

Location: D-19395 Wangelin
Client: FAL e.V., Ganzlin
Architect: Günter zur Nieden, Lübeck
Earth building: Lehmklut, Benzin
Construction: 2000-2001



Infocentre Wangelin Garden



The building is in many senses a product of its location, an aspect that underlines its function as an information centre for the educational garden in Wangelin and as a village hall for the local community.

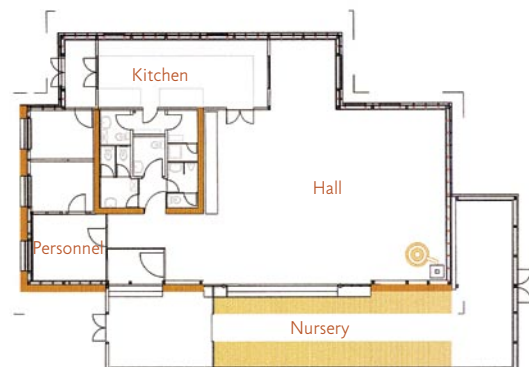
The infocentre uses building elements and even entire sections of buildings recovered from the village and neighbourhood, e.g. a greenhouse from the former agricultural commune, unused trusses and bricks from demolished buildings. Earth from the garden and surroundings was also used as a raw material for the earthen building materials employed in the building as well as cut turf from the garden for the green roof. Last but not least, the project conception was such that it could make as much use as possible of local labour.

The building is therefore both a product of recycling and an integral part of the surrounding nature. Nevertheless its architectural form is recognisably modern and it is not afraid of employing up-to-date technology.

Out of the recovered elements a building resulted which is a combination of a simple timber post construction with green roof and a partially surrounding greenhouse. A new heavy core enclosed with rammed earth walls contains the sanitary facilities. The three essential elements, timber frame, glass house and green roof as well as the three floor plan elements core, reception, glass house are easily recognisable and progressively interact with the garden.



Section and elevation



Ground floor

earthen building · case study



- 1 North-german farmer's garden
- 2 Butterfly garden
- 3 Trick plant garden
- 4 Garden of historically cultivated plants
- 5 Aromatic plant garden
- 6 Magical plant garden
- 7 Medicinal herb garden
- 8 „Capitulare de Villis“
- 9 Natural garden

Usable floor area: 320 m²
 Building costs: 470 400 €
 Building cost/m²: 1470 €/m²

Plan of the Wangeliner educational garden

Two major characteristics of earth as a building material were exploited: its adhesive qualities and its mass.

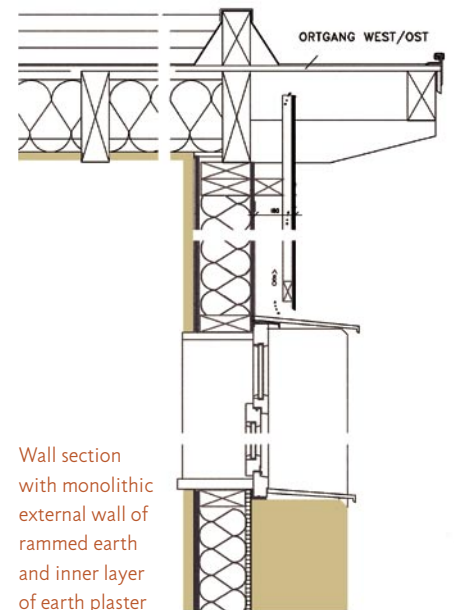
The timber frame construction of the exterior walls was filled with locally sourced light clay, a viscous mixture of 1/3 earth and 2/3 wood chippings from shredded vegetation. The interior surfaces were plastered with a double layer of pigmented fine clay plaster.

A compacted mixture of earth and brick chippings was used for the rammed earth walls and for rammed earth floors in some sections. The wall lining along the south and west walls of the main building act as a thermal mediator between the glass house and the main hall. In the inner core, the rammed earth walls serve to regulate moisture in the sanitary rooms. Horizontal and sloped layers of chalk were added between some layers of

rammed earth to produce the impression of layered striations in the wall surface and to reduce cracking as the walls dry out, as the chalk dries more slowly than the earth.

Most of the building materials were manufactured on-site or from production processes nearby. After the building's useful life, they can be returned to the natural life cycle. The construction was conceived so that manufacture and erection could be executed without the need of special building skills or technology.

The building is heated using a wood-fired warm air stove in the sculptural form of a spiral in combination with a condensing boiler. Benches are warmed by exhaust gases. Solar collectors are envisaged for warm water heating. Semi-transparent photo-voltaic solar cells are integrated in between the layers in the roof of the glass house.



Coloured striations in the rammed earth



Junction between earth wall and ceiling



West elevation with rammed earth 'shell'

