The Grande Halle de Colombelles

by Anne Galloux / 2021-06-11 00:00:00 / France / 4023 / FR

Primary energy need :

41 kWhep/m^2.an

(Calculation method : RT existant)

ENERGY CONSUMPTION

Economical building *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 Type : Other building
Construction Year : 1917
Delivery year : 2019
Address 1 - street : Rue des Ateliers 14460 COLOMBELLES, France
Climate zone : [Cwb] Mild, dry winter, cool and wet summer.

Net Floor Area : 3 650 m^2 SHON
Construction/refurbishment cost : 5 800 000 €
Cost/m2 : 1589.04 €/m^2

General information

Third place of the circular economy

Last vestiges of the gigantic Société Métallurgique de Normandie (SMN) whose blast furnaces were established in 1917 on the Colombelle plateau north-east of the agglomeration of Caen, the electrical workshop and the vertiginous refrigerant are the last symbols physical aspects of this burning history, the last casting of which took place in 1993. In order to reconvert the site, SEM Normandie Aménagement has initiated a collaborative approach, and imagined the future of this large concrete hall into an innovative workplace and culture that more particularly welcomes players in the collaborative and circular economy.

The envelope carrying memory is repaired but generally preserved. Inside the small nave are three wooden levels with a café-restaurant and workshops on the ground floor, collaborative workspaces and rehearsal spaces on the upper floors. Large wooden balconies extend these corbelled workspaces over the large nave, which has been left almost as it is. It is the meeting place and gathering place of the Grande Halle, hosting all types of cultural or professional events.

La Grande Halle was the opportunity to apply an ambitious approach to reusing construction materials in the context of an ERP building. With a process involving all stakeholders, from project management to companies, many elements of the Grande Halle thus come from deconstruction sites in the region: radiators, toilets, wood, earthenware, windows and fire doors….

Foreshadowing a construction method put in place for the Grande Halle, the ETC collective has created the Cité de Chantier at the foot of it from materials resulting from reuse. She welcomed the users by foreshadowing the functioning of the place.

Sustainable development approach of the project owner

Normandie Aménagement takes the sustainable approach to its heart in the various operations it carries out.

Through the first two labeled eco-neighborhoods developed on the CU Caen la mer (by including in particular an in situ nursery in order to revegetate the neighborhoods on site), the enhancement and requalification of industrial-port wasteland in order to renew the city on it. even, as well as through its real estate development operations by always going further in the design of efficient, sustainable and inclusive buildings (E + C- and RE 2020).
Through this virtuous and emblematic operation of the Grande Halle, Normandie Aménagement invites us to question our construction and rehabilitation techniques. Making it possible to experiment, on this scale, with the reuse of materials by devoting a dedicated market batch to it, demonstrates the collective and partnership capacity to broaden the field of possibilities.

Questioning the future of buildings at the time of their design (deconstruction, reversibility, etc.) are project approaches that are spreading for the future of our territories and of those who live there and will live there.

Architectural description

The original envelope, carrying memory, consisting of two concrete naves, has been preserved and repaired. Inside the small nave were built two wooden levels that slide into it, with a café-restaurant and workshops on the ground floor, collaborative workspaces and rehearsal spaces on the upper floors. Large wooden balconies extend these corbelled workspaces over the large nave, which has been left almost as it is. It is the place of meetings and gatherings welcoming all types of cultural or professional events.
The investment was concentrated on uses and working comfort, leaving the continuation of the appropriation of facades to local graffiti artists.

If you had to do it again?

Discussions with the craftsmen who took part in the construction (separate building trades) revealed a great interest on their part in reuse practices. The majority of them said that if given the opportunity, they would again respond to a market for the implementation of re-used materials.

See more details about this project

http://encoreheureux.org/projets/grande-halle/

Photo credit

Cyrus Cornut

Stakeholders

Contractor

Name : NORMANDIE AMENAGEMENT
Contact : a.galloux[a]normandie-amenagement.fr
http://www.normandie-amenagement.com

Construction Manager

Name : Encore Heureux
Contact : lucie[a]encoreheureux.org
http://encoreheureux.org/

Stakeholders

Function : Site manager

Le WIP

ophelie[a]le-wip.com

https://www.le-wip.com/
Control of use and users of the Grande Halle

Function : Environmental consultancy

Aubry et Guiguet

https://agstudio.fr/studio/
Programmer

Function : Designer

Construire

http://construire-architectes.over-blog.com/

Function : Environmental consultancy

Motta Paysagistes

http://lilianamotta.fr/
Landscaper and reclamation of polluted land

Function : Other consultancy agency

Cap Exe

OPC

Function : Other consultancy agency

Albert et Compagnie

https://albert-and-co.fr/
Environmental design office

Function : Structures calculist

Ligne BE

Function : Other consultancy agency

T&E Ingénierie

Fluid design office

Function : Environmental consultancy

ECRH

Economist

Function : Other consultancy agency

Ateve Ingénierie

https://www.ateveingenierie.com/
VRD

Type of market

Global performance contract

Energy

Energy consumption

Primary energy need : 41,00 kWhep/m^2.an

Primary energy need for standard building : 97,00 kWhep/m^2.an

Calculation method : RT existant

Initial consumption : 163,00 kWhep/m^2.an

Real final energy consumption

Final Energy : 41,00 kWhef/m^2.an

Renewables & systems

Systems

Heating system :

- Wood boiler

Hot water system :

- No domestic hot water system

Cooling system :

- No cooling system

Ventilation system :
- Natural ventilation

Renewable systems :
- Wood boiler

Other information on HVAC :
The building is heated using wood pellet boilers, equipped with an 85 m3 tank. This type of heating is particularly interesting from an environmental point of view, and meets the ecological requirements of the project.

Environment

Urban environment

Land plot area : 36 000,00 m^2

The Société Métallurgique de Normandie suddenly disappeared from the Caen landscape in 1993: 160 hectares, thousands of square meters of buildings, more than six thousand workers and their families were swept away by the steel crisis and relocations. Eager to overcome this trauma, the communities are embarking on a vast ZAC project, led by Normandie Aménagement. On this desolate plateau, a gigantic cooling tower and a double hall are the last vestiges of the industrial epic. Two majestic concrete scars resisted the demolition and seemed to await the audacity which was going to reinvest them. This emerges following numerous public meetings: what was previously the old electrical workshop will host an innovative third-place project oriented towards the circular economy. Through the active presence, it is a gradual reconquest of the wasteland that is at stake, like the two faces of the Grande Halle: a small nave fitted out for multiple activities (restaurant, workspaces and manufacturing workshops), attached to a large nave with rough walls, free and suitable for appropriation.

Costs

Construction and exploitation costs

Cost of studies : 320 000 €

Total cost of the building : 5 800 000 €

Circular Economy

Reuse : same function or different function

Batches concerned by reuse :
- Structural framework
- Indoor joineries
- Outdoor joineries
- Floorings
- Isulation
- Heating ventilation air conditioning
- Plumbing
- others...

For each batch : Reused Materials / Products / Equipments :

The materials that have been reused are as follows:

- 190 m2 of earthenware and tiles

- 430 m2 of mineral wool type insulation.

- 49 heaters (25 cast iron, 24 steel)

- 5 urinals

- 11 toilets

- 12 sinks

- 10 doors including a fire break. Min: 10 single solid oak doors dating from 1930. Reused openings. Realization of custom frames.

- 1 exterior carpentry. Mex: 1 mex 120 * 120 black aluminum, swing-out, double glazing

- 21 wooden purlins (structural elements of the balcony of the large nave), i.e. 63 mL

Reused materials rate :

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- 10 doors including a fire break.

- 1 exterior carpentry.

- 21 wooden purlins (structural elements of the balcony of the large nave).

Field of use and material origin :

Most of the materials have been used for the same purpose as their initial use.

The exterior carpentry is the result of an office demolition operation near the main hall.

The doors are the result of an energy rehabilitation operation for social housing in the Caen region.

Most of the materials come from selective dismantling as part of selective dismantling or demolition operations in the region. The sourcing and characterization of these materials as well as the monitoring of selective dismantling and logistics were provided by the association Le Wip, holder of Lot 01.

Environmental assessment

Impacts avoided : water, waste, CO2 :

On this project, the reuse of materials made it possible to avoid:

The emission of 11.4 tonnes eqCO2

The use of 1779m3 of water

The production of 28 tonnes of waste

The calculation of these impacts was made on the basis of environmental data from the INIES database.

For more details: a Life Cycle Analysis study was carried out by Frédéric Adam from the G-on design office (see pdf document; environment tab)

Economic assessment

Total cost of reuse : 146 000 €

Cost of reuse in percentage of the operation : 2 %

Carbon

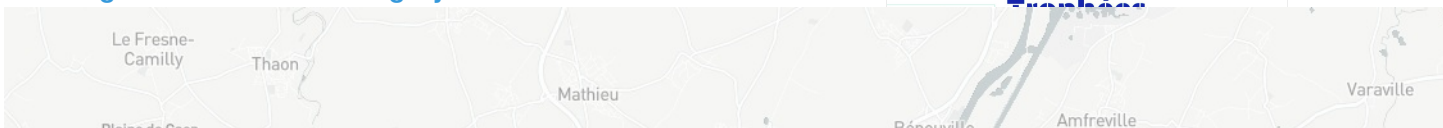
Life Cycle Analysis

Contest

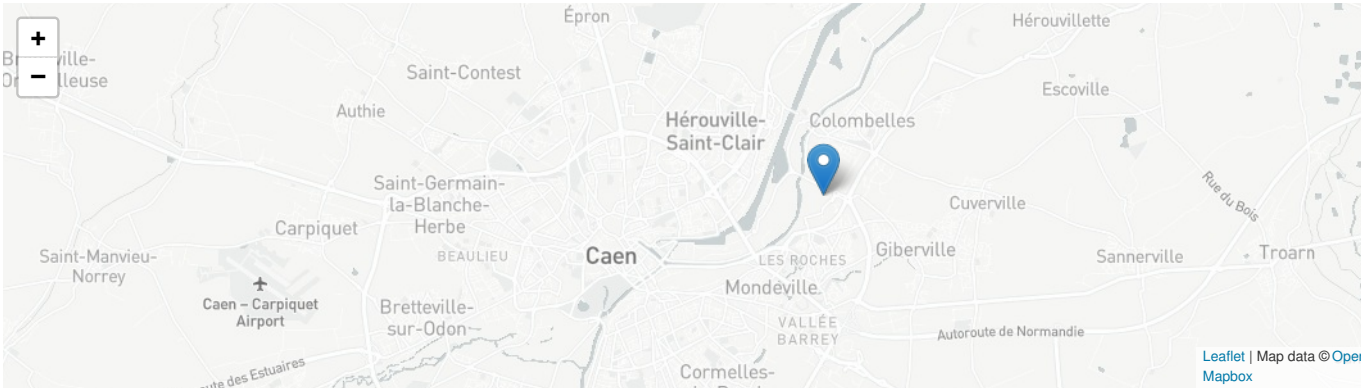
Reasons for participating in the competition(s)

The Grande Halle project is particularly interesting and innovative from the point of view of the circular economy; it is indeed the first building to set up a lo t01 entirely dedicated to reuse, in order to support companies likely to be affected by the reuse of materials throughout the worksite. It was also the site of the constitution of a CCTP with variant, known as "with holes", which came to facilitate and standardize the setting up of large-scale reuse. These innovations then become very replicable, because they emerge from a very adaptable construction methodology. In addition, it is about a project which was the place of the installation of a very important quantity of materials of reuse.

Building candidate in the category



Bâtiments Tertiaires / prix de la rénovation



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