



Foto: NEUBAU best.energy



UDD NetZero Building Base #1

Taicang, China

The three-storey office building designed by NEUBAU best.energy is located near Shanghai in the city of Taicang and has been recognised as the first premium passive house building in China. Individual and open-plan offices as well as meeting rooms are located on a total floor space of 2,050 m².

The prevailing warm and humid climate posed a particular challenge for the construction method. In order to achieve the Passive House Premium standard under these challenging conditions, careful planning was essential. Tailor-made solutions such as a specially designed lighting concept with presence and environment-dependent control, a reservation and access system to minimise standby consumption are just a few of the energy-efficient pieces of the puzzle in the overall concept.

Passive summer heat insulation and building tightness were important parameters in order to minimise energy requirements accordingly. A 151 kWp photovoltaic system guarantees sustainable energy for the existing requirements. The building uses concrete ceilings for cooling. Due to the high regional humidity, a humidity management system was implemented, which enables the separation of dehumidification and sensitive cooling. This prevents the formation of condensation.

Companies involved

Project development, general planning

- Urban Development Design Group Co. Ltd.

Planning, realisation, certification

- NEUBAU best.energy.

Facts

Office building

- Completed 2024
- Area (GFA): 2,050 m²

Energy and environmental aspects

- Controlled ventilation system with heat recovery and dehumidification
- Control of indoor comfort through sensor technology
- PV system with 151 kWp
- Reservation and access system to minimise standby consumption
- Light fittings with presence and ambient light-dependent control

Characteristics

- Renewable primary energy (PER) according to PHPP: 33 kWh/m²a
- Cooling requirement according to PHPP: 21 kWh/m²a
- Cooling load: 9 W/m²
- Blower door test (n50 value): 0.2 h⁻¹

Building labels and awards

- Passive House Premium



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