



Limmern Pumped Storage Station (CH) Passive Prestressing

Employer	KLL Kraftwerke Linth-Limmern AG
Client	ARGE Kraftwerk Limmern
Execution of works	Renesco GmbH, Abt. Marti Geotechnik
Construction Period	2012 - 2014
Contract Sum (grouting only)	CHF 1.250.000

Project Description

The 1,000MW Linth-Limmern pumped storage station will be built in the Swiss Canton of Glarus. The pressure water tunnels are lined with a passively prestressed, unreinforced concrete inner shell.

Passes prestressing

- Consolidation and sealing of rock in advance, using drill hole grouting
- Installation of sleeve hoses in the annular gap
- Grouting of the annular gap at pressures up to 27bar
- Take-up of tensile stress by the unreinforced inner shell while minimising crack formation due to passive prestressing

Scope of services

- Pressure water tunnel, $d = 9.0\text{m}$, $L = 500\text{m}$
- Pressure water tunnel, $d = 6.5\text{m}$, $L = 1,000\text{m}$
- Inner shell concrete thickness: 0.50m

Grouting floor and roof through sleeve hoses at 3m intervals.



Front page: View of the Limmernsee

1. Installation of sleeve hoses
2. Grouting system in the tunnel
3. Grouting in progress