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2226® A building concept for the future

Technology made in Austria

Principle 2226®

Ten years ago, on the initiative of Professor Dietmar Eberle, Principle 2226® was first applied in the construction of a building in Lustenau named after this principle, which has since been run without any heating, cooling, and ventilation technology.

2226® – a name that says it all: Throughout the year, temperatures in Building 2226 are within a feel-good range of 22 to 26 °C in all its rooms. Creating such a comfortable atmosphere requires an intelligent mix of high thermal mass (material quality), well-proportioned architecture (light incidence), and the efficient control of energy flows by means of the 2226® Operating System. The people working or living in the building provide the necessary heat with their own bodies (80–100 W), with the appliances and equipment used as an additional heat source. The 2226® Operating System controls ventilation, thermal balance, humidity, and the CO₂ content of indoor air via automated ventilation blades. Thus, it is the combination of hardware, architecture, and software that underlies the design of comfortable and resource-saving buildings.

Besides healthy working conditions, Building 2226, with a gross floor area of 3,200 m², as well as other buildings based on the same principle, has great potential for the future: Being largely reusable, buildings of this type form part of the increasingly important circular economy.

Since the completion of Building 2226® as a prototype ten years ago, designed by Professor Eberle to accommodate the offices of Baumschlager Eberle Architects as well as third-party tenants, another 40 projects have been built, are under construction or in the planning stage. To date, Principle 2226® has been implemented in Austria, Germany, Switzerland, France, the UK, and Italy in regions with diverse climatic, cultural, and functional conditions.

Building 2226 Lustenau (in comparison)

- › – 25 % Construction costs¹⁾
- › – 68 % Energy consumption²⁾
- › – 49 % Life cycle costs³⁾

Against the backdrop of the climate crisis, fast-rising energy prices, and high inflation, buildings based on Principle 2226® are clearly gaining in importance and are widely accepted.

1) Source: Comparison of construction price index and actual costs of Building 2226 (Lustenau)

2) Source: Values calculated by the Swiss Society of Engineers and Architects (SIA) for 2024 compared to values measured in Building 2226 (Lustenau)

3) Source: Life-Cycle Management of Real Estate, Prof. Dr. Andrea Pelzeter, Berlin 2017



wienerberger is part of the solution

Sustainability has always been an integral part of wienerberger's corporate strategy. With its sustainable solutions for housing construction, energy-efficient renovation, and water and energy management, wienerberger is not only improving people's quality of life, but has become part of the solution by proactively addressing the challenges of climate change and its consequences.

Given the impacts of the climate crisis, sustainable energy management is the key driver of the energy transition. The existing building stock currently accounts for 39% of worldwide energy- and process-related CO₂ emissions. wienerberger's innovative solutions and technologies for the building sector play a crucial role in the planning, construction, and operation of net-zero buildings.

wienerberger is a pioneer of innovative and sustainable building construction. For ten years, as an essential part of its commitment to sustainability, the company has been cooperating successfully with Baumschlager Eberle Architects within the framework of Principle 2226®.

Brick as a building material drives the energy transition

Principle 2226® is all about energy efficiency, with the building material used playing a decisive role. Principle 2226® is an excellent example of the perfect interaction between smart technology, unique architecture and bricks as the energy-saving champion among building materials. With their outstanding thermal mass, bricks act as a natural air-conditioning system, keeping the interior naturally cool in summer and pleasantly warm in winter.

Bricks are a unique regional building material of seamlessly verifiable origin. Buildings of up to eight storeys can be erected with monolithic clay blocks. The introduction of the new RFEM 6 software greatly facilitates the modelling and structural analysis of multi-storey masonry structures.

Further significant progress will be achieved in the fall of 2024, when an almost CO₂-neutral brick from Uttendorf produced in an electric kiln will be placed on the market. This will be yet another important milestone on wienerberger's path toward sustainable building construction.

