

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 m<sup>2</sup>**  
 Number of apartments **1**  
 Completion date **2010**

**Energy standard [PHPP]**

Heat requirement / year **14,9 kWh/m<sup>2</sup>a**  
 Heat load **11,7 W/m<sup>2</sup>**  
 Primary energy requ. **113 kWh/m<sup>2</sup>a**  
 Air-tightness (n<sub>50</sub>-value) **0,29 1/h**  
 Building type **Masonry construction**

**U-value**

Exterior wall **0,105 W/m<sup>2</sup>K**  
 Roof **0,059 W/m<sup>2</sup>K**  
 Basement floor / **0,071/0,091 W/m<sup>2</sup>K**  
 Floor slab  
 Windows / average **0,68 W/m<sup>2</sup>K**

**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/m<sup>2</sup>**

**Building owner**

Martin Šperl

**Architect/Planner**

Ing. Štěpánka Hamatová

**Photo credits**

Martin Konečný, Kalksandstein s.r.o.