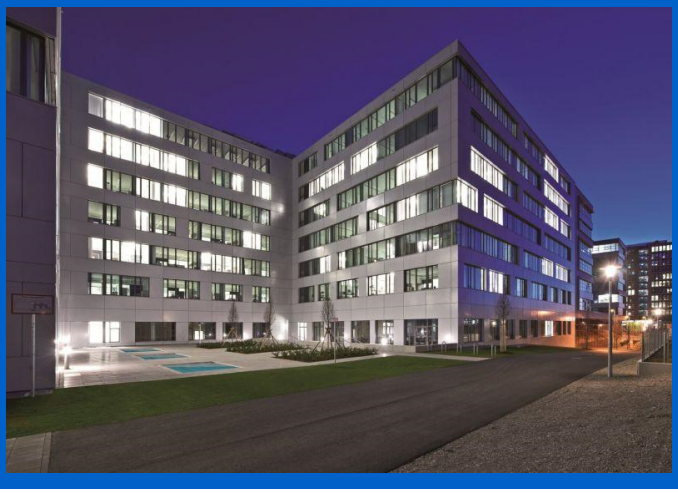
Referencer

Auron



Uponors rolle

39000

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The Uponor Contec ON concrete surface activation heats and cools the AURON office building complex in Munich.

Projektfakta:

Location	Færdiggørelse
München, Germany	2010
Bygningstype	Product systems
Kontorbygning	Gulvvarme- og køling
Adresse	Projekttype
Landsberger Straße	Ny bygning

The first construction phase of the AURON office building was awarded a Green Building Gold certificate according to the provisions of the Deutsche Gesellschaft für Nachhaltiges Bauen (DGNB) [German society for sustainable building].

The Uponor Contec ON concrete surface activation heats and cools approximately 39,000 m² of floor space highly efficiently using regenerative energies. As a consequence, the system complies with the requirements relating to sustainability and high heating and cooling performance levels. The system also helps to improve the interior design as no radiators are required in the rooms. This means that there were no restrictions regarding the internal architecture, allowing Feng-Shui principles to be applied. The principals, Employrion Immobilien GmbH & Co. KG, a project company belonging to Accumulata Immobilien Development GmbH, and LBBW Immobilien GmbH, were especially impressed with the fact that Uponor Contec ON can be installed in a monovalent manner.

The Contec ON system is supplied with heat using a groundwater heat pump as well as from a district heating station. For heating, a flow of 32 °C and a return of 28 °C were selected. Using these parameters, the thermo-active ceiling achieves a heating performance of 60 W/m², and 53 W/m² in what is known as the drill-proof area.

Cooling units utilize the water from the well to cool the building. The system achieves a cooling performance of 70 W/m², and 63 W/m² in the drill-proof area. Contec ON is installed close to the surface, so compared to conventional concrete core activation this system offers a faster response. This means that the temperature of each of the units sized between 200 m² and 400 m² can be individually controlled. On the top floor of the seven-story building, Contec ON modules were installed in two different material qualities: on well-proven plastic mats and on special metal mats.

The required grid spacing of the elements was prefabricated in the factory. This ensures the necessary heating and cooling capacity and facilitates swift construction as the precise position of the heating and cooling pipes with respect to height is already guaranteed during the assembly phase. For the Contec ON modules equipped with metal mats, a pipe clearance of only 10 cm was selected. The Contec ON mats were placed directly on the control panels, and the system of pipes was routed axially with a clearance. Thanks to this design, partition walls can be optionally installed in the intermediate spaces.

In the area close to the building facade, Contec ON was routed at a distance of approximately 20 mm from the lower edge of the ceiling with a pipe clearance of 85 mm. This allows for fast supply and removal of heating and cooling loads, resulting in quick and efficient temperature control. The system delivers about 50 percent of the planned heating and cooling output in 30 minutes. For the areas inside the offices and on the corridor side of the floors of the building, the system was installed with a drilling safety clearance of 60 mm from the lower edge of the ceiling.

The routing clearance is 100 mm. In these drill-proof areas, 50 percent of the heating and cooling output is reached after approximately 60 minutes. In rooms with special requirements, such as corner offices, cooling elements supplement the Contec ON system. The elements are connected via additional thermal socket outlets from Uponor.

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