

Museum of Modern Art: load tests of large-diameter piles



EpsilonRebar: Case Study

The project is one of the most prestigious investments built in the heart of Poland's capital. Museum of Modern Art is a structure with untypical designed, raising in close proximity of existing infrastructure. Foundations include deep large-diameter piles, which were equipped with **EpsilonRebars** for safety reasons. Measurements done during load tests allowed for detailed analysis of piles structural performance and force transferring to the surrounding ground.



Benefits of application

- **Analysis of force transfer** from large-diameter piles to the surrounding ground
- Detection of local **cracks and fractures** along entire depth of more than 30m
- Control and **validation of load tests** in reference to theoretical predictions
- **Reliable data** for „observation method” proposed in geotechnical standards

Example results

EpsilonRebars were embedded in large-diameter piles over their entire depth up to the 35 m! Strain measurements made during load tests allowed for detailed analysis of force distribution from the pile to the surrounding ground, as well as earl-age concrete cracks being closed due to the compression. Example plot of this unique data is presented hereafter.

 **16 900** measurement points

 **169 m** of sensing path

 **5 x** EpsilonRebar

 **short-term** (load tests)

 project partner: 

