



Tel Aviv Metro Red Line, Israel



PROJECT SUMMARY

PROJECT: Tel Aviv Metro Red Line - Arlozorov Station

DATE: 2017

CLIENT: NTA

CONTRACTOR: China Railway Tunnel Group/Solel Boneh Infra-structure JV

CONSULTANT: WSP/Parsons Brinkerhoff

INSTRUMENTATION: Medidot - Advanced Monitoring Technologies Ltd



OVERVIEW

Arlosorov Station is the fifth in a series of ten underground stations on the 23km Red Line, Tel Aviv's new light-rail system.

An underground building of reinforced concrete, flat-slab construction, comprising of water-tight diaphragm 'outer-box' walls, to facilitate temporary works requirements during ground excavation, allowing for the construction of the main station inner box.

The outer box has a series of temporary inner struts and waling beams to support its walls during the construction process, requiring careful detailing and construction sequence coordination. The high water-level provide large buoyancy forces on the base of the structure, necessitating a reinforced concrete 'plug slab' at the base of the station, restrained by tension piles.

MONITORING

The deflection of the diaphragm walls during excavation and tunnelling was required as part of safety monitoring and design verification.

Steel reservation tubes were cast into the diaphragm wall cage into which inclinometer casing was placed and grouted in.

Geosense Biaxial In-Place Inclinometers were in-stalled and connected to a GeoLogger G8 Plus which allowed the data to be transferred remotely to the NTA data visualisation software.

PRODUCTS USED

Biaxial In-Place Inclinometers

The In-Place Inclinometer System (IPI) measures tilt and was used to measure displacements within the diaphragm wall.

GeoLogger G8 Plus

Multi-channel data logger used to collect data automatically. Purpose designed for geotechnical applications.