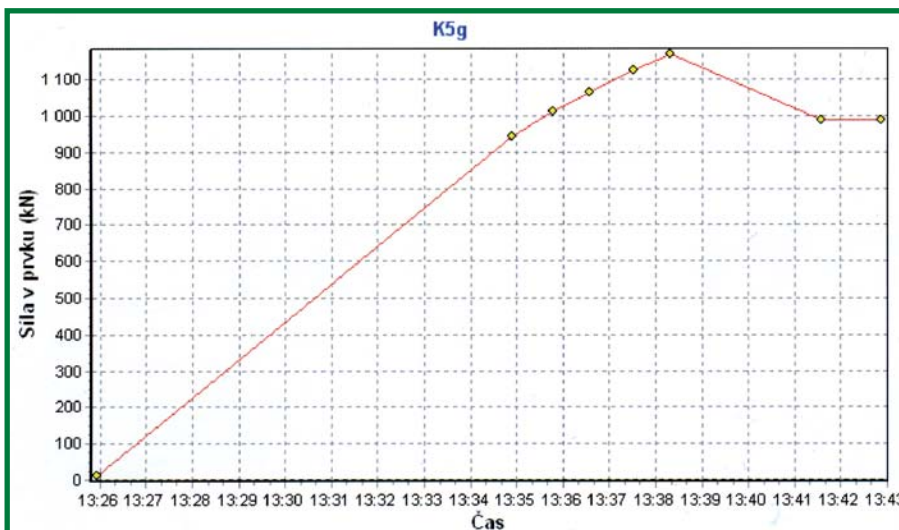


Implementation

A part of the monitoring was the measurement of forces in selected ground anchors on the constructions 9515 Myslbekova – Prašný most and 0080 Prašný most – Špejchar. The aim of this measurement is to check the calculated force values in ground anchors and the process of deformation of the excavation walls. The measured anchors were chosen from a set of anchors in the relevant wall to enable an overall checking of this wall. The total number of ground anchors intended for observation was 116. Magnetoelastic sensors DYNAMAG were used for this measurement. These sensors use the change of magnetoelastic characteristics of material during the change of its mechanic tension. The sensors measure the change of magnetic flux in the strands of the ground anchor in dependence on their tension. The anchors with 3-8 strands and forces 300-1100 kN are measured on this construction.



Checking of the tensioning process of the ground anchor



Checking of the tensioning process of the ground anchor



Investor

Prague Municipality, Investment Department

Term of implementation

2009

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