

Stades de Biemme Switzerland



uponor





On one of the largest building sites in Switzerland, the country's first ever multifunctional sport arena has been constructed in Biel, bringing together ice hockey/ice skating, curling and football under one roof. The surrounding area is home to a wide range of shopping, entertainment and leisure options.

This trendsetting building provides local ice hockey and football clubs, EHC Biel and FC Biel, plus the Biel skating club and curlers with a highly modernised home equipped with brand-new facilities. In addition, it also serves as a large arena for sport, culture, events, conferences, trade fairs, catering, specialist markets and entertainment.

Uponor's solutions create the basis for a healthy and pleasant indoor climate

- Sustainable solutions; optimal with renewable energy
- Energy efficient
- Suitable for a variety of building types
- Freedom for architecture and design
- Technologically advanced
- Adaptable for individual needs
- Reliable and easy to use



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Uponor Manager Engineering & Design Asia / Building Solutions Asia

People in buildings equipped with TABS will feel very comfortable, almost do not feel the air conditioning system in operation, and due to the benefit of the Uponor PE-Xa, system installation and maintenance are very convenient, effectively reducing operating costs.

Before the construction, Uponor has prefabricated a large number of special floor materials, so that on-site installation becomes more efficient and efficient.

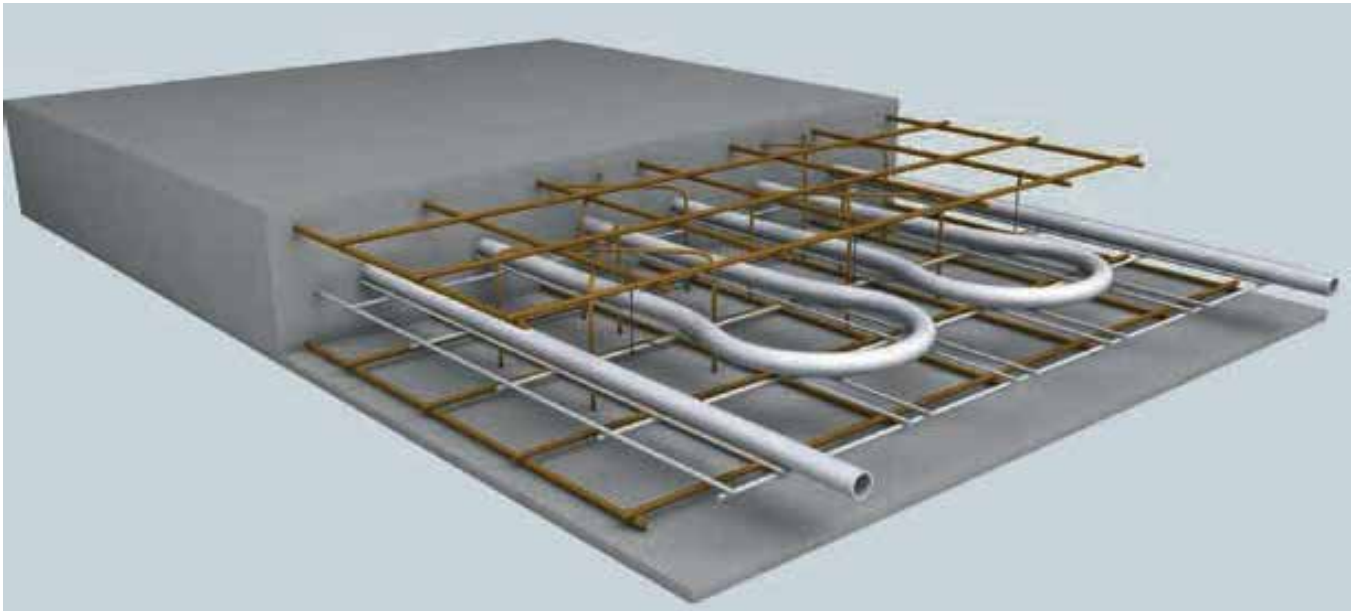
In addition, TABS system is generally used as a low-temperature heat source and high-temperature cold source, even if running all year round, energy consumption is very low, is the ideal choice for future environmentally friendly buildings.

High Mass Integrated Radiant Systems

An integrated radiant cooling system is a radiant system that is embedded into the structure of the building, rather than installed post-construction. Integrated radiant systems are called thermo-active building systems (TABS), as they activate and use the thermal mass of the building structure to heat or cool the space.

Integrated radiant cooling can be used in a variety of places, including residences, industrial locations, and commercial spaces.

They are also silent. Therefore, integrated radiant systems work out of sight and out of mind in commercial spaces – at least until occupants think about what makes their working environment so comfortable.



Advantage

- High thermal comfort for occupants resulting in enhanced work productivity
- Optimised utilisation of renewable energy sources
- System components are largely maintenance free
- Complete freedom of room utilization (no restrictions in room design)

TABS with Low Energy

TABS are high mass systems, which means that they are capable of storing a large amount of energy and releasing it slowly over time. This is the key feature of TABS, the ability to shift the peak energy requirement outside of peak occupancy hours. This allows utilization of the lower nighttime electricity rates, as well as passive cooling afforded by cool night breezes, or ground heat exchangers. Radiant cooling is provided throughout occupied hours with minimal energy input on the water side.

- Chilled water on a high level cools/activates the entire building structure.
- Water temperature close to environment temperature (between 15-26°C).
- In central and northern Europe, the cooling can operate w/o any additional cooling system and only part of a day (e.g. night).
- Uponor TAB System is suitable with low energy renewable energy sources e.g. ground energy, and works more efficiently with usual electrical chillers.

Output and Design Considerations

| | | Exchange Coefficient W/m ² K | | Surface Temperature °C | | W/m ² | |
|-------|---------------|---|---------|------------------------|--------------|------------------|---------|
| | | Heating | Cooling | Max. Heating | Min. Cooling | Heating | Cooling |
| Floor | Perimeter | 11 | 7 | 35 | 20 | 165 | 42 |
| | Occupied Zone | 11 | 7 | 29 | 20 | 99 | 42 |

*Total Heat Exchange coefficient (combined convection + radiation) between the surface and space heating and cooling based on acceptable surface temperatures

*Capacity at 20 °C room temperature for heating and 26 °C room temperatures for cooling



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Uponor Radiant Cooling / Heating Solutions

Comfort – Enjoy a better indoor environment

Uponor radiant cooling / heating systems are silent and create optimal thermal environment

Reliability – Trust a proven system

More than 4 billion meters of piping in Uponor plumbing, cooling / heating systems have been installed over 35 years in different climatic regions

Low energy – Save energy and money during operation

Uponor radiant cooling / heating systems optimize energy efficiency and are ideal for the use of renewable energy sources

Get in contact

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