

## VOCATIONAL EDUCATION CENTER (BBZ) ETTLINGEN Ettlingen (Germany)

### NEW BUILDING

**Client:** District administration, Facility Management Department  
Karlsruhe (Germany)

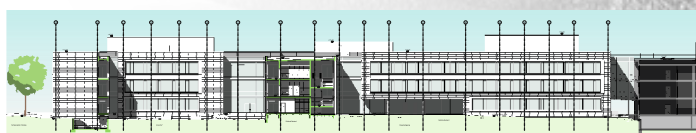
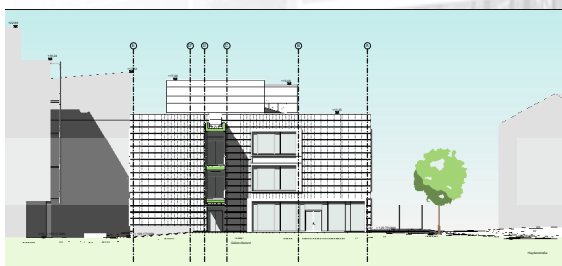
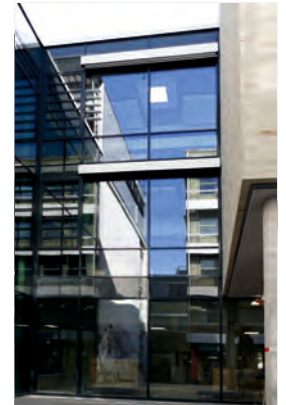
**Architects:** Weindel Architekten Partnerschaftsgesellschaft m.b.B.,  
Waldbronn

**Our services:** Full structural design  
Structural fire protection  
Earthquake engineering  
Static planning of the clinker facade,  
including thermal insulation and sound insulation,  
according to AHO H. 28 and HOAI, LPH 1-6, 8

**Brief description:** Modernisation by refurbishing and extending a vocational training centre with multiple study options for 2,600 pupils in eight different buildings offering various subjects, commercial studies, technical college and grammar school, built around 1980. Construction of a new school building with classrooms and administration rooms as well as a natural science wing.

- 3-storey solid construction
- floor plan 120 m x 25 m
- floor space 7,586 m<sup>2</sup>
- well foundation to avoid extensive soil replacement
- slabs spanning up to approx. 8.5 m
- spacious entrance area supported by wall-like girders in the upper floors
- stiffening via reinforced concrete wall panels and slabs
- vertical load transfer through wall-like girders, reinforced concrete columns and walls
- roof slab sloped, green with solar heating system
- plant rooms on the roof constructed in steel
- rear-ventilated clinker facade

**Completion:** 2019



Pictures / Illustrations: ProfessorPfeiferundPartner PartGmbB, Michael Weindel & Junior Architekten

ProfessorPfeiferundPartner PartGmbB Tragwerksplanung Bauphysik Brandschutz Gutachten  
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### NEW BUILDING

**Client:** Landratsamt Karlsruhe, Office for Building Management

**Architects:** Weindel Architekten Partnerschaftsgesellschaft m.b.B

**Our services:**



**Thermal insulation certification**

- energy performance according to EnEV 2014 (German energy-saving directive from 2014) including the more stringent 2016 issue and incorporating the EEWärmeG (German renewable energy-saving act):
- detailed consultation in energy-saving thermal insulation with regard to construction and building materials
- detailed consultation in energy-saving technology including high ventilation requirements
- thermal insulation certification in accordance with DIN V 18599 using the reference-building method
- certification of summer thermal insulation

**Building soundproofing certification**

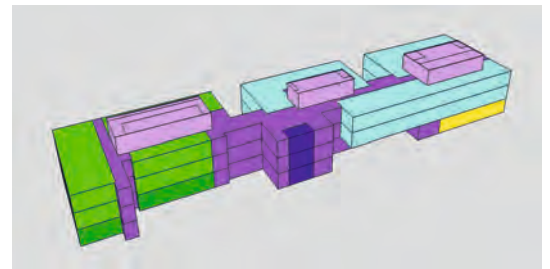
- Consulting services for comprehensive sound insulation
- rating the required airborne and impact sound insulation
  - proofing against noises penetrating from outside
  - proofing against noises generated by technical apparatus and other equipment
  - soundproofing design of doors and partition walls
  - planning assistance in reducing sound propagation in pipe connections and flanking areas as well as considering ventilation components set in the facade
  - planning assistance in reducing impact noise on stairs, landings and fixtures on floors

**Room acoustics certification**

- consulting services for rooms with special requirements for soundproofing:
- study of soundproofing of a prototype classroom, a natural science room, a corridor and the teacher's common room
- measuring the reverberation time as a function of room usage and room geometry for very good room acoustics with regard to intelligibility
- giving recommendations for an optimal interior design

**Brief description:** Construction of a new school building with classrooms, administration rooms and a natural science wing

**Completion:** 2019



Zoning of the building according to EnEV

