



Case study

Tissot Arena, city of Biel, Switzerland

Support profile:

- 12'150 m² SWISS PANEL® SP 111, 0.88 mm galvanized
- 14'700 m² SWISS PANEL® SP 111A, 1.00 and 1.25 mm perforated and galvanized
- 450 m² SWISS PANEL® SP 59, 1.25 mm galvanized

Composite slab:

- 1'900 m² SUPERHOLORIB® SHR 51, 0.88 mm galvanized

Roof:

- 3'100 m² SWISS PANEL® SP 45 A, 1.00 mm perforated hexagonal in aluminium mill finished

Facade:

- 1'750 m² MONTAWALL® Cassettes galvanized
- 1'950 m² SWISS PANEL® SP 80, 1.00 mm aluminium mill finished
- 7'150 m² SWISS PANEL® SP 45, 0.80 and 1.00 mm aluminium mill finished
- 9'250 m² SWISS PANEL® SP 45A, 0.80 mm perforated in aluminium mill finished
- 2'350 m² SWISS PANEL® SP 45, 0.80, mm stainless steel high gloss
- 550 m² SWISS PANEL® SP 80A, 1.00 mm perforated, coated steel RAL 7021
- 250 m² SWISS PANEL® SP 59, 1.00 mm, steel coated on both sides RAL 9006

Builder:

City of Biel
Kumaro Delta AG (represented by HRS Real Estate AG)

Partner Private:

Kumaro Delta AG
HRS Real Estate AG
CTS - Congrès, Tourisme et Sport SA

General contractor:

HRS Real Estate AG

Architects:

GLS Architekten AG, Biel, Switzerland
Geninasca Delefortrie SA, Neuchâtel, Switzerland

Facade / Roof:

HEVRON SA, Courtételle, Switzerland
Widmer Bau, Hüttikon, Switzerland

Realisation: 2013 - 2015

Construction costs: CHF 200 Mio.

NEW ADVENTURE ARENA ENVELOPED IN METAL

In the heart of Switzerland, in the bilingual city of Biel/Bienne, a new centre for events, sport, culture and shopping is being built for completion in autumn. The Tissot Arena, as the Stades de Bienne is called since February 2015, is the first multifunctional Swiss sports arena, uniting ice hockey/skating, curling and football under one roof. Various SWISS PANEL® trapezoidal profiles, HOLORIB® composite profiles and MONTAWALL® cassettes from Montana Building Systems Ltd. in Villmergen were used for the building envelope and the roofing over of the new sports stadiums in the Bözingenfeld district.

In the middle of the last decade, the city of Biel decided to replace the outdated Stades de Bienne with new buildings and facilities. The new stadiums serve as a substitute for the ice rink in Biel, which was built in 1973, and for the Gurzelen football stadium, which is more than a hundred years old. Planning went on over a long period of time, as such important and expensive measures can only be realised with the appropriate participation of the residents. But the project eventually started in 2013, also supported by the Tissot watch-making company. It is not only the sponsor of the digital displays of the competition facilities - it also lends its name to the new arena since February 2015 - the Tissot Arena.

The huge sports complex offers an ice rink for 7,000 spectators, a football stadium for the Challenge League accommodating 5,200 (extendable to 10,000 for international matches), a roofed-over ice rink, a curling hall and facilities for popular and leisure sports. Furthermore, the premises provide enough space for restaurants, specialist stores and an underground car park for 750 vehicles.

The architectonic concept of the unique multifunctional complex was designed by the GLS Architekten AG team in Biel, who won first prize in the architectural competition staged back in 2007.

The entire building complex was created on an elongated rectangular footprint, in which the individual buildings are arranged next to one another. The load-bearing structure consists of reinforced concrete, the roof structure of a steel framework, which practically stretches right to the tribune roofing of the football stadium. The facades and roof consist of different cassettes,

trapezoidal and composite sheets.

Architect Simon Scheller from the GLS project team explains why the decision fell on the roof and facade profiles from Montana Building Systems Ltd., Villmergen: "We wanted to create buildings that look alive, thus matching what's going on inside. Montana Building Systems Ltd. offers a vast selection of shapes and material variants for this purpose, and is able to flexibly react to architectural ideas."

Hugues Steiner, graduate engineer and assistant director of the executing company HEVRON SA from Courtételle continues: "The SWISS PANEL® profiles are equally suitable for façades and roofs. Therefore, for a large part of the ice rink façade, the roofing and the canopy, we are using SWISS PANEL® sheets in aluminium and in chromium steel. The profiles are installed vertically and horizontally. This enables us to achieve special reflections on the surface, which create different light effects during the day. These add a dynamic effect to the façade and roof areas. In combination with 120 mm mineral wool, the ice rink was given a rear-ventilated façade."

The façade profiles were installed in the classic positive position. Fastening was done in the low bead and/or on every support in each second rib. This profile position fulfils the aesthetic requirements of the architects and also provides optimum rear ventilation. In the roof area, the trapezoidal profiles were installed as an outer shell in negative position. Therefore, the overlapping point is on top of the corrugated curve, thus preventing the penetration of water.

"Installation was easy, although", as Hugues Steiner briefly adds, "mounting panels of 15

metres in length required our entire skills. But as we always work with products from Montana Building Systems Ltd., even this went quickly", the expert explains.

Considering the delayed completion of the overall project, this was an important point for the principal. In order to cover the high costs of 77 million Swiss francs, the Tissot Arena is being realised as a Public-Private-Partnership project (PPP). Internal project costs amounting to 1.7 million francs are also involved. The costs are broken down as follows: 69.6 million francs for the new building of the stadiums and 9.1 million francs for three outdoor sports fields (including the dismantling of the existing artificial ice rink and curling hall). As a private investor, Kumaro Delta AG has put in a great deal of funds to bring the project to fruition in a profitable manner. It received the land from the city of Biel for 99 years. The total contractor HRS AG is now building the public sports facilities and will be handing them over ready for use after completion to the municipality of Biel for common-hold ownership.



In the execution of this technically demanding project, the participation of Montana Building Systems Ltd. by far exceeded the usual requirements. Apart from the quality of the products, one thing was particularly important to the principals, planners and processors: the logistics. The large quantities of materials for the façades and roofs had to be brought to the construction site just in time following an intelligent logistic concept. It was here that the long-standing experience of the Montana transport team of Manuela Sigrist paid off. He succeeded in reliably meeting the logistic requirements involved in such large-scale projects to the satisfaction of the client.

When the Tissot Arena is put into operation in autumn of this year, Montana Building Systems Ltd. will have proved once again that it has flexible solutions in its product portfolio for the most various design ideas. They allow investors, total contractors and planning architects alike to realise façades and roofs in such a way that economic efficiency, aesthetics and modern design factors can be excellently combined. Last not least, Montana Building Systems Ltd. also convinced by its long-standing experience in handling large-scale projects such as the Tissot Arena, which despite temporal delays is now back on schedule - thanks to a professional logistics concept that only very few companies are capable of.



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