

Location: D-23569 Lübeck-Kücknitz
Client: Grundstücksgemeinschaft Trave
Architect: Günter zur Nieden, Lübeck
Earth building: J. Buse, Stockelsdorf
Construction: 4/1997 - 3/1998



Ecologically-sound social housing, Lübeck



Site plan

The construction of the Blesesahl social housing scheme in Lübeck on the North German coast took only eight months. As part of the federal state funded programme "Conserving Resources in Building", three 2½ storey buildings with a total of 36 flats were built, all fulfilling the low-energy standard.

The central concern during planning was a synthesis of healthy, energy and cost-efficient building, child and family friendly ground plans and an attractive modern architecture. To achieve this the architect and client decided to use an innovative and ecologically-sound prefabricated timber panel construction together with the select use of earthen materials.

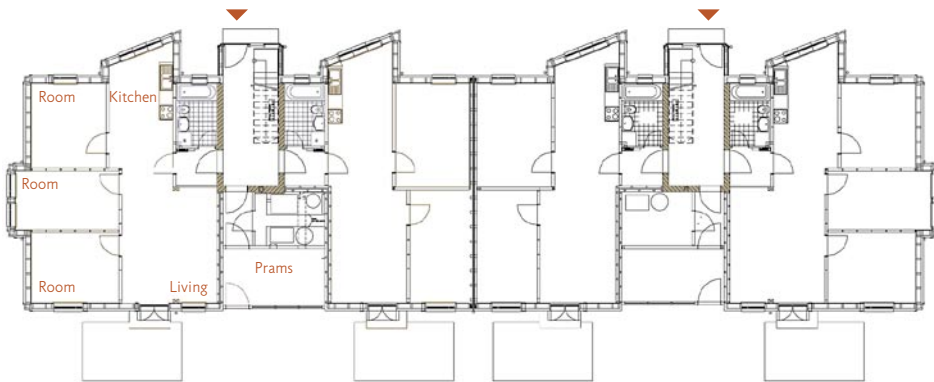
Each of the three buildings has a different colour. Every building has two staircases each of which provides access to six 2-4 room flats with a ground floor area of between 29 and 76 m². The flats are planned with the needs of families in mind. The tenant can decide which room should be used as a bedroom or children's room. The kitchen, dining and living area is an open space spanning the depth of the building in a north-south direction. Each flat also has a balcony or terrace.

At ground floor level an extra room is made available for storing prams etc. Naturally ventilated storage rooms are situated in the roof space and can also be used as small workshop rooms.



South elevation

earthen building · case study



Ground floor

The high degree of prefabrication for the wall, floor and ceiling panel elements enabled the construction time to be shortened dramatically saving on building costs. The individual timber panels were assembled to precise dimensions in the dry environment of the carpenter's workshop. The erection of the panels on-site took only 12 days for the shell of the first building shortening to 9 days for the third building.

The timber panels consist of a solid wood frame with cellulose insulation, stiffened with OSB-sheeting on the inside and soft fibreboard on the outside. Battens and plywood facing panels were fixed to the outside. The OSB-sheeting is wallpapered directly. The floor and ceiling panels are made of solid wood strip elements with a plasterboard facing on

the underside and floating screed with linoleum floor covering above. This ensures sufficient noise insulation between the floors.

Noise insulation and fire protection are also the reason why the staircases are executed as masonry using unfired earth bricks. The reverse side of the staircase walls is adjacent to the bathrooms. The earth walls as well as an earthen plaster on the ceiling serve to regulate the moisture content of the air in the bathrooms.

Technical installations also minimise the consumption of resources. Rainwater is retained and used for toilet flushing. Warm water heating is provided by a solar collector system. A gas fired central heating with condensing boiler provides space heating. In 1988 the project was awarded with the accolade "Prize for Timber Building in North Germany".

Usable floor area: 2.213 m²
Building costs: 2 403 000 €
Building cost/m²: 1083 €/m²



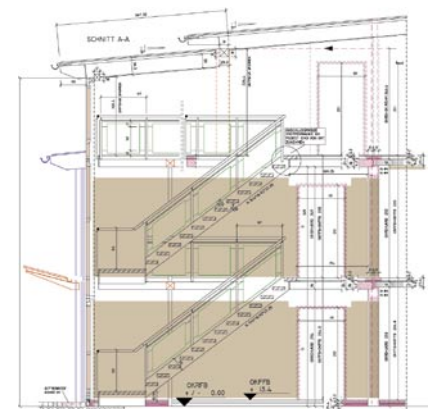
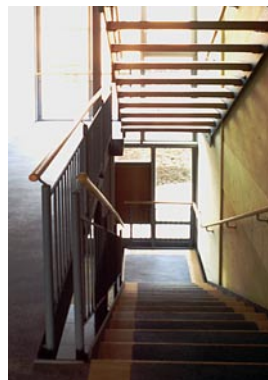
Erection of prefabricated panels



Solid wood strip ceiling elements



Staircase walls made of unfired earth bricks. The reverse side of the earth brick walls help regulate the moisture content of the air in the bathrooms.



Cross section with earth surfaces highlighted