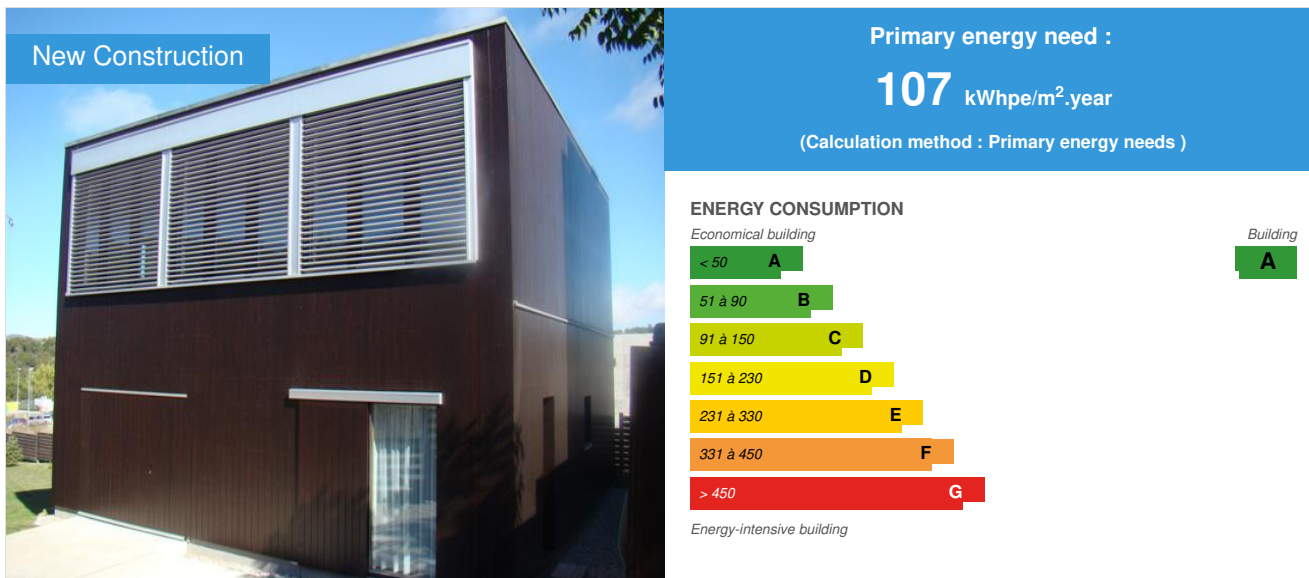


Passive House Farhaus AF1

by [Micheel Wassouf](#) / © 2013-02-19 10:14:54 / International / © 5333 / EN



Building Type : Isolated or semi-detached house
Construction Year : 2012
Delivery year : 2012
Address 1 - street : c/Moià 168 08183 CASTELLTERÇOL, Spain
Climate zone :

Net Floor Area : 125 m² Useful area (es)
Construction/refurbishment cost : 150 000 €
Cost/m² : 1200 €/m²

Certifications :



General information

Detached family house in Castellterçol, a village 45kms in the north of Barcelona. The house has been built following the "Passivhaus standard", and is actually in certification process (02/2013). The heating demand is 13kwh/m²&year (with PHPP) which is 6 times less than the actual Spanish energy standard (CTE). The summer confort is reached without air conditioning. The overheating frequency (reference 25°C) meets the confort criteria established by international norm ISO-EN-7730.

[See more details about this project](#)

<http://www.energiehaus.es/index.php/consultoria/consultoria-estandar-passivhaus/ejemplos-passivhaus>

Stakeholders

Function : Construction company

FARHAUS

Albert Fargas

<http://www.facil-web.com/fargas/index.php?/farhaus-af1/casa-passiva-farhaus-af1/>

Function : Thermal consultancy agency

ENERGIEHAUS

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<http://www.energiehaus.es>

Contracting method

Other methods

If you had to do it again?

Begin the energy development from the first planification.

Building users opinion

The users are very happy and comfortable with the building.

The building is actually being monitorised to compare with PHPP results.

Energy

Energy consumption

Primary energy need : 107,00 kWhpe/m².year

Primary energy need for standard building : 264,00 kWhpe/m².year

Calculation method : Primary energy needs

Breakdown for energy consumption : Heating: 7,7kWh/m²a

Sanitary water: 17,3kWh/m²a

Appliances: 12,6kWh/m²a

Auxiliar energy (ventilation included): 3,8kWh/m²a

Envelope performance

Envelope U-Value : 0,13 W.m⁻².K⁻¹

More information :

All materials of the thermal envelope (except foundations) are from vegetal or reused materials such as wood or paper.

Building Compactness Coefficient : 0,31

Indicator : n50

Air Tightness Value : 0,61

More information

Building actually in monitoring phase.

Real final energy consumption

Final Energy : 41,00 kWhfe/m².year

Systems

Heating system :

- Heat pump

Hot water system :

- Heat pump

Cooling system :

- No cooling system

Ventilation system :

- Double flow heat exchanger

Renewable systems :

- No renewable energy systems

Costs

Energy bill

Forecasted energy bill/year : 1 300,00 €

Health and comfort

Life Cycle Analysis

Eco-design material : All materials used are from vegetal or reused materials such as wood or paper.

Strong timber frame spruce structure.

Indoor Air quality

The CO₂ concentration is actually measured with a Wöhler-CO₂ data logger.

The CO₂ level does not exceed 1000ppm.

Carbon

GHG emissions

GHG in use : 28,10 KgCO₂/m²/year

Methodology used :

PHPP - Passive House Design Package

