



Mobile plus-energy house Germany

Client

Bundesministerium für Verkehr, Bau und Stadtentwicklung (BMVBS)

Architecture

HHS Planer + Architekten AG, Kassel
with Technischer Universität Darmstadt

Structural engineering

Tragwerk+ Dipl.-Ing. Jochen A. Stahl, Weiterstadt

HVAC

InnovaTec Energiesysteme GmbH, Ahnatal

Fire protection

Neumann Krex & Partner, Niestetal

Planning and building dates 10/2008 - 01/2009

GFA / GV 117 m² / 350 m³

Service phases 1 - 8

Cost 1,0 Mio. Euro

Energy demand (heating) 12 kWh/m²a

To support current policies involving energy-saving buildings, and to present new technologies in the area of energy-efficient and energy-generating, the award-winning building designed by the Darmstadt Technical University for the Solar Decathlon Competition 2007 was emulated and extended (gross area approx. 13 x 9 m).

The building was displayed as an exhibit in public spaces, making it accessible to the general public. It gave architects and engineers, and in particular the non-specialist public, the opportunity to obtain information on the possibilities of energy-efficient construction and modernisation.

The building itself has a range of technical innovations, such as a new kind of slatted façade that not only provides shade and visual privacy but also has integrated photovoltaic elements that generate electricity. The façade itself has triple and quadruple glazing, vacuum insulation and latent heat storage (PCM – phase changing materials). The building has been constructed predominantly of renewable, natural and recyclable materials.

In addition to the showcase nature of the building itself, it also houses an exhibition on the constituent aspects of the CO₂ building renovation programme and the construction and technical solutions available on the market. The displays were in the form of visual presentations (posters, touch screens, slide shows, guided tours by experts).

