References

Tom Mutters School



Uponor involvement

1400

Tom Mutters School

For the Tom Mutters School renovation, Uponor Minitec and Knauf Levelling Screed 425 were used to achieve a low profile, despite having to add levelling.

Project Facts:

Location	Completion
Neustrelitz, Germany	2012
Vrsta objekta	Product systems
Municipal	Površinsko grejanje i hlađenje
Address	Project Type
Höhenstr. 51	Renovation

Partners

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Tom Mutters School is located on Höhenstraße in Neustrelitz, Germany, and provides mental development services for disabled children and youth. Teachers instruct students not only from the front of the room, but also sometimes on the floor.

To maintain a comfortable floor temperature, the complete renovation of the over 40 year-old school building included the replacement of existing radiators with underfloor heating. Renovations began by stripping the building down to its original concrete structure. The flooring, along with all non-load bearing interior walls, all windows, the entire roof structure, as well as all of the building's technical systems were fully removed. As is often the case, renovations are always a good source of surprise and this was no different with the Tom Mutters School project in Neustrelitz.

''While measuring the floors, we discovered that these varied in height by up to 2 cm,'' recalled Thomas Hillenhagen, who oversaw the planning and site management for building services. He further explained that, ''You could also see anchor bolts on the concrete slabs sticking out of the side walls. Plus, there were height variations in the floors that formed when the concrete slabs were originally installed. There was no way to avoid levelling the floor under the heating system.'' Even with the new underfloor heating system and its functional layers of levelling, thermal insulation and impact noise reduction, it was important to keep as close to the original room height as possible.

This demanded an especially low profile for the floor heating system. By pairing the Uponor Minitec floor heating system with

Knauf Levelling Screed 425, it was possible to keep the floor build-up to a mere 82 mm. This gave the new multi-level installation approximately the same height as the previous flooring system. Costly and time-consuming modifications to door, window and railing heights were not necessary. Uponor Minitec features a remarkably low profile of 15 mm.

The heating pipes could be installed quickly by a single technician. Installers first placed the self-adhesive L-shaped edging, followed by the Minitec plastic spacing tiles directly onto the synthetic coated paper. ‘‘The spacing tiles feature an adhesive layer on the bottom. This guarantees a secure bond between the subfloor and the plastic tiles,’’ explained Klaus Schlepps, Sales Promoter for Uponor. The nubs on the tiles allow the high-pressure network of PE-Xa plastic piping to be laid in compliance with current standards. Directly on and between the nubs, the tiles are manufactured with a grid of punched holes placed at regular intervals through which the levelling screed can easily flow, allowing it to create a stable structure by bonding together with the heating system and subfloor. The surface is heated with fast warm-up times and quick temperature regulation at low temperatures in the heating water circuit. Individual room temperature control was achieved using a 24 V system with a C-35 regulator and T-35 room temperature sensors from Uponor.

The Knauf Levelling Screed 425 was kept to a mere 32 mm above the plastic spacing tiles, meaning the piping was covered by about 20 mm. Despite the thin layer, the floor screed can accommodate distributed loads up to 3 kN/m² and concentrated loads up to 2 kN. After only one day, it was possible to walk on the floor with Minitec and levelling screed, and it was ready for heat drying after just 48 hours. One week later, the residual moisture was measured at the required 0.3 CM% and, with a water flow temperature of 45 °C, the floor was ready to be covered. This allowed the various other building contractors to resume their work with next to no wait.

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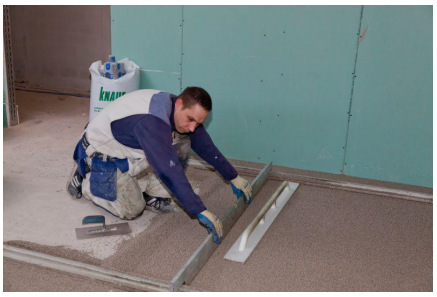

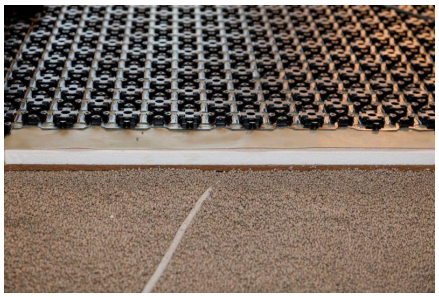

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