

CASE STUDY

SAFE MONITORING OF DAMS AND RETAINING WALLS

Huggenberger AG, a measurement technology specialist, has equipped over 450 major engineering structures worldwide with its instruments. The company relies on Datwyler signal cables to connect sensors and measuring instrumentation.

Huggenberger AG, established in 1900, is a Swiss company in Horgen at Lake Zurich which has specialised in the development and production of high-precision physical measurement systems, particularly for dam walls. Their product range includes mechanical and electronic sensors and metering devices which are based on cutting-edge technologies and are used for monitoring and inspecting the safety of structures.

The behaviour and structural integrity of major building and civil engineering works as well as of many production facilities need to be observed. It is therefore vitally important to monitor their inclination and horizontal displacement. To this end Huggenberger AG supplies innovative fully automatic pendulum measuring solutions including monitoring systems.

The company also supplies customers with instruments for measuring and indicating many other values. Examples include expansion, pressure, temperature, water level, tension and resistance. The range of services extends from consultancy through development and production to assembly, start-up and training in an instrumentation system.

Special Datwyler cables

Huggenberger AG has already installed its measurement technology in over 450 major structures throughout the world, including dam walls, earth dams, power stations, construction trenches, tunnels and bridges. For around



30 years Huggenberger AG has been using TS-PUR and TAP47 signal cables to provide reliable connections for its instruments and systems. These are special cables, both manufactured by Datwyler, and used in structures which include the Mosul Dam, the largest dam in Iraq, the Randenigala Dam in central Sri Lanka, the Atatürk Dam on the Euphrates (Turkey), the Manantali Dam in Mali, the Nangbeto Dam in Togo, and the Muttssee Dam, the longest barrage wall in Switzerland.

TS-PUR signal cable has four stranded conductors, copper braided shielding and a PUR sheath, making it both flexible and suitable for construction sites. It is laid directly into fresh concrete or in cable ducts and cable conduits.

The robust TAP47, manufactured by Datwyler for Huggenberger AG with aluminium screening as well as with



PE and PUR sheathing, is optimised to withstand the harshest environmental conditions. It is used wherever cable has to be laid directly in the soil or under water. One special feature is its great elasticity, which makes it especially suitable for installation in earth dams (settlements).

“In certain sub-sectors we buy in extremely sophisticated components from specialist manufacturers who are the best on the market in this field. As for our signal cable, Datwyler is a superb partner who has never let us down,” explained Urs Marti, one of the two managing directors at Huggenberger AG.

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