

BOOKSTACK FOR BADEN STATE LIBRARY Karlsruhe (Germany)

NEW BUILDING

Client: Vermögen und Bau Baden-Württemberg,

Karlsruhe

Architects: Schweger Associated Architects GmbH,

Hamburg

Our services: Full structural design

Establishing the basis
Preliminary design
Final design

Approval documentation Execution drawings

Preparation of contract award Earthquake engineering

Brief description: Construction of a new bookstack building

for storage books in aisle arrangement

- 4-storey reinforced concrete framework

- rectangular layout

 fully enclosed concrete structure with long, load-bearing and stiffening reinforced concrete hollow walls, subsequently filled with concrete

- mainly precast concrete elements

- total useful floor area of 3,000 m²

 deep foundation with bored piles due to challenging foundation soil and high live loads in bookstack (12.5 kN/m²)

- 100 reinforced concrete bored piles with lengths of 18 m and diameters up to 70 cm

 installation of a geothermal system in the area of the bored piles and the floor slab to generate energy for heating and cooling

- prestressed tie-beam ceilings (double-T slabs) as main supporting structure for the roof due

to high live loads

 nearly regular grid with ceiling spans of up to 14 m with semi-finished parts and additional in-situ concrete

- preparation for later building extension

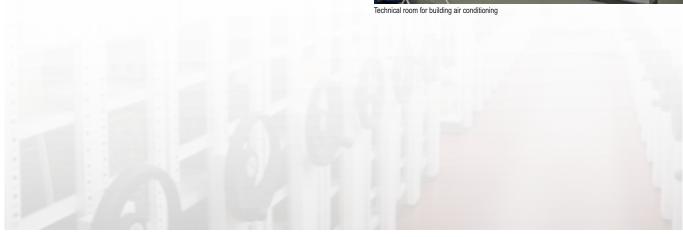
Completion: 2013





Book storage shelf systems





Pictures / Illustrations: Professor**Pfeifer**andPartner PartGmbB, Schweger Associated Architects GmbH, Hamburg