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### Focal points of research

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- Concepts for energy-efficient façades
- Switchable glazing
- Shading systems and optimized control concepts
- Daylight redirection systems
- Double skin façades
- Façade-integrated PV/Solar thermal systems
- Façade-integrated ventilation concepts
- Decentralized storage concepts
- Components and control concepts
- Window/wall constructions
- Façade insulation systems
- Passive use of solar energy
- Tests of different building services concepts for indoor space conditioning
- Translucent façade solutions
- Ventilated façades
- Artificial lighting systems with optimized control concepts
- Visual comfort, glare

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## TWIN ROOMS FOR ENERGY ASSESSMENTS



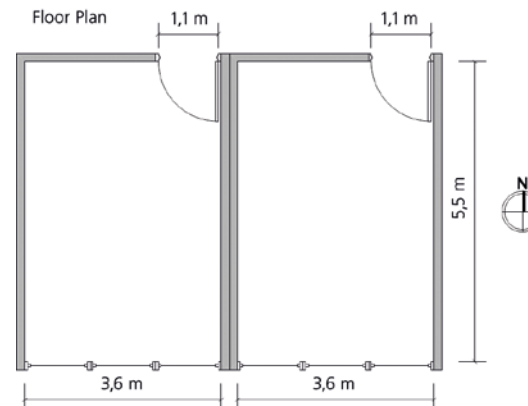
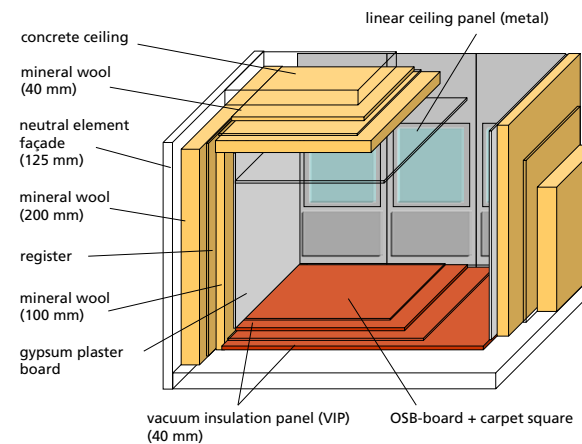


## Options

IBP's VERU test building (a modular test facility that enables scientists at the Fraunhofer Institute for Building Physics IBP to investigate energy performance and indoor environments) is located at the Institute's Holzkirchen outdoor testing site. The second floor of the VERU test facility houses two south-facing, identical test rooms which were specially designed to carry out comparative tests on energy performance. Due to well-insulated, temperature-controlled building envelopes it is possible to minimize the heat flows through internal building components (which are not relevant to testing). Both rooms are 3.6 m wide, with a room depth of 5.5 m and a height of 2.8 m (geometry acc. to DIN EN ISO 13791). Each test room has been provided with heating, cooling, ventilation, and a dimmable lighting system, along with internal and external solar shading.

It is possible to adapt the test rooms according to the requirements when comparing the thermal and energy performance of various building/ system components or control strategies. During these tests, one of the two rooms is commonly used as a reference room.

## Adiabatic room concept and dimensions



## Data logging

All measured data is collected by IMEDAST™, the measurement system developed by IBP scientists, which also communicates with the central control unit.

- Central data logging and storage
- Real-time process visualization of measured data by graphical user interface
- Optional password-protected online access to visualizations (for demonstration at trade fairs or for in-house presentations)
- Data logging linked to control systems
- Storage of all relevant system information in the central measurement database
- High system stability
- Allows further processing of measured data using other analysis programmes
- Internet-based access to all functionalities via web browser (process visualization, database access, template files, measuring channel lists, etc.)