References

Inselspital



Uponor involvement

350 m²

Inselspital

The intensive care, emergency medicine and surgery centre of the Inselspital hospital in Bern, known as the INO, is efficiently heated and cooled using Uponor Contec Single.

Project Facts:

Location
Bern, Switzerland

Completion
2012

Building Type
Municipal

Product systems
Radiant Heating & Cooling

Address
Freiburgstrasse 16 c

Website
http://www.insel.ch/

Project Type
New building

Partners

Architekt:
Itten+Brechbühl AG, Nordring 4A,
3000 Bern, Schweiz

Bauherr:
Amt für Grundstücke und Gebäude
Kanton Bern, Reiterstrasse 11, 3011
Bern

Planer:
Meierhans + Partner AG, Bahnstrasse
8, 8603 Schwerzenbach/ZH
Quickborn, Schweiz

The new INO centre of the Inselspital hospital in Bern was completed in May 2012. The 50,000 m2 building was built in three stages. The Inselspital in Bern occupies a significant position in the Swiss health system. Each year about 300,000 patients receive treatment from over 7,100 employees. The building of the new intensive care, emergency medicine and surgery centre has further enhanced the position of the Inselspital as a centre of medical excellence. Each year around 12,600 operations are performed in the 16 operating theatres.

To ensure the comfort of staff and patients at the hospital, a total floor area of 12,352 m2 is thermally activated by means of Uponor's Contec Single thermally active building system. For this, prefabricated Uponor Contec Single registers were installed in the underlay flooring ex works. The MLC Dimension 16 x 2 mm multilayer pipes were supplied on site preinstalled with the backing mats. The pipes can carry either hot or cold water. When used for heating, the water warms the floor, which radiates the stored heat into the rooms. When cooling is required, the water radiates cold to the floor. This enables it to absorb and store the heat generated in the room. Uponor Contec Single heats and cools using mild radiant heat and cold. Because the system works evenly throughout the room, eddying is preventing, avoiding dust clouds. The hospital's entire heating network is supplied through the utilisation of waste heat from an incineration plant.

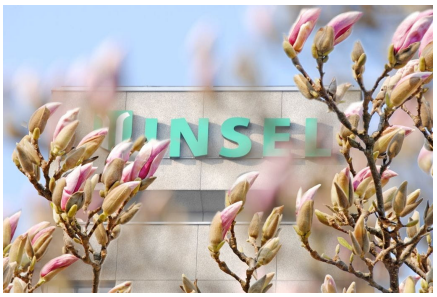
Despite the special medical use, the INO centre was built to comply with the Minergie standard and is run energy-efficiently. Thanks to the compact building design, the high level of thermal insulation and the controlled ventilation with thermal recovery systems, the INO has a low heating requirement. This meant that particularly low flow temperatures could be chosen with Uponor Contec Single, so that the surface temperature of the floor is almost the same as the required room temperature. The gentle, self-regulated heat reduces the energy required and saves the hospital significant operating costs.

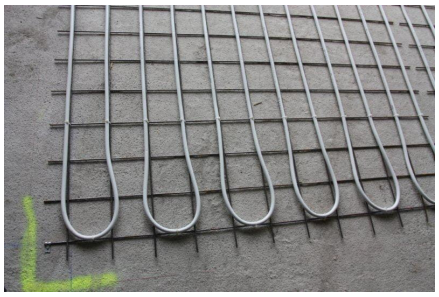
In building terms, the INO is divided into a primary system (support structure, building envelope, logistics for media and traffic flow), secondary system (interior finishing and installations) and a tertiary system (technical medical equipment). In addition to the high level of energy efficiency, all the materials installed at the INO were required to meet hospital standards, i.e. long-lasting, robust and resistant to disinfectants.

The secondary system is required to last for a period of between 15 and 50 years. That's why the planners, Meierhans + Partner AG, chose Uponor's solution for the heating and cooling system. The multilayer Uponor pipe installed promises an impressively long service life. It is also impermeable to oxygen and corrosion-resistant and features low linear thermal expansion. The high degree of form stability and bending flexibility make the pipe particularly easy to install and very durable.

Inselspital













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