References

IKEA



Uponor involvement

18.000 m²

IKEA

The IKEA homestore in Rothenburg in the Canton of Lucerne, uses the TABS Thermally Active Building System from Uponor to cater for heating and cooling requirements.

Project Facts:

Location	Completion
Rothenburg, Switzerland	2011

Vrsta objekta	Product systems
Municipal	Površinsko grejanje i hlađenje

Address	Website	Project Type
Wahligenstrasse 6	http://www.ikea.com/ch/de/store/rothenburg/?cid=ch|ps|branded|brand|go|ikea_rothenburg|de|search	Renovation

Partners

Bauherr:
IKEA Supply AG, Grüssenweg 15,
4133 Pratteln, Switzerland

Installateur:
Cofely AG, Schweighofstrasse 14,
6010 Kriens, Switzerland

Planer:
Haustec Engineering AG, Güterstraße
5, 3072 Ostermundingen, Switzerland

Covering around 18,000 m2 of sales space, the IKEA homestore in Rothenburg in the Canton of Lucerne provides a pleasant atmosphere for its customers. In order to provide a cosy level of heat on cold days and a pleasantly cool climate in hot weather, the concrete ceilings of the building were fitted with the TABS Thermally Active Building System from Uponor, covering an area of 20,795 m2. Haustec Engineering AG in Ostermundingen planned the energy concept for the first IKEA homestore in central Switzerland.

Uponor installed 96,600 m of Uponor PE-Xa 20 x 2.3 mm pipe on behalf of trade specialists Cofely AG, Kriens. The pipes were installed locally on the concrete reinforcement, spaced at 15 cm apart. In addition, the specialist tradesmen fastened the PE-Xa pipes in place using Uponor fixing tracks. This meant that the pipes could be laid quickly and the follow-up work could be carried out quickly. The concrete structure was then cast. Compared to conventional air conditioning systems, Uponor TABS saves up to 50 percent of investment and operating costs. There is also no need for troublesome radiators. In addition, the components are practically maintenance-free.

The IKEA homestore in Rothenburg is heated and cooled in an energy-efficient way using Uponor TABS - also avoiding draughts. Hot or cold water flows through the pipes, heating or cooling the concrete ceiling. To provide cooling, the ceilings absorb the heat generated during the course of the day. During the night, the circulating water dissipates this heat, cooling the rooms and avoiding unwanted temperature variations caused by internal and external loads. The heat or cold stored in the ceilings between the floors is largely dissipated through radiation, as well as being partially returned to the space through convection.
The advantage is that, owing to the large activated areas, building activation allows heat to be supplied or dissipated efficiently even at low flow temperatures. The TABS system at IKEA in Rothenburg provides heat at a flow temperature of 30 °C and a return of 26 °C and cools at a flow temperature of 19 °C and a return of 23 °C. TABS thus achieves a heat output of about 35 W/m2 and cooling of about 40 W/m2.

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