

Object name

Single family house Jenišov**Czech Republic**

Object photo



Object description

It is the first passive house in Czech republic which was certified by Passivhaus Institut in Darmstadt. According to certificate the house fulfilled all the criteria defined by PHI Darmstadt.

One of the first houses founded on glass foam gravels. Massive floor slabs help to keep thermal comfort in summer, maximal southern fenestration with regard to unfavourable climate of Carlsbad. The shape of a house is a great disadvantage, aiming the passive house standard was on the border of possibilities.

The design of the house is compact and severe with sloping roof, the bearing construction made from gang-nail trusses, the reinforced concrete floor insulated with 500 mm mineral wool. The lime-sand brick exterior wall 175 mm + ETICS (320 mm polystyrene).

Fact sheet

SFH Jenišov near Karlsbad
 Treated Floor Area **95,24 m²**
 Number of apartments **1**
 Completion date **2010**

Energy standard [PHPP]

Heat requirement / year **14,9 kWh/m²a**
 Heat load **11,7 W/m²**
 Primary energy requ. **113 kWh/m²a**
 Air-tightness (n₅₀-value) **0,29 1/h**
 Building type **Masonry construction**

U-value

Exterior wall **0,105 W/m²K**
 Roof **0,059 W/m²K**
 Basement floor / **0,071/0,091 W/m²K**
 Floor slab
 Windows / average **0,68 W/m²K**

Specification ventilation system

Central System, compact unit NILAN
 brine soil heat exchanger

Heating installation

Warm-air heating, heat pump, addit. el.
 heating foils, mobile infrapanel

Construction costs **1100 Euro/m²**

Building owner

Martin Šperl

Architect/Planner

Ing. Štěpánka Hamatová

Photo credits

Martin Konečný, Kalksandstein s.r.o.