Pumped Storage Plant Limberg/ Kaprun III (AT)
Drip Shield – Transformation Hall – Tunnelduk

Country	Austria
Type	Hydro Power, Pump Storage Plant
Client	Verbund Hydro Power GmbH
Main Contractor	G. Hinteregger & Söhne, Marti Tunnel AG, PORR, Marti GmbH
Execution of the work	Renesco GmbH
Designer	Verbund Hydro Power, Geoconsult ZT, Tractebel Engineering
Construction Period	2024

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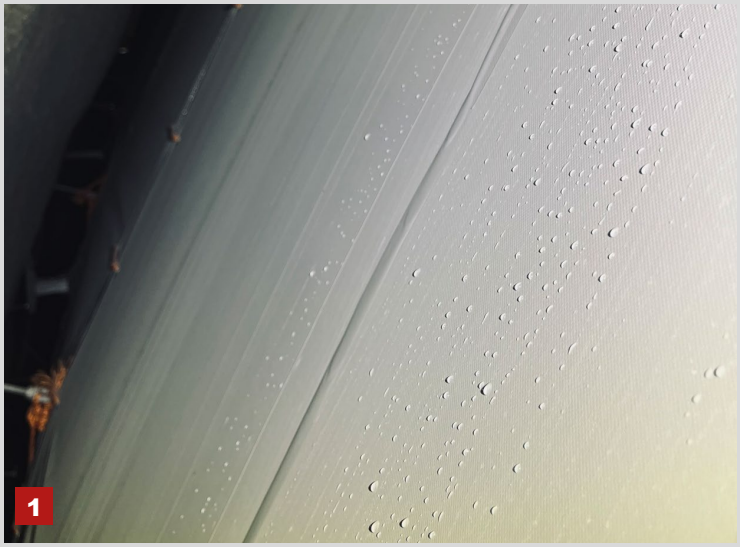
Project Description

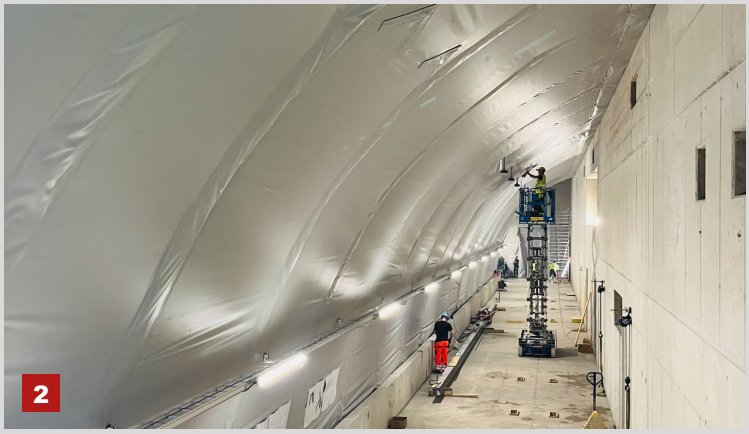
The Limberg III is one of the largest hydroelectric power plants in Europe, located in the Zell am See. The project includes the construction of a 3km-long and 7.3m-diameter headrace tunnel, along with a 770m-long and 5.8m-diameter pressure shaft and a riser. It also involves the development of the "Mooserboden" inlet and outlet structures, inlet tunnel, valve chamber with access and drainage, pressure tunnel, surge tank, and distribution pipelines. The cavern system for the project will comprise an underground powerhouse measuring 62m-long, 24m-wide, and 43m-high, located approximately 450m deep in the orographically right slope flank below the existing Limberg dam. It will also house a transformer cavern, generator discharge tunnel, and access tunnel.

Scope of Service

Supply & Install of the drip shield for the transformation hall using a 0.6mm thick polyester reinforced PVC-coated fabric lining with a high tear and tensile strength. The jointed sheets of cloth are covered with a strip of the same material, which is welded to the underlying cloth. The lining is fastened to a steel wire arched frame which is bolted into the rock/shotcrete and forms the theoretical profile. All fabrics are jointed together by hot air welding to guarantee a waterproof seal and stretched by PE ropes to give an aesthetical visual appearance. Such stretch is also important to avoid possible water pockets and to allow a migration of the dripping water to the side walls.

- The fully exposed tunnel cloth/fabric (RTM 700-RP) is self-extinguishing, tested/specified according to ISO9705 (room corner test), EN-ISO11925-2, EN13501-1 and EN13823.
- Installation of anchor bolts M16 for the suspended membrane system, all hot dip galvanized (HDG)/ epoxy coated (PC). Penetrations of technical bolts, suspensions, and protrusions. Terminations are also included.
- Inspection hatches, which can be opened by means of a zipper protected from the dripping water by means of a "flap" of cloth that is fastened to the underlying membrane by means of a Velcro system.
- Data transfer from BIM to CAD to design the construction frames and to set the anchor bolts.





1. Backside of the drip shield
2. Transformation hall with drip shield (water & frost protection)
3. Inspection hatch