



Image source: Lucerne Cantonal Hospital

Project report

GEROthem[®] DUPLEX geothermal probes

New building for children's hospital /
women's hospital
Lucerne Cantonal Hospital, Lucerne



Image source: Lucerne Cantonal Hospital

The construction site for the new children's hospital / women's hospital in Lucerne is 150 metres long, 80 metres wide and is scheduled to be completed by the end of 2025. This corresponds to an area of 47 tennis courts. The excavation work took 10 months. Visible in the picture above. Once all the utility lines had been relocated, the 271 or so geothermal probe boreholes were drilled. The construction of the underground car park floors followed. Completion of the building is scheduled for the end of 2025 and commissioning for 2026.

The new children's hospital/women's hospital building on the site of the Lucerne Cantonal Hospital (LUKS) in Lucerne is scheduled to be ready for occupancy by 2026. These facilitate the future-oriented further development of paediatric medicine (paediatrics and paediatric surgery) as well as obstetrics and

gynaecology at the highest level. The children's hospital, which was built in 1971, is showing its age and there is a lack of space despite makeshift solutions and renovations. That is why the LUKS is constructing a new building on the hospital grounds in Lucerne. In order to continue to meet the requirements of a modern perinatal centre (consisting of obstetrics, neonatology and neonatal intensive care), the children's hospital and the women's hospital are being built next door to each other.

The building application that has now been submitted envisages a new building that is architecturally striking, thanks to two distinct structures - one for the children's hospital and one for the women's hospital. The buildings have three storeys on the side facing the Spitalpromenade (level of the entrance floor to the hospital centre), while the side facing Spitalstrasse has five storeys. The

façades have a clear basic order thanks to the external static structure with horizontal bands and vertical round supports.

The ground floor on the Spitalstrasse level houses the interdisciplinary emergency ward with the children's hospital emergency department as well as the radiology department. One floor higher are the five operating theatres for the children's hospital and women's hospital, the seven delivery rooms with the pre- and postnatal treatment and monitoring unit, the neonatology unit and the paediatric intensive care unit, and thus the most important functional areas of the perinatal centre. The second floor, the promenade floor with the two main entrances, will contain the outpatient clinics and a restaurant. The third and fourth floors house the nursing departments, one for the children's hospital and one for the women's hospital.



Image source: HakaGerodur AG

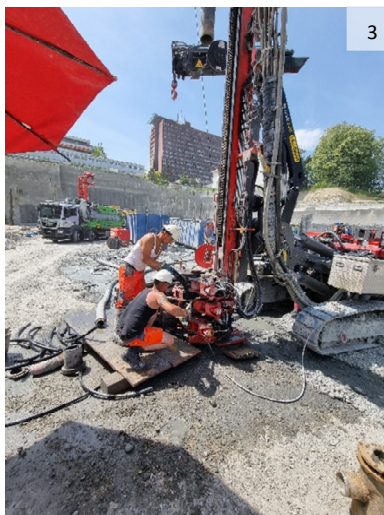


Image sources: HakaGerodur AG

- 1 The excavation for the new building of the children's hospital / women's hospital
- 2 Geothermal probe drilling with 2 drill rigs at the same time
- 3 A drill rig in use
- 4 Preparation of the ground probe connection lines for the ground penetration, CreaPlast AG system
- 5 The GEROtherm® DUPLEX geothermal probes ready on site for installation

Heating/cooling

Heating and cooling is provided by heat pumps and cooling systems, using an underground storage tank with geothermal probes. The underground storage tank will be placed underneath the new

buildings and prepared for the area connection. Re-cooling is achieved via the underground storage management system. Between February 2021 and August 2022, a total of 271 GEROtherm® DUPLEX geothermal probes, each 200

metres long, were sunk. These were connected with a total of 19,646 metres of connecting pipes to the 46 SAVE collectors/distributors. At peak times, 3 drill rigs were in operation at the same time.

Project data

Construction site



LUKS Immobilien AG
Janine Stadelmann
Spitalstrasse
CH-6000 Lucerne
www.luks.ch

Drilling company



PBS BOHR AG
ERDWÄRME

PBS Bohr AG
Kilian Bachmann
Moospark 11
CH-6221 Rickenbach
www.pbs-bohr.ch

Engineering office for the energy supply

eicher+pauli

Eicher + Pauli Luzern AG
Bekim Ibrahim
Arsenalstrasse 21
CH-6010 Kriens
www.eicher-pauli.ch/standort/luzern/

Geothermal probes ground penetration

CreaPlast
Kunststofftechnik

CreaPlast AG
Kunststofftechnik
Furtbachstrasse 13
CH-8107 Buchs ZH
Tel. +41 (0) 44 884 73 33
info@creaplast.ch
www.creaplast.ch

Architect

Bollhalder Eberle + Burkard Meyer AG
Wengistrasse 7
CH-8004 Zurich
www.bollhalder-eberle.ch

Products used

Underground storage tank lot 1 East

- 271 GEROtherm® DUPLEX geothermal probes PN16 made from PE 100RC, de 40 mm, length 200 metres
- 271 GEROtherm® grouting tubes PE-HD de 25, length 202 metres
- 271 GEROtherm® base weight 19 kg
- 46 GEROtherm® SAVE collector/distributor
- 19,646 metres GEROtherm® connection pipes PE100-RC PN16, de 50 mm



HakaGerodur

HakaGerodur AG
Giessen Strasse 3
CH-8717 Benken
T +41 (0)55 293 25 25
verkauf_ews@hakagerodur.ch
www.hakagerodur.ch