

Perforated sheets for safety

Securing safety with perforated metal elements on a large-scale natural power plant

Neunkirchen, 14th June 2021. In 1959, the Albigna Dam was commissioned in the Canton of Graubünden 2,162 metres above sea level in the Swiss Alps. Besides hydro-electric power, the dam has also been producing up to 500 megawatt hours of natural solar power since September last year from photovoltaic panels mounted on the dam wall. To guarantee safety along the 759 metre wall, which is also part of a very popular mountain hiking trail, 1,476 metres of special perforated sheets from SCHÄFER Perforated Metal were installed along the crest, both on the lake side and the valley side. They enable hikers and passer-by to cross the dam in safety, while also preventing anyone coming into contact with the 1280 photovoltaic modules.

Any building project in high alpine regions is a real challenge in terms of planning, logistics and actual workmanship with little or no margin for error. In this particular case, 732 perforated metal elements had to be transported from the valley up to the dam wall by helicopter before they could be installed as safety balustrades. With the construction site at an altitude of over 2,100 metres, any reworking was out of the question, as this would have incurred additional transport costs and seriously jeopardised the punctual completion of the project – in these high alpine regions, winter often begins as early as October and doesn't end until the following May. Therefore, design and production, as well as transport and installation of the perforated elements had to be completely flawless, with error tolerances down to zero.

“Our client, ewz (Elektrizitätswerk der Stadt Zürich – City of Zurich Power Utility), is more than satisfied with the result and convinced that in SCHÄFER, they've found the right partner for such large-scale perforated metal projects”, said a very happy Robert Blarer, managing director of TECmetall – a Swiss specialist for metal and wire products and a national commercial agent for SCHÄFER Perforated Metal.

As the Swiss full-service provider for photovoltaic systems, storage systems and charging stations, REECH, had planned and monitored the photovoltaic system on behalf of ewz, the challenges to be faced on the Albigna Lake dam were well known. Nevertheless, the first safety fencing elements were mounted on site for testing. This allowed details to be checked and noted so that the 732 elements with RV20-30 perforations could be produced to size with the required manufacturing precision and multiple-fold edges, before being packed and delivered.

“Because of the high-altitude location and the corrosion protection requirements, the finished elements are made of 3-millimetre pre-anodised aluminium sheet with a relatively thick 20 micrometer coating provided by the manufacturers”, explains Tamas Szacsvey, the responsible technical planner at REECH.

The dam wall, which has enabled hydro-electric power to be generated here since 1959, belongs to ewz. In 2020, ewz employees also added 1,280 solar panels to the wall, making it the first large-scale alpine solar energy plant in Switzerland.

Images:

Fig. 1: Gelaendesicherung_Bild1_(c)_Schaefer-Werke-GmbH.jpg

Caption: Dam wall with perforated sheet balustrade at Lake Albigna

Fig. 2: Gelaendesicherung_Bild2_(c)_Schaefer-Werke-GmbH.jpg

Caption: Photovoltaic plant with perforated sheet balustrade

Fig. 3: Gelaendesicherung_Bild3_(c)_Schaefer-Werke-GmbH.jpg

Caption: Safety fencing with perforated sheets at the Lake Albigna dam

About SCHÄFER Perforated Metal (www.schaefer-lochbleche.de):

Working with the slogan “Perforated metal made to measure – individual and fast”, SCHÄFER Perforated Metal in Neunkirchen supplies a wide and quickly available range of high-quality perforated metal sheets for all industries and applications. Using high-precision tools, the company can meet virtually any customer requirements regarding material, perforation pattern, dimensions, machining and delivery. SCHÄFER Perforated Metal is a division of the internationally successful SCHÄFER WERKE.

This owner-led enterprise is headquartered in Neunkirchen in Germany’s Siegerland region and operates globally with diversified business areas: EMW Steel Service Centre, perforated sheets, expanded metal, standard and special containers in stainless steel and installations for data centres, workshops and factories, as well as data management systems for load carriers. The work of all these divisions is based on high-quality fine steel sheet. The processing of this material is one of the core competencies of this enterprise.

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