



Image source: Karl and Bremhorst Architects

Project report

GERO^{therm}® DUPLEX geothermal probes

Sport Arena Wien
MA51 Sport Vienna – BA15



Image source: PORR Bau GmbH

The new Sport Arena Wien, which is scheduled for completion by mid-2025, is being built on the site of the former Ferry-Dusika-Hallenstadion in the second municipal district of Vienna. Heat pumps with a total output of 607 kW will supply 25,000 m² of heated gross floor area with heating energy and hot water. The multi-functional building consists of

three units on different levels that can be used for sporting activities and accessed independently of each other. The facility will also be used as a training and event venue, as well as hosting international games. The Sport Arena Wien is the first sports venue of its size in Austria. It is being built according to the latest climate protection and sustainability criteria. Through

targeted measures, the building is self-sufficient in terms of energy, earning it the "klima:aktiv Gold" certification.

The centrepiece of the energy generation and supply system is a solar combination system (PV-T technology) with an area of 2,300 m² and a geothermal probe field consisting of 70 geothermal probes, each with a final depth of 150 m.



Image source: PORR Bau GmbH, Michael Nowy

High standard through near-surface geothermal system.

To supply heat and cold efficiently and sustainably to the Sport Arena Wien, 70 GEROtherm® DUPLEX geothermal probes have been installed, with a total length of 10,500 metres. These probes supply the building with 607 kW of heating power or 972 MWh of heating energy, as well as 382 kW of cooling power or 459 MWh of

cooling energy. In addition, the Special Civil Engineering department of PORR Bau GmbH, which was awarded the civil engineering general contractor (GC) contract for the preparatory measures, provided 284 SOB piles with diameters of 55 and 90 centimetres for the deep foundation, connecting pipes for the geothermal probes, sewers, and earthworks services, and the blinding concrete.

Thanks to the civil engineering GC contract awarded to PORR Bau GmbH, it was possible to keep to the construction schedule and complete the civil engineering work successfully by minimising interfaces, using detailed process planning and leveraging synergies.



Project details

Construction project

Sport Arena Wien
Engerthstrasse 267-269
1020 Vienna, Austria

Client:

MA51 Sport Vienna – BA15 through WIP GmbH
Meierseistrasse 7
1020 Vienna, Austria
sawi@wienprojekt.at

Drilling company



PORR Bau GmbH – Special Civil Engineering
department
Absberggasse 47
1100 Vienna, Austria

1. Geothermal probe drilling process with parallel deep foundation
2. Geothermal probe drilling process
3. GEROtherm® PUSH-FIX
4. GEROtherm® DUPLEX geothermal probe
5. Installation of GEROtherm® geothermal probes
6. GEROtherm® DUPLEX geothermal probes at the construction site
7. Geothermal probe drilling process
8. Geothermal probe ready for installation

Image source: PORR Bau GmbH

Products used

- 70 GEROtherm® DUPLEX geothermal probes PE100-RC, PN16, da 32 × 3.0 mm, length 152 m, S5 SDR11, double-U 4 × 32 mm
- 70 GEROtherm® grouting tubes PE-HD, da 25 × 2.3 mm, length 154 m, S5 SDR11
- 70 GEROtherm® PUSH-FIX impact-resistant sleeves in structural steel, holder for double-U 32 mm



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