

**Location:** D-01589 Riesa  
**Client:** Ev. Trinitatis Kirchgemeinde Riesa  
**Architects:** Rentsch & Reiter, Dresden  
**Earth building:** Lehmprojekt, Dresden  
**Construction:** 1996-1997



## Trinitatis Children's Nursery, Riesa



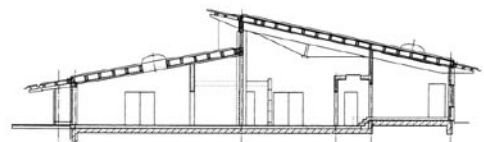
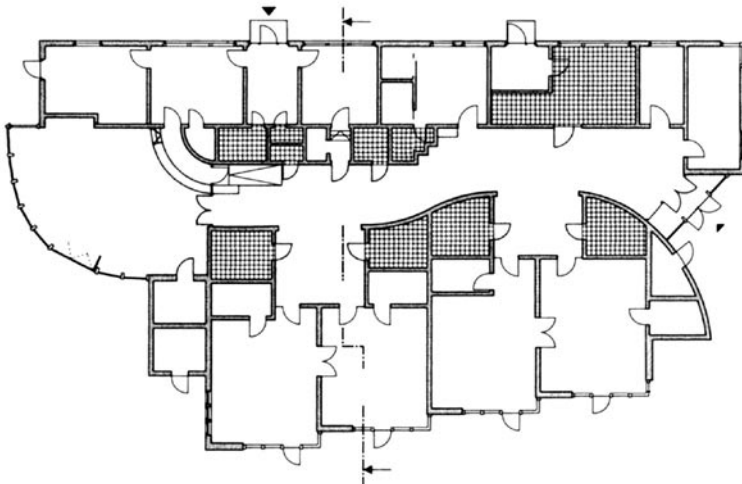
The children's nursery offers enough space for 92 children, 20 of which are afternoon visitors after school. The entire building offers a comfortable healthy environment and is planned so that disabled children can reach all areas on their own.

The ecologically planned building utilises only healthy building materials. The basic construction is a timber frame structure with two inclined stepped green roofs under which a flowing free plan offers children a variety of spaces for play and study. All rooms have direct sunlight, even the storage rooms. The large glazed

hall is used for sport, small celebrations and events. The kitchen, children's workshop and personnel spaces are situated on the north side separated from the children's main areas by a generous sweeping hallway.

Earth bricks are used as an infill for the timber-frame construction with an outer layer of cellulose insulation and larch wood timber facing.

The green roof is supported by large, tension-wire-trussed glulam beams and the roof panel is entirely insulated with cellulose insulation.



## earthen building · case study

Usable floor area: 724 m<sup>2</sup>  
 Building costs: 970 000 €  
 Building cost/m<sup>2</sup>: 1340 €/m<sup>2</sup>  
 Heat demand: 73 kWh/m<sup>2</sup>a

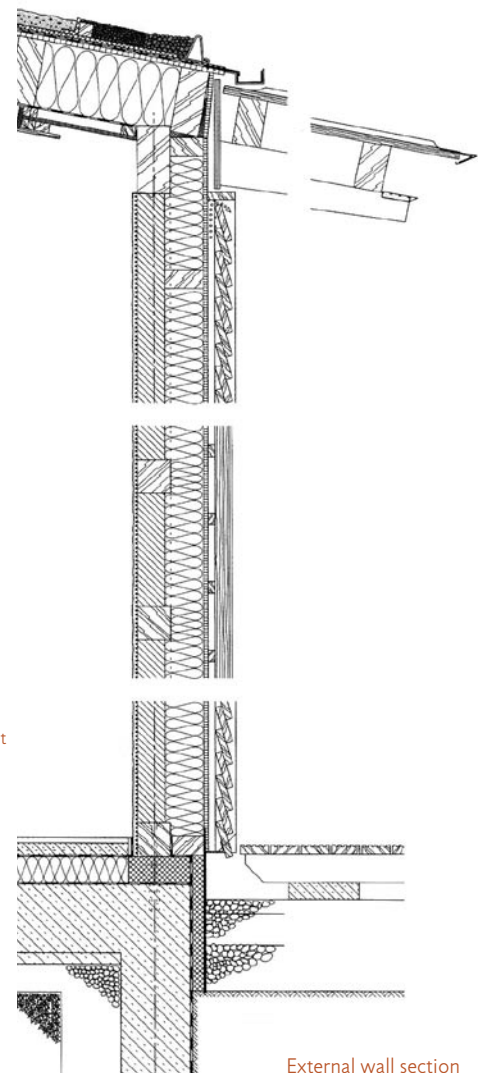


Earth blocks were used for the internal walls as well as wall lining for the inner surface of the south-facing external walls. An earthen plaster on a reed-matting plaster base forms the inner surface with a pigmented caolin or translucent powdered marble casein paint finish. Where wall heating has been integrated within the wall the plaster is strengthened with a woven plaster reinforcement matting.

The building is heated primarily by a 12 m<sup>2</sup> solar thermal plant for warm water heating and four 5 m<sup>2</sup> solar air collectors for pre-warming the fresh air intake for the children's rooms. Low input temperature wall heating provides the basic

heating requirement for the children's main rooms with an additional quick-response air heating system to cover peak demand periods and special requirements. Warmth from exhaust air from the kitchen is recovered using a kitchen hood heat exchanger. Solar protection in the hot summer months is provided by permanently installed louvres and ventilation openings prevent overheating.

A combination of carefully planned heating measures, the maximal use of active and passive solar energy as well as the use of healthy and moisture regulating building materials provides optimal indoor conditions for young children.



- External wall section:
- translucent stain
  - powdered marble-casein paint
  - 20 mm 2-layers earthen plaster on reed matting plaster base
  - 140 mm timber frame construction
  - + 115 mm earth brick infill
  - 140 mm cellulose insulation between battens
  - 18 mm soft wood fibreboard, impregnated
  - 30/50 mm battens
  - 24 mm lapped timber boarding, rough-cut

External wall section

