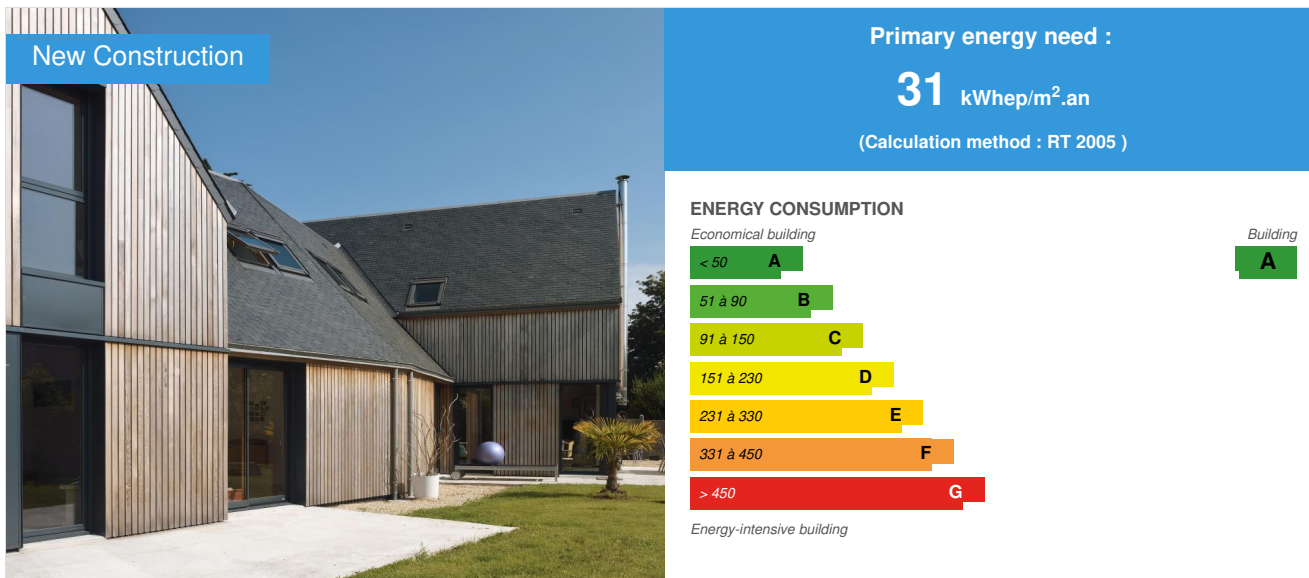


Palud houses

by Dominique BONNOT / 2015-06-18 17:31:36 / France / 27870 / FR



Building Type : Isolated or semi-detached house

Construction Year : 2014

Delivery year : 2014

Address 1 - street : 20 rue des Frères Tilly 22700 PERROS-GUIREC, France

Climate zone : [Cfb] Marine Mild Winter, warm summer, no dry season.

Net Floor Area : 269 m²

Construction/refurbishment cost : 245 000 €

Number of Dwelling : 2 Dwelling

Cost/m² : 910.78 €/m²

Certifications :



General information

This construction project consists on two phases of two detached wooden houses, the parcel with a total area of 638 m² forms two private gardens. SABA performs two individual terraced houses on parcels of 300 m² each. The land is flat. The site is in a rural landscape, hedgerows are bordering the field on Southwest and East.

The surrounding field remain unchanged, only the access of the site will be relocated to fluidify the traffic.

The program consists of two identical houses (four-rooms houses) with very good energy performance (Passivhaus).

Each house is composed of three separate volumes, the residential part is treated in traditional two sides slate roof and zinc deck roof in the same tonality for the saddle.

The main volumes, oriented east-west, shelters the living areas on two levels. The second volumes, more modest, are perpendicular to the first and shelter a room downstairs. The lowest volume is the cellar and its roof terrace create an awning which marks and protects the house entrance.

Sustainable development approach of the project owner

Environmental criteria were paramount in this project while ensuring visual, acoustic and olfactory comfort of the structure.

Architectural description

The program consists of two identical houses (four-rooms houses) with very good energy performance (Passivhaus).

Each house is composed of three separate volumes, the residential part is treated in traditional two sides slate roof and zinc deck roof in the same tonality for the saddler.

The main volumes, oriented east-west, shelters the living areas on two levels. The second volumes, more modest, are perpendicular to the first and shelter a room downstairs. The lowest volume is the cellar and its roof terrace create an awning which marks and protects the house entrance.

These two constructions are designed and constructed on a passive level. They respect the RT 2005 BBC Passivhaus standard with traditional construction techniques by increasing the insulation thickness. The energy consumption of heating, domestic hot water by thermodynamics balloon, dual-flow ventilation, auxiliary and home lighting is 31.0 kWh/m² (less than 42kWh/m² of Passivhaus label) and 6.35 kWh EF/m² year (well less than 15 kWh EF/m² year max of Passivhaus label).

See more details about this project

Stakeholders

Stakeholders

Function : Designer

SABA ARCHITECTES

contact@saba-architectes.com

<http://saba-architectes.com>

Energy

Energy consumption

Primary energy need : 31,00 kWh/m².an

Primary energy need for standard building : 42,00 kWh/m².an

Calculation method : RT 2005

Envelope performance

Envelope U-Value : 0,10 W.m⁻².K⁻¹

More information :

Interior walls - Agglos + LdV 75 + 75mm R = 5.77 - U = 0.14 W / m².K

roof: Rampant - LdV 100mm R = 3.1 - U = 0.08 W / m².K

Attic - LdV 100mm R=3.1 - U= 0,16 W/m².K

ceiling - PUR 100mm R=4.3 - U= 0,11 W/m².K

joineries: PVC Bay DV TFE + Argon with the closure - U= 1.30 W/m².K PF en PVC DV TFE + Argon with the closure - U = 1.20 W / m². K.F PVC DV TFE + Argon with closure - U = 1.20 W / m².K FT wooden DV TFE + Argon without closure - U = 1.40 W / m².K Insulated entrance door - U = 1.40 W / m².K Floor low floor TP

- Insulation 200mm R = 9.09 - U = 0.10 W / m².K

Renewables & systems

Systems

Heating system :

- Low temperature gas boiler
- Wood boiler

Hot water system :

- Other hot water system

Cooling system :

- No cooling system

Ventilation system :

- Double flow heat exchanger

Renewable systems :

- Wood boiler

Environment

Urban environment

Land plot area : 665,00 m²

This construction project consists on two phases of two detached wooden houses, the parcel with a total area of 638 m² forms two private gardens. SABA performs two individual terraced houses on parcels of 300 m² each. The land is flat. The site is in a rural landscape, hedgerows are bordering the field on Southwest and East. The surrounding field remain unchanged, only the access of the site will be relocated to fluidify the traffic.

Products

Product

Red Cedar

saliou menuiserie

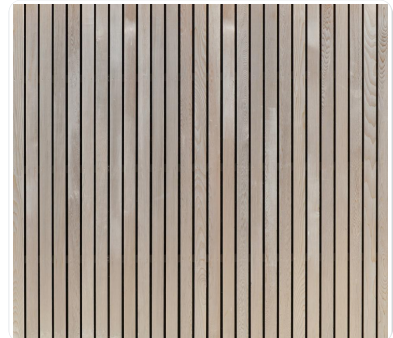
ZA Balaneyer 22700 Saint Quay Perros - 02 96 49 05 40

<http://www.salioumenuiserie.fr/>

Product category : Structural work / Structure - Masonry - Facade

Noble wood, the Red Cedar is a naturally durable without sapwood which takes a beautiful silvery gray color with age. Imported from Canada

This material is appreciated for its natural beauty and durability. Indeed, the red cedar is richly textured. The colors range from pale amber to ochre brown. It allows multiple domestic uses. Free of pitch and resins, it accepts all finishings (oils, dyes, coatings, paints). Thanks to its preservation oils, the cedar naturally resists to the moisture, rot and insects. It is also naturally anti-microbial and fungicidal. It has acoustic properties that prevent the transfer of sound vibrations and is soundproof.



Costs

Construction and exploitation costs

Total cost of the building : 245 000 €

Carbon

GHG emissions

GHG in use : 1,80 KgCO₂/m²/an

Life Cycle Analysis

Eco-design material : The houses are made entirely of wooden frame. They are over-insulated, which has the effect of avoiding the use of triple glazing. Wooden cladding is left natural for the two main volumes. A rendered masonry is used for cellars and for limits constructions, a rainwater recovery system equip them.

Contest

Reasons for participating in the competition(s)

Ces 2 constructions sont conçues et construites au niveau passif. Elles respectent la RT 2005 BBC niveau Passivhaus avec des techniques de construction traditionnelles en augmentant les épaisseurs d'isolant. La consommation énergétique de chauffage, eau chaude sanitaire par ballon thermodynamique, ventilation double flux, auxiliaire et éclairage de la maison est de 31,0 kw hep/m2 (inférieur au 42kwhep/m2 du label Passivhaus) et de 6,35 kwh EF/m2 an (nettement inférieur à 15 kwh EF/m2 an max du label Passivhaus).

Les critères environnementaux ont été primordiaux dans ce projet tout en veillant au confort visuel, acoustique ainsi qu'au confort olfactif de l'ouvrage.

Les maisons sont entièrement réalisées en ossature bois. Elles sont sur-isolées, ce qui a pour conséquence d'éviter l'utilisation du triple vitrage. Le bardage bois est laissé naturel pour les 2 volumes principaux. Une maçonnerie enduite est utilisée pour les celliers et les constructions en limite, une installation de récupération d'eau de pluie les équipe.

Building candidate in the category



Matériaux bio-sourcés et recyclés

