



Passive family house Sočковиć in Varaždin was designed in 2008.

Ground floor of the building consists of the spacious living area – living room, dining room and the kitchen - on the south side of the building, with guest bedroom on the east elevation.

First floor consists of 3 bedrooms and the bathroom.

Main design feature of the building is use of double height living room connected to the stair as means of allowing the sunlight in to the building through the sloped roof, and letting the sun capture deep in the space of relatively narrow and deep design.

Design of the building was performed using hourly weather data and whole building thermal simulation which allowed for narrow design margins, including the detailed thermal simulation of sun shading and infiltration in winter and summer period.

#### Family house in 42000 Varaždin

Treated Floor Area	161 m <sup>2</sup>
Number of apartments	1
Completion date	2010

#### Energy standard

Heat requirement / year	9,95 kWh/m <sup>2</sup> a
Heat load	n/a W/m <sup>2</sup>
Primary energy requ.	n/a kWh/m <sup>2</sup> a
Air-tightness (n <sub>50</sub> -value)	0,50 1/h
Building type	Masonry

#### U-value

Exterior wall	0,13 W/m <sup>2</sup> K
Exterior wall to unheated	0,13 W/m <sup>2</sup> K
Exterior wall to ground	0,18 W/m <sup>2</sup> K
Ground floor slab	0,14 W/m <sup>2</sup> K
Floor slab above unheated	0,17 W/m <sup>2</sup> K
Floor slab to attic	0,09 W/m <sup>2</sup> K
Windows / average	0,96 W/m <sup>2</sup> K

#### Specification ventilation system

Central system (ventilation system with heat recovery and earth heat exchanger, with heat pump for hot water preparation and free cooling of the space)

#### Heating installation

Electricity

Construction costs	1200 Euro/m <sup>2</sup>
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#### Building owner

Dominik Sočковиć

#### Architect/Planner

Toni Borković

#### Photo credits

Toni Borković