



Family house Ilčić was designed in 2005 and construction was completed in 2007. External bearing walls are made of brick and isolated with stone wool 20cm thick. The roof is insulated with stone wool 30 cm thick. The floor slab is insulated with 12 cm thick XPS.

Relatively large glass surfaces allow a greater amount of light and solar gains in winter. Overheating protection in summer is solved by overhangs for 1st floor and interior shadings in the ground floor. Windows are triple glazed with low-e layer, while the frames are wood-aluminum or aluminum–PVC combined.

Ground heat exchanger pipeline is 55 m long. Together with recuperator it supplies house with warm air in winter and cool air in summer. For water supply own well is used (12 m deep). The water is also used for heat pump that heats the radiators and floor heating.

Family house in 42000 / Varaždin /  
E. Kumičića 8A

Treated Floor Area	185 m <sup>2</sup>
Number of apartments	1
Completion date	2007

#### Energy standard [PHPP]

Heat requirement / year	19 kWh/m <sup>2</sup> a
Heat load	5 W/m <sup>2</sup>
Primary energy requ.	118 kWh/m <sup>2</sup> a
Air-tightness (n <sub>50</sub> -value)	0,6 1/h
Building type	Masonry

#### U-value

Exterior wall	0,18 W/m <sup>2</sup> K
Roof	0,11 W/m <sup>2</sup> K
Basement floor / Floor slab	0,2 W/m <sup>2</sup> K
Windows / average	0,8 W/m <sup>2</sup> K

#### Specification ventilation system

Central system (heath pump, air exchanger, recuperator, earth collector)

#### Heating installation

Electricity

Construction costs	700 Euro/m <sup>2</sup>
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#### Building owner

Lidija and Ladislav Ilčić

#### Architect/Planner

Lidija Ilčić

#### Photo credits

Lidija Ilčić