**Spitallamm dam: Doka makes a lasting impact on Swiss energy future**

**Doka, the international formwork and scaffolding expert, is demonstrating its expertise in dam construction as the principal supplier to the new Spitallamm dam project at Lake Grimsel in the Swiss Alps. The project necessitates oversight of exceptional construction work and the creation of customized components under challenging conditions. The new double curvature dam will require pouring more than 220,000 cubic meters of concrete, supported by Doka formwork. On completion in 2025, Doka’s customized solutions will have contributed to renewable energy sources supplying more than one million people with sustainable energy.**

Robert Hauser, CEO of Doka, says: "Hydropower plants enable largely CO2-free energy generation. With the construction of the new Spitallamm dam, we are working on a project that will secure green electricity in Switzerland in the long term. Our comprehensive know-how in power plant construction, our formwork, and digital solutions, as well as our experience in high alpine terrain, make us the ideal partner." This is Doka’s fifth Swiss dam project after Nant de Drance, Muttsee, Vieux Emosson, and the Linth-Limmern pumped storage plant.

**Securing green energy for the next generations**

Doka is exceptionally proud to be part of this important energy project. With a capacity of around 94 million cubic meters, Lake Grimsel is the best known, largest, and most important reservoir of Kraftwerke Oberhasli AG. Two hundred and sixty-three million kilowatt hours of ecological hydropower are generated annually. When the Spitallamm replacement dam is completed in 2025, it will continue to provide sustainable hydroelectric power for more than one million people in the future. The Spitallamm Dam construction showcases how Doka is harnessing digital services and legacy knowledge to help customers improve efficiency and safety, and the importance it gives to incorporating sustainability into each project.

**Digital solutions provide longevity**

The Grimsel consortium is using Doka’s formwork solutions and digital information system Concremote for real-time monitoring of the temperatures inside the enormous concrete blocks. In the case of mass concrete components, the heat released from the cement reaction leads to a temperature rise which can result in critical thermal stresses, temperature cracks and ultimately reduced durability of the concrete. Monitoring the temperatures and implementing block cooling and curing measures on-site mitigates the potential damage, and ensures the long service life of the dam. To further increase safety, Doka's concrete pressure measuring systems also deliver real-time data about the fresh concrete pressure. This enables improved management of the formwork and structure and confirms and documents, that the formwork is not overloaded. The first season of concreting work at Spitallamm began in May 2021.

**Unique landscape, unique project**

The 1,900-meter high alpine construction site presents a demanding work environment, primarily because of difficult weather conditions and logistical challenges. "Doka was responsible for all planning and optimization of the project. With the support of our headquarters in Austria, we invested 1,500 hours of pre-construction planning, created a full 3D engineering model, organized the pre-assembly, and deployed our experienced supervisors to ensure smooth operations at the site," explains Klaus Mirna, Project Manager Engineering Zurich at Doka. “A highlight is undoubtedly the sturdy dam formwork, including safety platforms and the preassembled gallery formwork, which formed the complex network of control walkways inside the dam. Our ability to support the entire project from formwork and planning to digital services is a real benefit for the customer as everything is supplied from a single source," Mirna summarizes. The new Spitallamm dam is being constructed in front of the existing dam, which will be retained and flooded later. Operated by energy provider Kraftwerke Oberhasli AG, the new dam has the same crest height of 113 meters as the existing wall, and offers the possibility of being raised in a later phase to enlarge Lake Grimsel.

**In short:**

Project: New construction of dam Spitallamm, double-curved arch dam

Location: Grimsel, Switzerland

Type of structure: Hydropower plant

General Contractor: Kraftwerke Oberhasli AG, Arge Grimsel

Start of construction: 2021

Scheduled completion: 2025

Systems used: Dam formwork D22, large-area formwork Top 50

Services: Pre-assembly Service, Project Management, Formwork Instructor,

Concremote

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**About Doka:**

Doka is a world leader in providing innovative formwork, solutions and services in all areas of construction. The company is also a global supplier of well-thought-out scaffolding solutions for a varied spectrum of applications. With more than 160 sales and logistics facilities in over 60 countries, Doka has a high-performing distribution network for advice, customer service and technical support on the spot and ensures that equipment is swiftly provided – no matter how big and complex the project. Doka employs 6,800 people worldwide and is a company of the Umdasch Group, which has stood for reliability, experience and trustworthiness for more than 150 years.

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