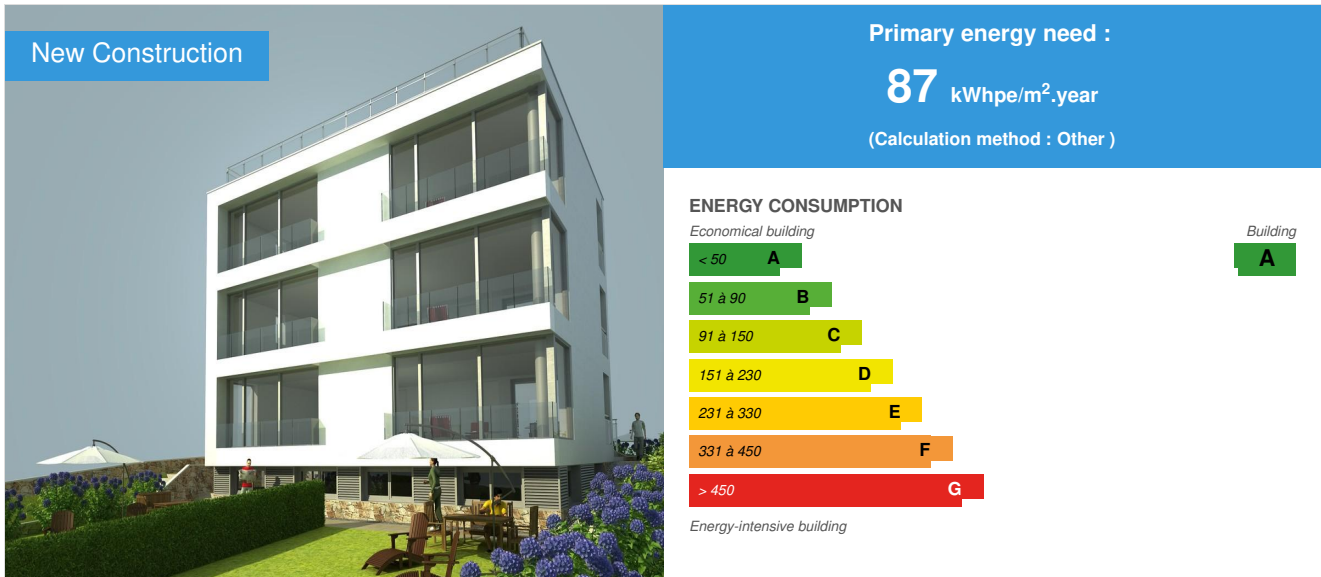


The Villa Eulieta in Donostia

by [Oliver Style](#) / 2019-09-16 10:35:18 / España / 2111 / ES



Building Type : Collective housing < 50m
Construction Year : 2016
Delivery year : 2017
Address 1 - street : Duque de Baena 20009 DONOSTIA, España
Climate zone : [Cfb] Marine Mild Winter, warm summer, no dry season.

Net Floor Area : 354 m² Other
Construction/refurbishment cost : 549 000 €
Number of Dwelling : 4 Dwelling
Cost/m2 : 1550.85 €/m²

General information

Overlooking the bay of La Cocha is Villa Eulieta. This detached multi-family building has been designed under the Passivhaus Standard, although it has not been certified.

The building has a floor area of 441 m² and consists of a first floor for garage and installations, and a ground, first and second floor with 4 dwellings.

The structure is made of reinforced concrete and Termoarcilla walls, wrapped in an XPS SATE, which forms a continuous insulation envelope. The flat roof is also insulated with XPS.

The airtightness has been solved by a layer of plaster plaster, protected from perforations by the installation chamber insulated with rock wool.

As can be expected, the views of the bay are translated into large windows facing north. To minimize energy losses, all windows are made of high-performance wood-aluminum carpentry and triple glazing with low-emissivity and argon gas in the chambers.

Indoor air quality is guaranteed with a double-flow mechanical ventilation system with high-efficiency heat recovery. The house has a community air-to-water aérothermal heat pump as a production system for air conditioning and DHW. Given its passive design and north orientation, the building is cooled exclusively by passive means.

[See more details about this project](#)

https://passivehouse-database.org/index.php?lang=en#d_6268

<https://www.arkilan.com/index.php/portfolio-posts/goiegi-proyecto-y-direccion-de-14-viviendas-garajes-trasteros-y-locales-2-14/>

Data reliability

Assessor

Photo credit

Arkilan Arquitectos

Stakeholders

Contractor

Name : Construcciones Aobra

Contact : info[a]construccionesaobra.com

<http://aobra.es/>

Construction Manager

Name : Construcciones Aobra

Contact : info[a]construccionesaobra.com

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Stakeholders

Function : Designer

Josu Iriondo - Arkilan S.C.P

arkilan[a]arkilan.com

<https://www.arkilan.com/>

Function : Environmental consultancy

Oliver Style & Bega Clavero

praxis[a]praxis-rb.com

<http://www.praxis-rb.com>

Passivhaus Consulting

Function : Construction company

Ingeniera Eneka S.L

Function : Thermal consultancy agency

Energiehaus Arquitectos

info[a]energiehaus.es

<https://www.energiehaus.es/>

Passivhaus Consulting

Function : Facility manager

Iñaki Kerejeta

Technical architect

Owner approach of sustainability

The objective of the promotion was the creation of 4 homes that met the Passivhaus standard, comfortable, healthy, and with almost zero energy consumption.

Architectural description

The structure is made of reinforced concrete and Termoarcilla walls, wrapped in an XPS SATE insulation, which forms a continuous insulation envelope. The flat roof is also insulated with XPS.

The hermeticity has been solved by means of a layer of plaster plaster, protected from the perforations by the installation chamber insulated with rock wool.

The views of the bay are achieved thanks to the large windows facing north. To minimize energy losses, all the windows have high-performance wood-aluminum frames and triple low-emission glass with argon gas in the chambers.

Energy

Energy consumption

Primary energy need : 87,00 kWhpe/m².year

Primary energy need for standard building : 178,80 kWhpe/m².year

Calculation method : Other

CEEB : 0.0002

Envelope performance

Envelope U-Value : 0,30 W.m⁻².K⁻¹

More information :

U solera = 0.16 W / m²K

U muros = 0.14 W / m²K

U cubierta = 0.17 W / m²K

Building Compactness Coefficient : 0,38

Indicator : n50

Air Tightness Value : 0,21

Renewables & systems

Systems

Heating system :

- Heat pump

Hot water system :

- Heat pump

Cooling system :

- No cooling system

Ventilation system :

- Double flow heat exchanger

Renewable systems :

- Heat pump

Other information on HVAC :

Use of high-efficiency air conditioning technology, with simple and reliable solutions:

- Air conditioning: Aeothermic heat pump production system, air-water type, centralized for the 4 homes. No active cooling.
- Ventilation: Zehnder ComfoAir 200 dual flow mechanical ventilation system, individual per home

Environment

GHG emissions

Building lifetime : 100,00 year(s)

Indoor Air quality

Air quality is ensured with the Zehnder ComfoAir 200 very high efficiency dual flow mechanical ventilation system with heat recovery, individual per home.

Products

Product

ComfoAir Zehnder 200

Zehnder

<https://www.zehnder.es/>

Product category :

The highly efficient heat recovery ventilation system is from Zehnder and an individual system per home has been proposed. It is made up of a ComfoAir 200 ventilation machine per dwelling, ComfoWell silencers, and a network of internal distribution ducts and ComfoTube discharge and extraction nozzles.

Dual-flow ventilation system with heat recovery brings indoor air quality and comfort to users



Daikin Altherma heat pump

Daikin

<https://www.zehnder.es/>

Product category :



Costs

Construction and exploitation costs

Total cost of the building : 548 920 €

Urban environment

The building is located in the Miraconcha area (Ayete), located on a hill in the city of Donostia - San Sebastián.

Building Environmental Quality

Building Environmental Quality

- indoor air quality and health
- acoustics
- comfort (visual, olfactive, thermal)
- energy efficiency



Energy & Temperate Climates



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