

## Wooden apartment building in Steinfort

by [Polaris Architects](#) / 2017-06-15 12:01:01 / Luxembourg / 9886 / [FR](#)

New Construction



Primary energy need :

**35.8** kWh/m<sup>2</sup>.an

(Calculation method : RGD du 30 novembre 2007 - bâtiment d'habitation )

### ENERGY CONSUMPTION

*Economical building*

< 50 **A**

51 à 90 **B**

91 à 150 **C**

151 à 230 **D**

231 à 330 **E**

331 à 450 **F**

> 450 **G**

*Energy-intensive building*

*Building*

**A**

**Building Type** : Collective housing < 50m

**Construction Year** : 2017

**Delivery year** : 2017

**Address 1 - street** : Ancienne douane, route d'Arlon à Steinfort (L) 8410 STEINFORT, Luxembourg

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

**Net Floor Area** : 1 034 m<sup>2</sup>

**Construction/refurbishment cost** : 3 267 180 €

**Number of Dwelling** : 14 Dwelling

**Cost/m2** : 3159.75 €/m<sup>2</sup>

**Certifications :**



**Proposed by :**



## General information

This wooden passive residence project is exemplary in terms of both its urban integration and its environmental and energy performance. Indeed, the project must respond appropriately to the challenge of addressing the future residence, an important symbolic issue, not only for the Housing Fund, but also for the municipality of Steinfort. The expression of the building is sober and contemporary, the volumetry integrates harmoniously into the profile of the Arlon road. Most of the building, apartments and roofs are constructed of wood, while the basement and vertical walkways are constructed of concrete. The building is designed to meet the Passive Energy Performance Class (AAA) according to the Grand Ducal Regulations and to obtain the international certification label of the PassivHaus Institute Darmstadt. In summary, the present passive residence project has been developed taking into account all relevant stakeholders and aims to propose a consensual solution in the spirit of sustainable development, social responsibility and respect for the environment.

## See more details about this project

<http://www.polaris-architects.com/en/>

## Data reliability

Self-declared

## Stakeholders

## Stakeholders

Function : Structures calculist

Daedalus Engineering s.à r.l.

Matthias Johann

<https://www.daedalus.lu>

Civil engineering

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Function : Structures calculist

Betic

Guillaume Dewez

<http://www.betic.lu/>

Technical Engineering

## Owner approach of sustainability

- The objective was to conceptualize a sustainable and passive building. - The specificity of the project is that the basement that was built in concrete as well as the common circulations are not in the thermal envelope.

## Architectural description

The present passive residence project has therefore been conceived in the spirit of sustainable development, social responsibility and respect for the environment

## Energy

### Energy consumption

Primary energy need : 35,80 kWh/m<sup>2</sup>.an

Primary energy need for standard building : 45,00 kWh/m<sup>2</sup>.an

Calculation method : RGD du 30 novembre 2007 - bâtiment d'habitation

## Renewables & systems

# Systems

## Heating system :

- Heat pump

## Hot water system :

- Heat pump

## Cooling system :

- Water chiller

## Ventilation system :

- Double flow heat exchanger

## Renewable systems :

- Solar Thermal

# Products

## Product

Wood frame: Brettschichtholz BSH

Schmelter GmbH

info@schmelter.de

<http://www.schmelter.de/kontakt>

**Product category :** Gros œuvre / Structure, maçonnerie, façade

The wooden framework that has been put in place is a durable, ecological and local material. Characteristic:  $\lambda = 0.13$  (W / mk), thickness: 24 cm



The workers on the site used to use this type of material. The client has accepted the materials.

Wood fiber insulation: Sto: Weichfaserplatte MO42

Knauf Insulation

info@knauf.fr

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

Product category : Second œuvre /  
Cloisons, isolation

The wood fiber insulation that has been put  
in place is a durable, ecological and local  
material. Characteristic:  $\lambda = 0.042$  (W / mk),  
thickness: 10 cm



The workers on the site used to use this type of material. The client has accepted the materials.

## Costs

### Construction and exploitation costs

Total cost of the building : 3 267 180 €

### Urban environment

- bus stop - P & R - Gas stations - Bakery - Restaurants - Pharmacie

### Land plot area

Land plot area : 1 940,00 m<sup>2</sup>

### Built-up area

Built-up area : 539,00 %

### Green space

Green space : 195,00

### Parking spaces

18 parking spaces = 1,3 per accommodation

## Building Environnemental Quality

### Building Environmental Quality

- energy efficiency
- integration in the land
- products and materials

## Contest

### Building candidate in the category



Energie & Climats Tempérés



Coup de Cœur des Internautes



Grand Prix Construction Durable

Date Export : 20230830052210