


# Extension of the leisure center of Mézières-en-Drouais

by Emmanuel d'Envirobot Centre / 2019-06-14 11:38:05 / France / 4912 / FR



**Primary energy need :**

**82.9** kWhep/m<sup>2</sup>.an

(Calculation method : )

**ENERGY CONSUMPTION**

Consumption Range (kWh/m <sup>2</sup> .an)	Grade
< 50	A
51 à 90	B
91 à 150	C
151 à 230	D
231 à 330	E
331 à 450	F
> 450	G

*Economical building* (A-C) / *Energy-intensive building* (D-G)

**Building Type** : Other building  
**Construction Year** : 2018  
**Delivery year** : 2018  
**Address 1 - street** : 30 Grande rue 28500 Mézières-EN-DROUAI (28500), France  
**Climate zone** : [Cfb] Marine Mild Winter, warm summer, no dry season.

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**Net Floor Area** : 106 m<sup>2</sup>  
**Construction/refurbishment cost** : 309 954 €  
**Number of none** : 20 none  
**Cost/m<sup>2</sup>** : 2924.09 €/m<sup>2</sup>

Proposed by :



## General information

The Sports and Cultural Association of Mézières, which offers extracurricular activities and recreation on an intercommunal scale, wanted to expand its premises to increase its capacity on the site.

The program consisted of an extension of 100 m<sup>2</sup> including a large room of 60 m<sup>2</sup>, an office, service premises (warming and diving office) and sanitary.

The project consists of a simple ground floor volume located at a distance from the main building and adjoining the annex building, providing an "in-between", a transition space housing the circulations.

### Sustainable development approach of the project owner

The creation of this extension responds to the need to increase the childcare capacity for the leisure center. By its accessibility to people with reduced mobility, this book will also facilitate the realization of inter-generational activity. The book will also help to give impetus to the sporting, artistic and cultural practice by

meeting the needs of the youngest and the oldest .

## Architectural description

The new building is part of an existing complex, consisting of a "bourgeois" one-storey house with attic, housing the current leisure center and an outbuilding hosting a youth information point. The project consists of a simple ground floor volume located at a distance from the main building and adjoining the annex building, providing an "in-between", a transition space housing the circulations. The extension takes up the alignment of the main building and offers visual relations between the existing recreation center and the wooded area of the parcel. Although the land is relatively large, the existence of a flood zone and the rules of the local urbanism plan drastically reduce the building surface. Tirant part of a constraint dictated by the flood of the land that required to raise the building of a quarantine centimeters, outdoor stands placed in the extension of the activity room to the garden were designed to be appropriate by children and animators. The choice of wood facade allows to establish a dialogue between the contemporary intervention and its immediate context but also more widely on the scale of the town, whose church is classified (perimeter of Historic Monuments protection).

## See more details about this project

<https://cutt.ly/lozmf6>

<https://cutt.ly/zozmx0>

<https://cutt.ly/FozE93>

## Photo credit

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## Stakeholders

### Contractor

**Name :** Association Sportive et Culturelle de Mézières

**Contact :** ascmezieres[at]wanadoo.fr -

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

### Construction Manager

**Name :** Laure-Hélène DOERLER

**Contact :** lhdo[at]lhdo-architecture.com

<http://lhdo-architecture.com/>

### Stakeholders

**Function :** Structures calculist

BABI BET Structure

<http://www.agencebabi.com/>

**Function :** Thermal consultancy agency

MAYA Construction Durable

Max MAUREL

<http://maya-concept.com/>

## Energy

### Energy consumption

Primary energy need : 82,90 kWhep/m<sup>2</sup>.an

Primary energy need for standard building : 154,60 kWhep/m<sup>2</sup>.an

Calculation method :

CEEB : 0.0002

Breakdown for energy consumption : Heating: 53.5 kWh.e.p / m<sup>2</sup> / year Hot water: 2.0 kWh.e.p / m<sup>2</sup> / year Ventilation: 7.0 kWh.e.p / m<sup>2</sup> / year Auxiliary: 1.5 kWh.e.p / m<sup>2</sup> / year Lighting: 19.0 kWh.e.p / m<sup>2</sup> / year

### Real final energy consumption

Final Energy : 65,60 kWh/m<sup>2</sup>.an

## Envelope performance

Envelope U-Value : 0,31 W.m<sup>-2</sup>.K<sup>-1</sup>

## More information

**VERTICAL WALLS facing outside:** The building is constructed of timber framed walls with wood fiber insulation sandwiched between the 145 mm + 6 cm thick wood fiber insulation on the inside covered with a vapor barrier. Interior finish: plasterboard OSB bracing panel on the outside (as requested by the Technical Controller, see below), anti-UV rain film. Exterior Cladding: Solid Wood Blades Exterior Finish: Double Cladding Cladding **FLOOR LOW:** The low floor is built in floor beams concrete beams (land in flood zone) **ROOF:** The frame is made of glulam: crossbow and failures. The roof is treated like a cold roof with the installation of counter-battens under the doors to create an air space, which are themselves placed on wood fiber underlayment panels (acoustic and thermal insulation). ) fixed on the rafters. The insulating panels on the underside of the roof, between and under the framing timber faults are made of rock wool because of the nature of the false ceiling put in place (suspended ceiling suspended in mineral slabs 60x60) for questions of economy, because wood fiber does not have sufficient fire resistance The cover complex is the following (from the outside to the inside): - pre-patinated zinc cover (request from the Architect of Buildings of France) - counter-battens on wood fiber panels (covered with under-roofing film) fixed on wooden rafters (fixed on the framing faults) carpentry: Double glazed wood and triple glazing for roof frames.

## Renewables & systems

### Systems

#### Heating system :

- Urban network
- Low temperature floor heating
- Wood boiler

#### Hot water system :

- Individual gas boiler

#### Cooling system :

- No cooling system

#### Ventilation system :

- Single flow

#### Renewable systems :

- No renewable energy systems

## Environment

### Urban environment

The new building is part of an existing complex, consisting of a "bourgeois" one-storey house with attic, housing the current leisure center and an outbuilding hosting a youth information point. The choice of wood facade allows to establish a dialogue between the contemporary intervention and its immediate context but also more widely on the scale of the town, whose church is classified (perimeter of Historic Monuments protection).

## Products

### Product

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

The sunscreens on the west facade of the building are slatted shutters (vertical wood slats of the external cladding).

Contrary to what was foreseen during the studies and validated by the technical controller during his initial report, the company in charge of the frame lot was forced to put the bracing panel on the external face of the timber frame wall, whereas it was originally planned on the internal side.

In keeping with the DTU (Unified technical document), the Technical Controller never agreed to accept the calculation note for water vapor transmission wood frame walls transmitted by the thermistor (in accordance with RAGE 2012 and EN 13788).

**Product category :**

## Costs

### Construction and exploitation costs

Total cost of the building : 309 954 €

## Health and comfort

### Comfort

Health & comfort :

**The choice of "all wood"** , versatile material natural and warm, meets a multiple objective:

- The use of wood contributes to the feeling of comfort and hospitality and contributes to a satisfactory indoor air quality. The wood fiber insulation offers a significant phase shift for summer comfort.
- The wood shutters in the north-west facade are lightened-vertical way to sift the light of the West.

Whether in terms of **air quality and comfort** related to the effusivity of materials, attention has been paid to users. For example, the floor coverings are made of natural linoleum (surface finish without metallization) and the tiling or earthenware was chosen for the walls of the damp rooms. For the other walls, the choice fell on paints without volatile organic compounds. Comfort is also expressed in the **quality of use, in** particular by a **playful design of the details** designed for children:

- The building, elevated due to the unspoiled nature of the land, is accessible by a low-slope ramp whose opening is supported on the outside by wooden posts arranged according to a variable pattern. This arrangement makes it possible to have a protection of the elements without having a closed frontage and to give more depth of field windows of the existing building located in front. It is also a filter for southern light which also offers games of sight on the existing building and plays of light with the late morning sun that move as the sun rises.
- The installation of wooden steps on the garden facade, in the extension of the activity room and across the width of the glazed windows, offers children an indoor / outdoor transition space that they can appropriate to play and who can make Bleacher for small outdoor shows.
- The faience tile cover placed above the children's washbasin features 4 slant mirrors in a tile, located at the child's eye level to allow them to look at each other and make faces.

## Carbon

### GHG emissions

GHG in use : 16,00 KgCO<sub>2</sub>/m<sup>2</sup>/an

Methodology used :

Regulatory thermal study

## Contest

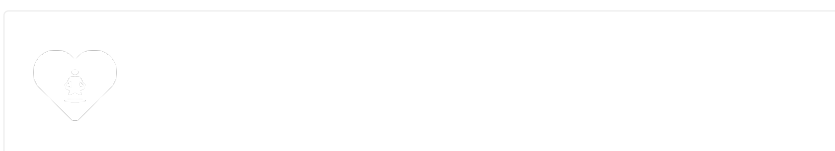
### Reasons for participating in the competition(s)

The use of wood contributes to the feeling of comfort and welcome and contributes to a satisfactory indoor air quality. The wood fiber insulation offers a significant phase shift for summer comfort.

Whether in terms of air quality or comfort linked in particular to the effusivity of materials, attention has been paid to users. For example, the floor coverings are in natural linoleum or tiling and on the walls the choice fell on the faience and the use of paints without volatile organic compounds.

Comfort is also expressed in the quality of use including a playful design details designed at the children's scale.

### Building candidate in the category





Santé & Confort



Prix du public



Prix des Etudiants



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