Colbert Post Office - Marseille

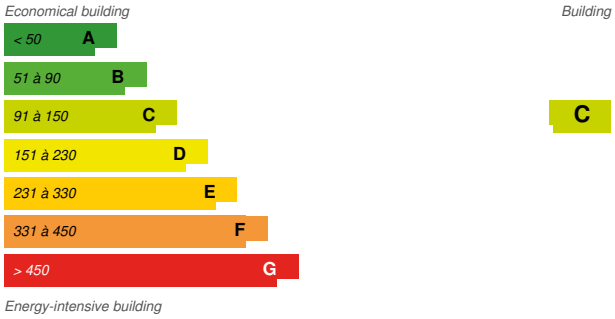
by Claire VENTEJOU / 2021-03-05 15:25:37 / France / 4586 / FR

Primary energy need :

119.19 kWhep/m².an

(Calculation method : RT existant)

ENERGY CONSUMPTION



Building Type : Office building < 28m
Construction Year : 1889
Delivery year : 2020
Address 1 - street : 17 rue Colbert 13001 MARSEILLE, France
Climate zone : [Csa] Interior Mediterranean - Mild with dry, hot summer.

Net Floor Area : 8 684 m²
Construction/refurbishment cost : 26 000 000 €
Number of Work station : 600 Work station
Cost/m2 : 2994.01 €/m²

Certifications :

General information

This case study presents the major refurbishment of the Hôtel des Postes Colbert in Marseille. The project aims to upgrade this historic three-storey building, which has been unoccupied for ten years, and to provide a quality working environment for the employees of the La Poste group. It has been awarded by the BDM Gold label, it is in the process of obtaining the NF HQE Bâtiments tertiaires Excellent label, and it is aiming for BREEAM RFO Very Good certification and the Effinergie renovation label.

Giving new life to an unoccupied building

La Poste Group occupied the building for over a century. However, in 2010, the decision was made to close the offices: the site no longer met the company's

needs. The renovation project aims to transform the building into a Village La Poste, a place that brings together all the group's support functions, such as regional management and human resources. In order to start the process, La Poste had to acquire the rights from Orange, formerly France Telecom, which owned part of the building.

Combining historical heritage and energy efficiency

The building, which dates from the 19th century, was designed by the Aix-en-Provence architect Joseph-Henri Huot. It is remarkable for its large façade, over 110 metres long, and its interior courtyard of approximately 1200m². During the renovation, the project leaders chose to keep the exterior envelope as is, in order to respect the monumental aspect of the building. The decorative elements and statues were restored.

The original structure of the building allowed the interior to be easily reorganised. The project leaders designed flexible internal spaces that can be reorganised according to the changing needs and uses of the occupants. This extends the life of the building before a new renovation: the offices allow for multiple configurations and the HVAC, plumbing and electrical networks have been designed to adapt to changes without impacting on the finishing work and the structure.

The project leaders chose to insulate the building from the inside, without damaging the façade. The walls were insulated with wood fibre and glass wool. The floors, depending on their type, were insulated with rock wool or vermiculite. The joinery is made of wood or aluminium with thermal breaks. Finally, efficient energy systems and a BMS have been installed to ensure the optimisation of energy consumption (see ENR & Systems tab).

Comfort and health

La Poste Immo was keen to ensure a quality working environment for the building's occupants. The entire project is accessible to people with disabilities, including the sanitary facilities and all areas are served by lifts. Particular attention was paid to the quality of the natural lighting, to the flexibility of the air flow distribution principles and to the acoustics of the work spaces, in order to offer good internal comfort.

Sustainable development approach of the project owner

The project owner sought the best possible energy performance by insulating the envelope with careful treatment of the airtightness, installing wood joinery with solar protection (wooden shutters, blinds, fixed external blades, etc.) and installing efficient equipment. Poste Immo also worked to preserve biodiversity (creation of 235m² of green spaces), to promote alternative mobility and to manage waste.

In addition, the construction site was low-impact. Continuous acoustic measurements, advanced communication with local residents, monitoring of rotations and waste, and the integration of the living base into the existing surrounding buildings made it possible to greatly limit the nuisance of the work.

Finally, the materials chosen for the project (detailed in the "Architectural description" tab) also reflect Poste Immo's sustainable development approach.

Architectural description

The exterior facades are made up of exposed ashlar, brick and rubble stone walls. The interior facades are also in exposed ashlar on the central part and in plaster on the two courtyards with glass roofs. The structure of the wooden roof with an original frame and a tiled roof.

The original materials have been preserved (stone, stairs, brick partitions, floors and frame). The architect also used cement tiles from reuse, local materials (terracotta tiles manufactured less than 10km from the site), minimum A + interior coatings (+ GUT, Ecolabel, IndoordClimate, etc.), and carpet made from recycled materials.

Photo credit

Photo : Jérôme Cabanel
Video : Studio One

Stakeholders

Contractor

Name : Poste Immo
Contact : 35-39, bd Romain Rolland 75618 Paris Tél : 01.55.44.53.39
https://www.poste-immo.fr/

Construction Manager

Name : CARTA ASSOCIES
Contact : 20, rue Saint Jacques 13006 Marseille T +33 4 96 10 29 00 agence[@]carta-associes.com
https://www.carta-associes.com/

Stakeholders

Function : Thermal consultancy agency

Cinfora

Espace Nikaia - 2, av.Docteur Robini 06200 Nice Tél : 04.97.02.24.30 / Fax : 04.97.02.24.31

https://www.pcetech.fr/
BET - Fluids

Function : Other consultancy agency

SECMO

ZAC Saumaty-Séon - 22, av. André Roussin 13016 Marseille Tél : 04.96.15.12.40 / Fax : 04.96.15.12.41

https://www.tpf-i.fr/lentreprise/secmo/
BET - Structure

Function : Other consultancy agency

Inddigo

11, rue Montgrand 13006 Marseille Tél : 04.95.09.31.00 / Fax : 04.95.09.31.09

https://www.inddigo.com/
BET - DD

Function : Company

Travaux du Midi Provence

111 avenue de la Jarre, 13009, Marseille

General Enterprise

Function : Company

Climatech

HVAC / plumbing

Function : Company

SEDEL

CFO / CFA

Energy

Energy consumption

Primary energy need : 119,19 kWhep/m^2.an

Primary energy need for standard building : 200,95 kWhep/m^2.an

Calculation method : RT existant

Breakdown for energy consumption : Heating: 9.8 kWhep / m². Cooling: 26.3 kWhep / m². DHW: 11.6 kWhep / m². Ventilation: 39.5 kWhep / m². Auxiliaries: 20.5 kWhep / m². Lighting: 11.3 kWhep / m².

Envelope performance

Envelope U-Value : 0,60 $W.m^{-2}.K^{-1}$

More information :
UBâtproj: 0.598 W / m². KUBâtréf: 0.764 W / m². KGain: UBât / UBâtréf: 21.69%

More information

Gain cep project / cep ref: 40.69%

Renewables & systems

Systems

Heating system :
- Condensing gas boiler

Hot water system :
- Condensing gas boiler

Cooling system :
- Water chiller

Ventilation system :
- Double flow heat exchanger

Renewable systems :
- No renewable energy systems

Smart Building

BMS :
Centralized Technical Management solution to manage energy consumption.

Environment

Urban environment

Green space : 235,00

The building is located in the heart of town. It is in the immediate vicinity of shops, housing, services, school, etc. It is also close to the tram, Saint Charles train station and the A55. It is therefore subject to the effects of urban concentration: urban heat islands, air pollution, noise pollution, etc. One of the challenges of this renovation is to limit the impact of these phenomena on the building and its occupants.

Costs

Construction and exploitation costs

Total cost of the building : 26 000 000 €

Additional information on costs :
Construction cost: € 26 million excluding tax (all expenses included).
Operating cost: 78 euros / m² included: maintenance, safety, energy, property taxes, insurance.
Rental value: 189 euros / m².
Maintenance cost: 20 euros / m².
Usable area / Rented area: 98% of the SUBL.
Gross rental area of the building: 11,234 m².
Amount in € and details of charges per m² and per year: 77 euros / m² / year included: maintenance, safety, energy, property taxes, energy

Carbon

GHG emissions

GHG in use : 7,73 $KgCO_2/m^2/an$

Methodology used :
Heating emissions: 2.27 kgCO2 / m². Cooling: 0.41. DHW production: 2.72. Fans: 1.29. Lighting: 0.37. Auxiliaries: 0.67.

Contest

Reasons for participating in the competition(s)

La rénovation de ce bâtiment présente deux enjeux énergétiques majeurs. D'une part, le bâtiment se situe en milieu urbain dense. Il doit donc faire face aux phénomènes de pollutions urbaines et d'îlots de chaleur urbain. De plus, il est soumis au climat méditerranéen, qui est particulièrement chaud en été. La gestion de la chaleur est donc centrale dans le bâtiment.

Grâce aux travaux de rénovation, le bâtiment présente une isolation particulièrement étanche à l'air, des menuiseries avec des protections solaires, ainsi que des équipements énergétiques performants : ventilation double-flux, chaudières à condensation, émission avec régulation locale et éclairage 100% Leds. L'architecture du bâtiment permet également une bonne circulation de la luminosité naturelle.

Le bâtiment est équipé d'une GTB qui permet de pousser encore plus loin l'optimisation des équipements énergétiques.

Tous ces éléments permettent de réduire les consommations énergétiques de l'Hôtel des Postes tout en garantissant un bon confort d'été aux occupants. C'est pourquoi le bâtiment a déjà reçu le label BDM Or, qui garantit un niveau de qualité énergétique et environnemental élevé.

Building candidate in the category

Energie & Climats Tempérés

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