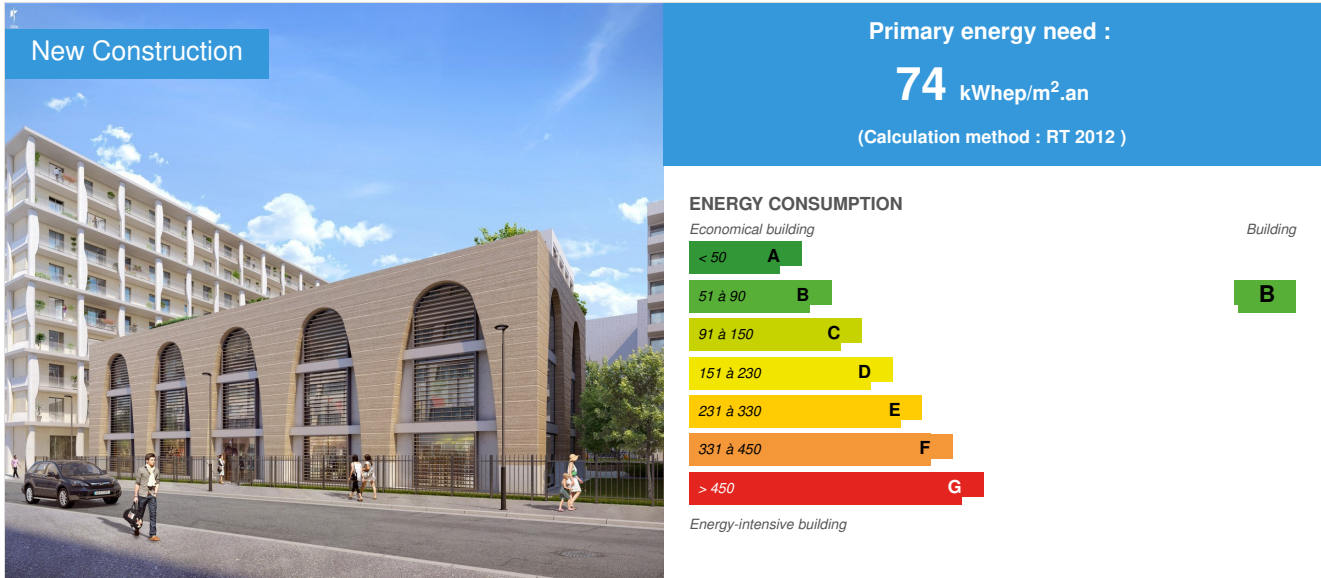


The Orangery: a raw earth building within Confluence

by Laurent Sève / 2021-03-25 17:54:08 / France / 11508 / FR



Building Type : Office building < 28m
Construction Year : 2018
Delivery year : 2020
Address 1 - street : 3 rue Jacqueline et Roland de Pury 69002 LYON, France
Climate zone : [Cfb] Marine Mild Winter, warm summer, no dry season.

Net Floor Area : 1 055 m²
Construction/refurbishment cost : 2 243 801 €
Number of Work station : 84 Work station
Cost/m² : 2126.83 €/m²

Certifications :



General information

Within the Ydéal Confluence operation, the Orangery is an office building in R+2 built in adobe (raw earth) load-bearing and equipped with a wooden frame. The natural insulating qualities of rammed earth make it an energy efficient building, so it does not need to be air conditioned. The materials (earth and wood) are exclusively from the Rhône-Alpes region. The building is NF HQE, Effinergie+ and BREEAM Excellence certified, and the operation won the silver pyramid regional grand prize and the low carbon vermeil pyramid at the 2019 FPI trophies.

Sustainable development approach of the project owner

Through its projects, both residential and tertiary, OGIC promotes four main axes: a greener city, more resource efficient, more united and more beautiful. This philosophy has resonated with the ambitions of the SPL Lyon-Confluence, and has made it possible to develop in this former industrial area in the heart of Lyon the city of tomorrow, more sustainable and smarter.

Rammed earth is an ancestral method of construction in the Rhône-Alpes region but it had never been used for a building of this height (R+2) with such a structure endowed with large arches. The objective was to build a sober and sustainable building, both through its construction system using local and natural materials (load-bearing rammed earth structure, stone foundations, and wooden frame) and in use, rammed earth being an excellent natural insulator which makes it possible, among other things, to dispense with air conditioning in summer. It is a demonstration building in view of future climate change.

The undeniable success of this project has led OGIC to consider the use of adobe in other projects and to develop innovative and ecological construction methods.

Architectural description

The building in R+2 within a block made up of 3 other buildings in R+7 and one in R+8 makes it possible to open the latter on the street and the district, instead of locking it up. In addition, the choice to equip it with large arches evoking orangeries such as that of the Parc de la Tête d'Or (hence the name "L'Orangery") makes it naturally luminous and inscribes it in architectural history. from Lyon.

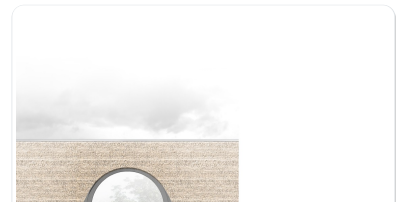
The choice of materials was also guided by a real green ambition: the earth (which requires a certain level of clay to be viable) comes from Saint-Quentin-Fallavier, 30 kilometers from Lyon, and the wood from the French Alps. .

See more details about this project

<https://www.groupe-ogic.fr/realisation/ydeal-confluence-lyon/>

Photo credit

Perspectives and plans: Clément Vergély Architects, Asylum
Photos on site: Olympe Nergoux



Stakeholders

Contractor

Name : SAS Lyon 2 Confluence - OGIC

Contact : Magali le Coadic

<http://www.ogic.fr>

Construction Manager

Name : Clément Vergély Architectes

Contact : Clément Vergély

<http://www.vergelyarchitectes.com>

Stakeholders

Function : Company

Le Pisé

Nicolas Meunier

<http://www.construction-pise.fr>

Construction of the rammed earth structure

Function : Thermal consultancy agency

Etamine

Léa Caudron-Fournier

<http://www.etamine.coop>

HQE design office

Function : Company

Nugues

Pascal Nugues

<https://www.charpentes-nugues.fr>

Wood frame

Function :

Batiserf Ingénierie

Philippe Clément

<https://batiserf.com>

Structural studies

Function : Company

ABC Borne

Alexis Borne

<http://www.abcborne.fr>

Sealing of the building

Function : Company

Green Style

<https://www.greenstyle.fr>

VRD and green spaces

Function : Certification company

Socotec Construction

Christophe Reyre

<https://www.socotec.fr>

Technical controller

Function : Company

YSO Électrique

Yann Simon

Electricity CFO-CFA

Function : Company

Oriol

Gaëtan Roubin

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

Plumbing - Heating - VMC - Bathroom furniture

Function : Company

Lofoten Bois

Éric Vialatoux

<http://www.lofoten-bois.com/>

Exterior wood joinery

Function : Company

Contracting method

Separate batches

Type of market

Global performance contract

Energy

Energy consumption

Primary energy need : 74,00 kWhep/m².an

Primary energy need for standard building : 150,00 kWhep/m².an

Calculation method : RT 2012

Envelope performance

Indicator : EN 13829 - q50 » (en m3/h.m3)

Air Tightness Value : 1,00

Renewables & systems

Systems

Heating system :

- Urban network

Hot water system :

- Urban network

Cooling system :

- No cooling system

Ventilation system :

- Double flow heat exchanger

Renewable systems :

- Solar photovoltaic

Renewable energy production : 34,00 %

Other information on HVAC :

Double flow adiabatic CMV

Collective self-consumption system with pooled photovoltaic production over the entire island

Environment

Urban environment

Land plot area : 3 995,00 m²

The islet is located next to the regional council of Auvergne Rhône-Alpes and the François Mitterrand esplanade which adjoins it.

Nearby is the "Hôtel de Région - Montrochet" tram station (lines T1 and T2), which quickly connects with the metro network ("Perrache" - line A, or "Debourg" - line B) and the network. SNCF rail at Perrache (main lines) or Jean Macé (TER) stations. The district is also rich in Vélo'v stations, and the river shuttle connects Confluence to Saint-Paul (Vieux Lyon) via Bellecour.

The islet has shops on the ground floor of buildings 2 and 3, and a crèche on the ground floor of building 1. The commercial offer in the surrounding area is dense, especially with the presence of the shopping center Confluence.

The 5 buildings on the block are organized around a central garden courtyard. A few hundred meters away is the Confluence nautical dock. The tip of the Presqu'île, next to the Musée des Confluences, is designed for walking, and on the other side of the Rhône is the Parc des Berges, extended to the south by the Parc Henri Chabert or Parc de Gerland.

Costs

Construction and exploitation costs

Total cost of the building : 2 243 801 €

Energy bill

Forecasted energy bill/year : 5 078,00 €

Real energy cost/m² : 4.81

Real energy cost/Work station : 60.45

GHG emissions

GHG in use : 2,00 KgCO₂/m²/an

Contest

Reasons for participating in the competition(s)

L'Orangery est un bâtiment fondamentalement durable, tant dans son mode constructif (utilisation de matériaux naturels originaires dans la région Rhône-Alpes) que dans son usage : économies d'énergie (chauffage, climatisation, électricité) obtenues grâce aux qualités isolantes du pisé qui ne nécessite pas de climatisation en été et à de grandes ouvertures vitrées, économies d'eau par l'utilisation des eaux de pluie dans les sanitaires, toiture végétalisée contribuant à déminéraliser la ville.

Building candidate in the category



Bas Carbone



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