

Object name

Family House ČV1**Croatia**

Object photo



Object description

ČV1 passive house was designed in 2003 and it will be finished in 2009 as the first passive house made of wood in Croatia. The special characteristic of the project is that it uses the old material of a traditional wooden house as the facade of the new house as the old brick.

In accordance with the natural values of the site and the requirements of quality living and protection of cultural heritage, the ČV1 house project, by the size of the building and by its materials, is based on maximum adjustment to the existing plot and the broader environment, with the requirement of high energy-efficiency and sustainability.

The house is rectangular with protruding northern volume of the entrance, staircase, studio and wardrobe on the upper floor. It is only in part of this volume that northern facade rises above the eave as a protective wall for solar converters and a kind of mask hiding them from public view. Southern facade is open to the maximum, and northern facade is almost entirely closed, except for the openings at staircase landings. Project brief envisages a ground floor and the 1st floor with a gallery over part of the living room. The roof is single-pitched falling to the North. To prevent overheating, a large eave overhang is designed as a protection from sunshine in the summer, with the appropriate geometry of the facade cross-section enabling a full exposure to sunshine in the winter throughout the depth of primary spaces. The roof is to accommodate solar thermal converters and photovoltaic converters. Part of the slanting roof above the upper floor (and ground floor) level is to carry a green cover.

Fact sheet

Family house in 10257 / Gajani,
Kupinečki Kraljevec, Zagreb

Treated Floor Area	302 m ²
Number of apartments	1
Completion date	2009

Energy standard [PHPP]

Heat requirement / year	10,71 kWh/m ² a
Heat load	8.7 W/m ²
Primary energy requ.	97 kWh/m ² a
Air-tightness (n ₅₀ -value)	0,50 1/h
Building type	Timber construction

U-value

Exterior wall	0,11 W/m ² K
Roof	0,093 W/m ² K
Basement floor /	0,13 W/m ² K
Floor slab	
Windows / average	1,10 W/m ² K

Specification ventilation system

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

Heating installation

Electricity, natural gas

Construction costs	800 Euro/m ²
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Building owner

Tibor Čaturilo and Mirela Vujaklija

Architect/Planner

Ljubomir Mišćević

Photo credits

Lj. Mišćević