

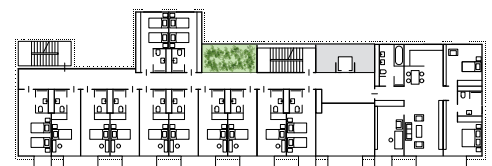
Passive House BRUCK

New low-energy building as model apartment complex in Changxing, China
2014



South Façade, Photo © Jan Siefke

Location	Changxing, P.R. China
Client	Landsea Europe R&R GmbH D-60596 Frankfurt
Structural engineering Services engineering	Shanghai Landsea Planning & Architecture Design Co.,Ltd.
Thermal structural physics	Passivhaus Institut (PHI)
Building quality assurance	Drees & Sommer Sustainable Engineering Consulting Co.,Ltd.
DGNB certification consult	Energydesign (Shanghai) Co.,Ltd.
Building quality workshop	Deutsche Energie-Agentur GmbH (DENA)
Building contractor	Jiangsu Nantong Erjian Group Co.,Ltd.
Blower door test	Ingenieurbüro Meyer-Olbersleben
Brief	Passive house as a model apartment complex, consisting 36 one room flats, 6 two room executive suites and 4 three-bedroom model apartments, entrance hall, common rooms, garage
Scope of services	Establishing the basis of the project, preliminary design, final design, approval documents, execution documents, thermal building simulation ((HOAI phase 1 – 5)
Size	GFA Building: 2,200 sqm
Duration	2011 – 2014
Completion	2014



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Passive House Bruck is the first housing of its kind to be realized in the country's damp, warm, southern climate with an app. 95% energy saving and certified by the German Passivhaus Institut. The building has been completed in August 2014 and inaugurated officially.

Passive House Bruck is a pilot project and demonstrates the potential of the passive house standard in China. The design as detailed as execution drawings has been planned by Peter Ruge Architekten in Germany to improve and implement innovative, energy saving and sustainable building practices in China. The architects have been supported by the engineers of the Passive House Institute Dr. Feist in Germany. It is the flagship project by the recognized Chinese real estate development group Landsea and the core of establishing a research and development centre in Changxing, west of Shanghai.

The five-storey apartment complex accommodates in app. 2,200 sqm 36 one room staff flats, 6 two room executive suites and 4 three-bedroom model apartments. The flats have been planned so that Chinese families, interested in the benefits of sustainable housing, could be provided with an opportunity to temporarily reside in the building. Through this direct experience, prospective clients are able to gain their own understanding of passive house living has to offer, as the building demonstrates maximum comfort and quality of residence. This aims to reduce any prior reservations towards the success of passive house design in extreme weather conditions.

The local climate has shaped the impression of the facade: triple glazed window units have been specifically used in all private rooms and common areas, whilst fixed sun shading elements protect the glass facade in the warmer half of the year. The closed

areas of the highly insulated facade act to protect the building shell from intense sunlight through a screen of colored terracotta rods.

Peter Ruge Architekten have reached by Passive House Bruck a new sustainable milestone in the green development of China and received for their planning the Gold Medal for World Green Design Award in 2014. Energy efficient buildings in Southern China are due to the climate conditions a great challenge; the answer to that is the introduction and realization of sustainable and future-oriented passive house standards to the Chinese residential housing market.

Peter Ruge Architekten
www.peter-ruge.de