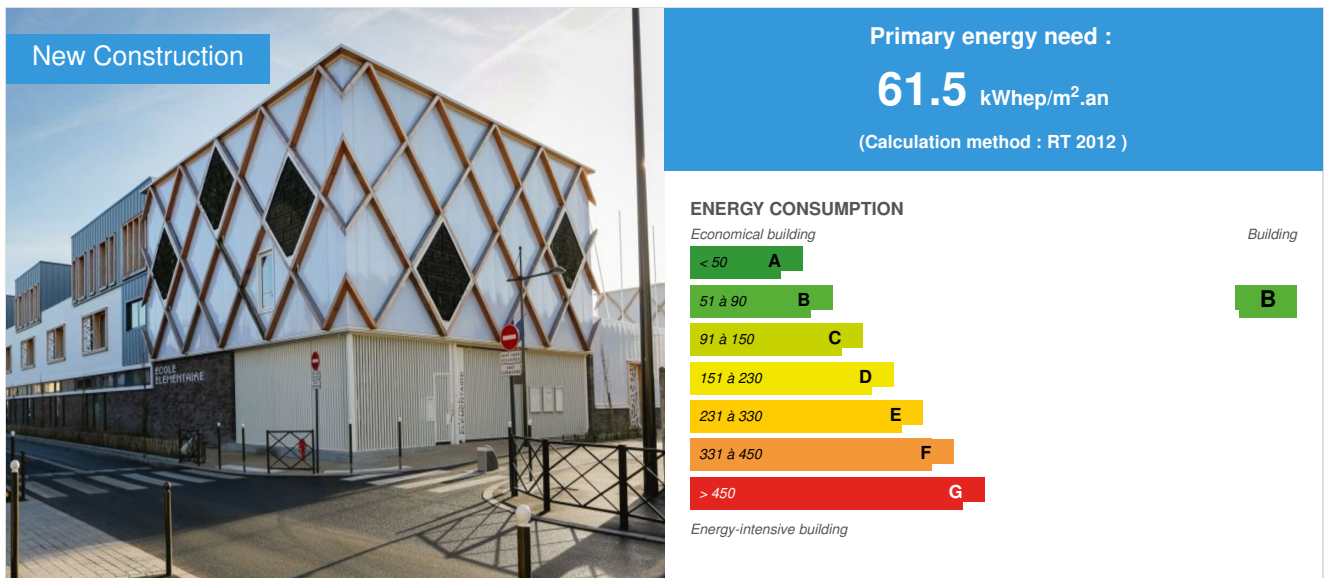


Simone-Veil School

by Ana Pachon / 2021-03-10 16:28:00 / France / 6591 / FR



Building Type : School, college, university
Construction Year : 2018
Delivery year : 2019
Address 1 - street : 177 Rue Henri Barbusse r 95100 ARGENTEUIL (95), France
Climate zone : [Cfb] Marine Mild Winter, warm summer, no dry season.

Net Floor Area : 5 833 m² SHON
Construction/refurbishment cost : 18 000 000 €
Cost/m2 : 3085.89 €/m²

Certifications :



General information

Located in Argenteuil in the Val-d'Oise, the Simone-Veil School is a new building inaugurated on the occasion of the start of the school year in September 2019, part of the transformation of the Val-Notre Dame district. Built on three levels, this complex has 20 classes from kindergarten to elementary school, several activity rooms and a multipurpose room.

Program : 5,833 m 2

Contracting Authority : City of Argenteuil

Architect : Ville d'Argenteuil Architects

- Building in 90% wood construction: Wood Structure CLT design (technique and exposed wood)
- Using virtuous design materials (wood insulation, linoleum, local wood, paint algo, etc.)
- Energy Design: district heating network connection, CTA turbofan and CO2 sensors, LED lighting
- Carbon Energy level (E + C- label) E3C1 with connection to the district heating network

Sustainable development approach of the project owner

Environmental ambitions were the priority for this project. The aim was to forget the image of the old industrial site on which the school group is built by opting for a contemporary architecture, giving pride of place to natural, biobased materials. and low-carbon like wood. From the mesh facades to the posts supporting the courtyard, including the window frames and the building's framework, this virtuous material is omnipresent, which has earned the building the "E + C" label. - "with an E3C1 level (called" low consumption ").

Today, the schoolchildren and educational staff of the Simone Veil School have the joy of living in a pleasant place to live, which benefits from an atypical appearance and efficient thermal insulation capacities.

Architectural description

Faced with the dual issue of lead time and an eco-responsible construction method, the proposal aims to design the prefabricated structure of the building in solid cross-laminated timber panel (CLT) and timber frame walls (MOB). Among the advantages of this construction technique in wood, many apply to school programs: increased thermal and acoustic insulation, healthy indoor climate, light material and surface gain compared to a traditional construction, is particularly resistant to fires, less finishing if the appearance of the wood is retained (1 section of the circulation wall and the classroom wall on the blackboard side).

See more details about this project

https://www.terao.fr/portfolio_item/nouveau-lycee-dargenteuil-100-bois-label-ec-niveau-carbone-2/

https://www.myral-pro.com/fr/realisations-isolation-thermique-exterieur/groupe-scolaire-simone-veil-argenteuil-95_116.html

Photo credit

City of Argenteuil Architects - Myral

Stakeholders

Contractor

Name : Ville d'Argenteuil

Contact : Joël MISCHKE

<https://www.argenteuil.fr/>

Construction Manager

Name : Ville d'Argenteuil Architectes

Contact : Joël MISCHKE

<https://www.argenteuil.fr/>

Stakeholders

Function : Thermal consultancy agency

TERAO

Paul Clément

<https://www.terao.fr/>

Support for the Contracting Authority and the Project Management in the definition of low carbon performance objectives

Function : Other consultancy agency

CET Ingénierie

<http://cet-ingenierie.fr/>

Design office

Function : Company

SAS Poulingue

<https://www.poulingue.fr/>

Construction

Energy

Energy consumption

Primary energy need : 61,50 kWh_{ep}/m².an

Primary energy need for standard building : 107,90 kWh_{ep}/m².an

Calculation method : RT 2012

Real final energy consumption

Final Energy : 62,00 kWh_{ep}/m².an

Envelope performance

More information :

53.5 Bbio - 79.2 Bbio max, i.e. a gain of 32%

More information

61.5 CEP 107.9 CEP: max 39.7 kWh_{ep} for RT uses (within the meaning of the RT calculation) 62 kWh_{ep} including consumption excluding RT (within the meaning of the E + C- standard)

Renewables & systems

Systems

Heating system :

- Condensing gas boiler
- Urban network

Hot water system :

- Condensing gas boiler
- Urban network

Cooling system :

- No cooling system

Ventilation system :

- Nocturnal ventilation
- Double flow heat exchanger

Renewable systems :

- No renewable energy systems

Solutions enhancing nature free gains :

Protections solaires, orientation

Environment

Urban environment

Located between Henri-Barbusse and Michel-Carré streets, the school group will help relieve the surrounding schools of Ambroise-Thomas, Jean-Jacques-Rousseau and Anne-Frank. A place to meet the reception needs of the district, where the population to be educated is increasing.

- 8 nursery classes, 12 elementary (gradual opening over several school years)
 - 2 leisure centers (nursery and elementary)
 - several activity rooms
 - catering common to the entire school group, with 2 nursery / elementary canteens
 - 1 playground for kindergarten, 2 for elementary
 - caretaker's accommodation
 - multipurpose room, open outside school hours and days for residents of the area
 - 1 service road between Michel-Carré and Henri-Barbusse streets
-

Construction and exploitation costs

Total cost of the building : 18 000 000 €

Carbon

GHG emissions

GHG in use : 7,60 KgCO₂/m²/an

Methodology used :

E + C-

GHG before use : 719,00 KgCO₂/m²

Building lifetime : 50,00 année(s)

, ie xx in use years : 94.61

E + C-

Life Cycle Analysis

Material impact on GHG emissions :

719

Contest

Reasons for participating in the competition(s)

The key issue - Low carbon and biobased design:

Reducing the carbon impact of energies in use

- Inspired by the negawatt approach, energy needs have been reduced, in particular by a high-performance BBC type envelope.
- In order to meet the remaining needs, in particular heating and DHW, the building will be supplied by the Argenteuil urban network deployed on the ZAC, mainly supplied by the combustion of household waste, for minimal extraction of fossil energy.
- Dual flow air handling units, CO₂ sensors and LED lighting.
- The equivalent performance level according to the E + C- standard is the E3C1 level.

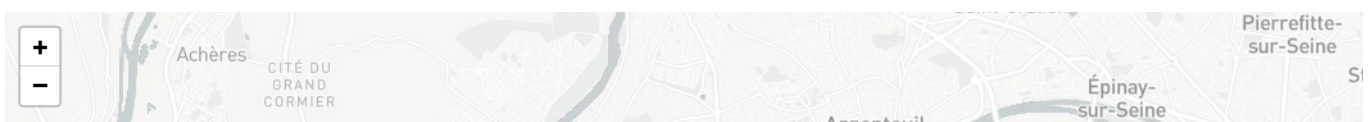
Reducing the carbon impact of materials

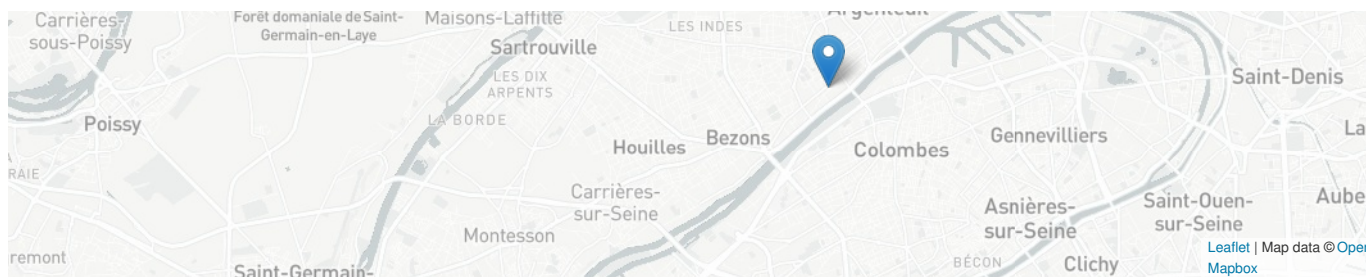
- The main asset of the construction is its wooden structure, on almost all the elements (load-bearing walls, floors, facade, staircase). The superstructure is thus a combination of different construction techniques (timber frame walls, CLT, O'portune® floors) depending on technical constraints (wood, linoleum and local wood insulation).
- The search for visible coverings (wooden walls in circulation, absence of false ceilings) also contributed to the reduction of the carbon impact linked to the finishing work.
- Another notable point is the use of seaweed-based paint, produced in Brittany, Algo, on all painted surfaces.
- For a reduction of the carbon impact of 200 kgeqCO₂ / m² compared to a "standard" construction, ie a gain of 20% of CO₂, or the equivalent of carbon offsetting the emissions of 120 French people over one year.

Building candidate in the category



Bas Carbone





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