References

Allensbach, Dübelhölzle



Uponor involvement

- 10 Uponor Kamo Heat interface units Combi Port Pro

Living in Allensbach

One of the greenest residential neighbourhoods in Europe
One of the greenest residential neighbourhoods in Europe has been built in Allensbach near Constance. All the wooden houses in this new development area are supplied with decentralised heat and drinking water via heat pumps, combined heat and power plants and heat interface units.

Project Facts:

Location	Floor space	Completion
Germany	ca. 2.470 squaremeter	2021
Building Type	Product systems	
Multi storey building	Port	
Address	Project Type	
78476 Allensbach	New building	

Partners

Builder:
Alet-Immobilien-Beseitz GmbH

Project management and timber construction:
Kaufmann GmbH
89613 Oberstadion
Website

Urban planning design:
Bächlemeid Architekten Stadtplaner
BDA
78462 Konstanz
Website

Climate protection in buildings

For example, you can associate the city of Constance with Lake Constance, the university, the
The city of Constance can be associated with Lake Constance, the university and the Council - depending on your personal interests. The city's environmental activities and concrete measures are now attracting increasing interest.

In May 2019, Constance was one of the first cities to declare a climate emergency. Since June 2019, climate protection has been taken into account in all political decisions. Numerous measures have been implemented and in November 2019, the city was honoured with the best result of the European Energy Award. The European Energy Award is an international quality management and certification instrument for municipal climate protection, which supports municipalities in Germany and Europe on their way to greater energy efficiency.

Environmental policy steps have also been a focus for neighbouring municipalities such as Allensbach for years. "Due to its geographical location on Lake Constance, there is a particular focus on harmonising the use of building land and living space with local conditions such as nature reserves," explains Allensbach Mayor Stefan Friedrich.

Green living
One of the greenest residential neighbourhoods in Europe has now been created. The "Living in Allensbach" residential complex consists of twelve semi-detached houses and two apartment blocks with a living space of around 2,470 square metres. The façades are visually striking - pre-grey silver fir from the Black Forest forms the outer skin of the buildings, which are made of solid wood. For the general contractor Kaufmannbau GmbH, the realisation of the property represented a very special challenge.

"I am proud of this project, which enabled me to realise a property development deal worth tens of millions of euros and initially cost me many sleepless nights," explains Managing Director Peter Kaufmann. The realisation of the residential complex in Allensbach brings him a big step closer to his vision: he wants to change the world for the better with his construction projects. As a general contractor, property developer, planner and timber construction company, his focus is on resource-saving concepts for the development of new residential neighbourhoods. His aim is to create sustainable, ecological and energy-efficient buildings that generate more energy over the year than they consume for heating or domestic hot water.

With the residential complex in Allensbach, Kaufmannbau is taking a big step in this direction. The solid dowelled timber ensures a pleasant living environment. "Dowelled timber is a stable timber connection in its purest form. It consists of solid, flat timber construction elements that are used as walls, ceilings or roofs in detached houses or apartment blocks, as well as in large construction projects," explains Peter Kaufmann. "Our dowelled timber is based on beech wood lamellas from

regional forestry, which are joined with a hardwood dowel without glue." Kaufmannbau calls the neighbourhood in Allensbach "Dübelhölzle", a name that creates a direct link to the construction method and the Swabian roots.

Drinking water and space heating supply

Uponor Kamo GmbH from Ehingen/Donau was found to be the right partner for the drinking water and space heating supply in the apartment blocks, as it shares the aforementioned objectives. Uponor Kamo GmbH develops high-performance solutions for heating and cooling distribution, individually adjustable by room. The focus is on sustainability, resource conservation, energy efficiency and hygiene, but without compromising on comfort.

The decentralised Kamo home substations in the "Combi Port Pro" series ensure unlimited availability of domestic hot water and a year-round supply of space heating. In contrast to conventional conventional systems for supplying heat and hot water, the decentralised home substations score points because the on-site installation work up to the transfer point is reduced to a minimum. The heated heating water is transported from the heating centre to the Combi Port Pro station, where the domestic hot water is heated as required using a plate heat exchanger. The Combi Port Pro also supplies the underfloor heating through separate, distinct water circuits. The underfloor heating can therefore be operated very efficiently because the hot heating water is used for this purpose. The buffer cylinder therefore supplies the energy for domestic hot water preparation and room heating.

The advantage is that neither a central hot water pipe and circulation pipe nor the associated fire protection provisions and insulation need to be planned. This creates more living space - a valuable factor that should not be underestimated. Kamo systems can be ideally combined with renewable energy sources. For example, heat pumps are used in Allensbach. For the apartment blocks, a combined heat and power plant supplies the energy for the buffer storage tank. This is stored in heating buffer tanks. By burning organic and renewable raw materials, environmentally friendly electricity can be generated in parallel with the heating system. Efficient building technology in combination with the thermal bridge-free building envelope made of ecological insulation materials enables the lowest possible heating costs. In conjunction with a combined heat and power plant and heat pumps, the buildings have an energy efficiency standard of KfW 40 or KfW 40 Plus. The fast response time in the Combi Port Pro station increases comfort. "Domestic hot water is only produced when it is needed, i.e. at the moment when drinking water is drawn off. Domestic hot water does not circulate. This also means that there are no radiation losses," explains Patrick Freudenreich, technician at Uponor Kamo GmbH. "The Combi Port Pro works with low flow temperatures and reduces energy losses in the system. This means a big plus in terms of efficiency and energy savings."

Security? You bet!

Hygiene requirements in particular are fully met. The same applies to safety for everyone involved. Kamo systems offer legal certainty and planning security for planners, installers and investors. All products are subject to strict quality standards and are DVGW-tested. The components are matched to each other and the drinking water installation is dimensioned in accordance with the generally recognised rules of technology. Operational safety is guaranteed thanks to professional commissioning by Uponor Kamo GmbH. In addition, the company offers a maintenance service and emphasises its service philosophy with this service. This means absolute security for flat owners and residents.

Advance deliveries

Another plus point for use in the Allensbach residential complex is the shallow installation depth of the home stations of just 112 mm. This means that there are many other locations where the stations can be installed, including walls in drywall or register construction. These aspects also convinced the property developer, who utilises the advantages of prefabrication, so-called "plug & play", with element and modular construction. This means that a high degree of prefabrication minimises connection work. "Connect and go" - as much as possible is industrially prefabricated, minimising the final effort required by the installer to fully connect the home station.

Advance deliveries were used for the home stations: Flush-mounted boxes and the connection rails for the home station left the Uponor Kamo manufacturing plant to be installed in advance at the intended locations on the prefabricated walls. This results in a fortunate advantage for unfortunate circumstances that often have to be contended with on construction sites: the risk of theft of components is reduced. Damage and soiling are also avoided. The complete assembly is then carried out quickly using a short and uncomplicated connection. This has the advantage that floor assembly can already begin. This minimises time pressure, which also has a positive effect on the other trades.

The rationalised lean production of the Combi Port Pro stations offers an interesting side effect. Lower production costs are

reflected in attractive sales prices. All system components are harmonised with each other: Home stations, buffer storage tanks, control technology and filter systems. Panel heating systems work with lower flow temperatures than conventional radiators. The low flow temperatures also favour the efficiency of the underfloor heating and reduce heating costs.

Conclusion
Housing is the most climate-damaging area of private households - ahead of transport and food. Hot water and space heating account for the largest share of energy consumption in private households. If this is reduced to a minimum, the environment is effectively protected. There has been a lot of talk about climate and environmental aspects, especially since the flood disasters in June and July 2021. However, it should not be forgotten that companies have been working intensively on these issues for years, developing innovative and environmentally friendly solutions in residential construction and driving forward topics such as energy efficiency, hygiene and comfort.

"We as a municipality are very pleased about the green residential neighbourhood as a progressive
example of how liveability and the responsible use of resources can be combined.
can be reconciled. The companies involved in the green residential complex are taking an important and correct step towards sustainability. And hopefully this will set a precedent," says Mayor Stefan Friedrich about the project, which has also met with great approval from the local council. "At best, other neighbourhoods, other cities and municipalities can benefit from the experience gained here," he says, looking optimistically to the future.

Allensbach











Address

Uponor UK
The Pavilion, Blackmoor Lane,
Watford, WD18 8GA

Phone 01923 381212
E-Mail
customerservice.uk.bfs@georgfischer.com
W www.uponor.com