

## RESIDENTIAL ESTATE "WINKELHÄUSER GUTLEUTMATTEN-EAST" Freiburg (Germany)

### NEW BUILDING

**Client:** Freiburger Urban Development Authority GmbH, Freiburg

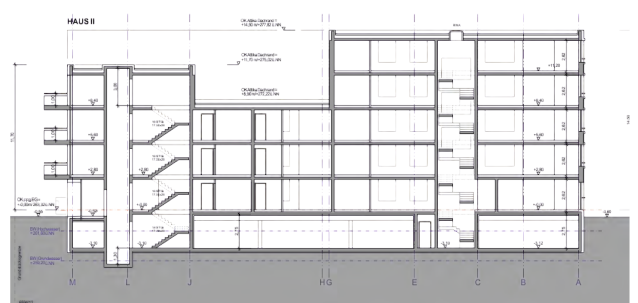
**Architects:** Hetzel+Ortholf, Freiburg

**Our services:** Full structural design  
Establishing the basis  
Preliminary design  
Final design  
Approval documentation  
Execution drawings  
Preparation of contract award  
Structural fire protection  
Earthquake engineering  
Thermal insulation  
Sound insulation

**Brief description:** Two new 5-storey residential blocks (block I and block II) with 63 flats and a shared garage with 63 parking spaces

- solid construction (reinforced concrete and brickwork) with basement
- I-shaped floor plan
- measurements of 42 x 44.5 m
- foundations with flexibly embedded base plate having hollow outs for heavy load foundations
- floors spanning up to 7.5 m
- cantilever length of the balconies up to 2.3 m
- stiffening through the reinforced concrete floor and the walls of reinforced concrete and brickwork
- heavy loads Europilz columns carrying punching shear loads
- load transfer on the ground floor through heavy-loads deep beams and far reaching joists because of diverse arrangement of the load-bearing parts in the different floors
- use of heavy-loads dowels to take up the bracing loads through the expansion joint
- flats on the upper floors with loggias and on the ground floor with a share of the garden
- perforated facade with openings for the loggias
- flat roof partially green
- roof tops terraced and fitted with solar fields
- basement with underground car park, machine room and tenant cellar storage
- columns in the underground car park designed to withstand dynamic impact forces subterranean floors built as white tank due to a high water table

**Completion:** 2018



Pictures / Illustrations: Professor Pfeifer und Partner PartGmbH, Hetzel+Ortholf, Freiburg, Freiburger Stadtbau GmbH

## RESIDENTIAL ESTATE "WINKELHÄUSER GUTLEUTMATTEN-EAST" Freiburg (Germany)

### NEW BUILDING

**Client:** Freiburger Stadtbau GmbH

**Architects:** Hetzel + Ortholf, Freiburg

**Brief description:** Construction of a new housing complex consisting of two residential blocks with a total of 80 flats and a common underground car park with 60 parking spaces, supplied via local and district heating, building construction includes solid separating walls made of clay sound-insulation blocks

**Our services:**

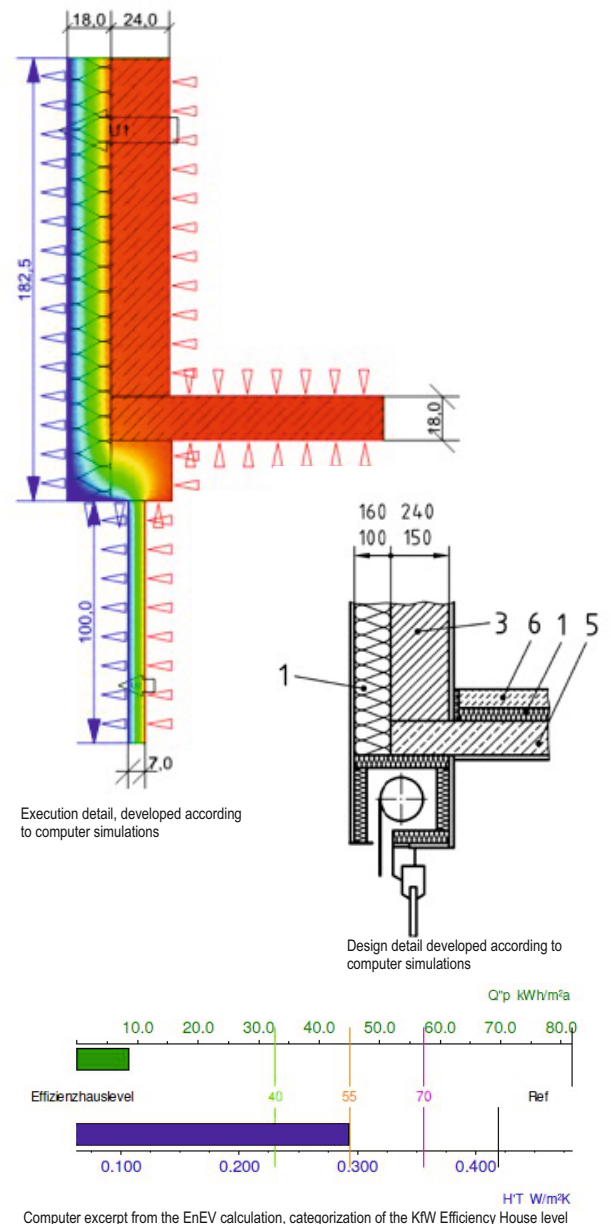
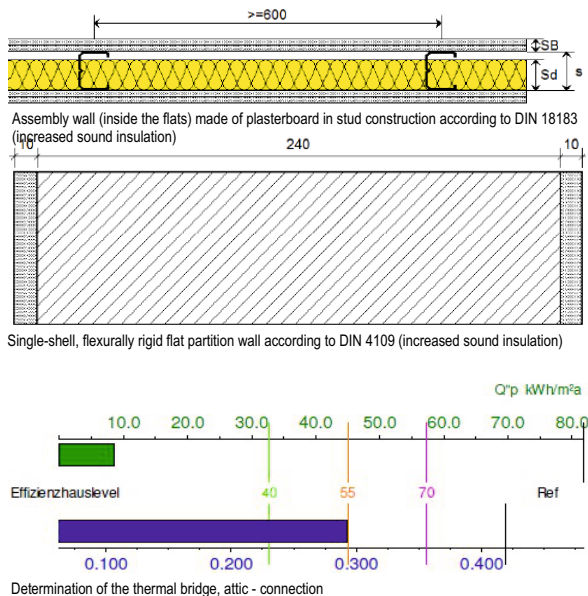
**Energy Consulting / Thermal Insulation Certificates**  
Energy performance according to the energy-saving ordinance (EnEV) from 2009 heat and sound proofing declaration

- fulfilment of the KfW 55 standard (energy-saving ordinance 2014, from 2015)
- calculations according to the requirements for residential buildings according to EnEV with ventilation using an air extraction system
- proof of conformity according to DIN V 18599 using a reference building model
- consultation and calculations with regard to avoidance of heat bridges to minimise the loss of energy
- monitoring the compliance of the renewable energy act
- contribution to the concept of air tightness
- guidance in the choice of materials with regard to the fulfilment of all construction physical requirements.
- proof of conformity for summer heat insulation
- issuing a energy performance certificate (EPC)
- technical object supervision
- confirmation of the application and implementation of the KfW scheme "Energy efficient refurbishing" (scheme 151/152)

**Building Acoustics Consulting / Building Acoustics Verifications**  
Consulting services for sound insulation according to DIN 4109

- dimensioning of the required airborne and impact sound insulation
- protection against noise from the outside as well as against noise from technical equipment z. e.g.: air conditioning systems

**Completion:** 2017



Visual control of the input geometry, view south



Visual control of the input geometry, view east

Pictures / Illustrations: ProfessorPfeiferundPartner PartGmbB, Hetzel+Ortholf, Freiburg, Freiburger Stadtbau GmbH