References

Icerink in "Városliget"



Uponor involvement

14800

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The history of the skating-rink The skating-rink of the Városliget, which was opened in 1926, was the second skating-rink (after Vienna) in Europe. In WWII it suffered a bomb hit, and in the 1950's it was only repaired temporarily. The latest large-scale renovation was carried out in 1986, when the modified power-house and condenser plant were installed, and the new, third layer of pipes was laid on the rink. After some small and large engineering modifications (1999 to 2001) – since the engineering system was outdated and spoiled – Municipality of Budapest called for a tender for comprehensive architectural and engineering reconstruction of the Skating-rink of Városliget.

Project Facts:

Location	Completion
Budapest, Hungary	2011
Building Type	Product systems
Sports facilities	Radiant Heating & Cooling
Address	Project Type
Olof Palme sétány 5.	Renovation

Partners

architect
Manyi Stúdió
1122 Budapest, Határőr út 13/b.
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contractor
Hérosz Építőipari Zrt.
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The big renovation

The city municipality and the National Development Agency signed the support agreement for the renovation of the Skating-rink of Városliget, and the attached building blocks, on December 15, 2008. In the framework of the renovation, besides the reconstruction of the ice-rink and the receiving building, they re-build the side-wing which was bombed down in WW II. Out of the almost 4.7 billion HUF development cost, 3.175 billion HUF was made available from EU subsidy. The work was done in two phases. In Phase I, the construction of the new cooling power-house was completed, while in Phase II complete renovation of the monument skating house and the construction of the skating-rink and ice-hockey rink was completed. After the full reconstruction, the Skating-rink of Városliget became the largest open-air skating-rink of Europe, which also meets the requirements of the Association. The surface of the rink is 14,800 m2, it is open from mid-October to mid-March. Maximum cooling power demand is 4.5 MW, built-in nominal cooling power is 5 MW. The rink pipes, fastened to a steel reinforcement net at a clearance of 80 mm, are made from cross-linked PEX pipes (Uponor product), the total length is 198 km. Phase II of the full reconstruction, the complete renovation of the monument skating house and the construction of the skating-rink and ice-hockey rink started in the summer of 2010. The work started with build-down of the building to its skeleton, removal of the 3 layers of pipes below each other, and transportation, crushing, grinding, and re-using of the removed concrete. Then the soil of the rink was replaced and layers were built along with covered tunnel (which is under water in summer). On the lower layer of concrete, insulation, fastening layer with the steel pipe holders, and then the PEX cooling pipes were installed. Pipes were installed 80 mm from each other, fastened to the steel structure by plastic clamps. After laying down the pipes, pressure test was carried out, then the concrete layer was poured, maintaining 2 bar pressure in the pipes. The slope of the rink is less, than 30 mm, waviness of the concrete is below 6 mm. This provides for the uniform thickness and high quality of the ice. Rink pipes are connected to the manifolds in the pipe drift with Rosex disconnectable connections. Installation was carried out under supervision and with consultation from the supplier Uponor. At the skating-rink supply and drain manifolds are placed on opposite sides, while at the ice-hockey rink manifolds are on the same side in the pipe drift. The skating-rink is divided into six sections, each section may be disconnected from the cooling system, while the ice-hockey rink can only be operated in full. In the pipe drift, which starts from the power-house, and can be walked around, special HDPE (special polyethylene) Uponor pipes are connected with manifolds to the main pipelines. Rink pipes are connected to these pipes by disconnectable connections. The skating-rink re-opened after a two-year hiatus in December 2011, and between January 6 and 8, 2012 the International Speed Skating Association organized the complex European Championships, with great success.

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