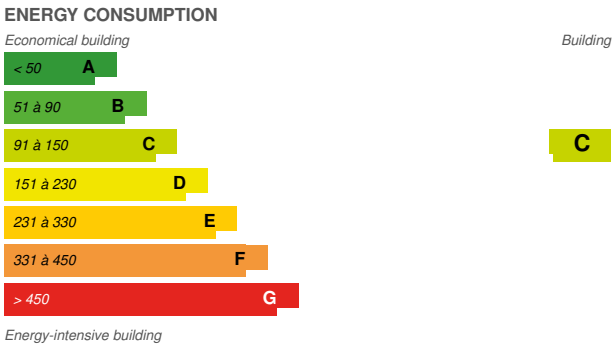
La Mondiale Headquarters

by Rodolphe Deborre / 2014-09-19 11:41:31 / France / 13603 / FR

Primary energy need :

34 kWhep/m^2.an

(Calculation method :)



Building Type : Office building < 28m
Construction Year : 2011
Delivery year : 2012
Address 1 - street : 59370 MONS-EN-BARœUL, France
Climate zone : [Cfb] Marine Mild Winter, warm summer, no dry season.

Net Floor Area : 4 000 m^2
Construction/refurbishment cost : 6 900 000 €
Number of Work station : 250 Work station
Cost/m2 : 1725 €/m^2

Certifications :

General information

Built as part of the extension of the head office of the insurance group La Mondiale, this Passive® building can accommodate up to 250 employees.

The building is 5 storeys high with a basement, for a total of 5400 m² of built area. The building has a pole / beam structure and the facades are made of timber. On this building site, wooden life bases were also set up. The building is certified passivhaus, HQE and BBC.

Sustainable development approach of the project owner

The construction of a Passive® Building is part of the overall approach to sustainable development of the La Mondiale Group (signatory of the UN World Pact since 2003), at the occasion of the reunion of the variouscompetence centers in one site. This is a great experiment that is fully integrated in the Corporate Social

Responsibility approach the Group AG2R La Mondiale, especially for the scale of the Mons-en-Baroeul site, the first establishment of the group and headquarters of the group.

We wanted to go beyond mere compliance with thermal regulations, by experimenting more efficient and environmentally friendly buildings. And a challenge: to associate employees and neighbors to the project, from design to delivery, so that the installation goes smoothly.

Architectural description

Timber and masonry construction, facade with large weatherboarding, wood wool insulation, high vegetated roof holding rainwater, concrete slab, reinforced air tightness in the entrance hall.

Building users opinion

"The building is beautiful, it immediately found its place among the other buildings on the site. However, the technical teams needed a little time to tame it, especially its heating control system which requires a fine setting. The first months have therefore not always been easy. People were sometimes too hot or too cold, depending on the floors and the seasons.

In addition, we made the finding of a slight difference between technical expertise and experienced users. In these cases, dialogue is necessary and everyone must do part of the way: put blinds if employees express that they do not see well their screens, for example .

Once the settings done, the building presented a good level of comfort. We are proud and wish to build on this experience to further develop our environmental policy at the site, making sure to articulate with quality of life at work and the necessary economic performance that characterize AG2R La Mondiale."
Brigitte Villette, Director of Site

If you had to do it again?

Passivhaus demands extreme care during the designing stage but also during construction. The skills of engineers, technicians and companions from Rabot Dutilleul Construction find all their meaning. We would be happy to work on similar other projects of such energy and environmental performance.

See more details about this project

http://passivhausprojekte.de/index.php?lang=en#d_2768

Stakeholders

Stakeholders

Function : Construction company

Rabot Dutilleul Construction

Julien Barcet

http://www.rabotdutilleulconstruction.com/
General contractor

Function : Designer

Frédérique Moguez

03 20 89 03 11

Function : Contractor

AG2R La Mondiale

Véronique Poncin

http://www.ag2rlamondiale.fr/

Function : Other consultancy agency

ETR ingénierie

03 28 55 28 40

http://www.etringenierie.fr

Function : Assistance to the Contracting Authority

TRIBU

Marc Toutin

http://www.tribu-concevoirdurable.fr/

Environment Council

Contracting method

Macro packages

Type of market

Table 'c21_belgium.rex_market_type' doesn't exist

Energy

Energy consumption

Primary energy need : 34,00 kWhep/m^2.an

Primary energy need for standard building : 96,00 kWhep/m^2.an

Calculation method :

Breakdown for energy consumption : Heating: 2kwhep / m².year
Cooling: 0
Hot Water: 0
Ventilation: 13
Lighting: 19

Real final energy consumption

Final Energy : 118,00 kWhef/m^2.an

Envelope performance

Envelope U-Value : 0,40 $W.m^{-2}.K^{-1}$

More information :
- Roofing concrete frame floor terraces
- Main facades in timber frame for office floors with integrated blown cellulose insulation and inner complement in wood wool
- Fixed solar protections of South and East facades in Trespa and anodized aluminium blades
- Fixed solar protections on glass bays, Trespa blades
- External insulation of concrete walls with glass wool layers beneath two crossed white "crumpled" concrete siding
- Mixed outdoor wood and aluminum joinery
- Triple glazing with argon gas
- Openings for natural ventilation and maintenance
- Fixed glass aprons
- Fixed Protections on the South facade against sunshine (summer overheating and glare)
- Aluminium curtain facade on wood frame for the connecting gallery
- Maintenance gateway with metal grating supporting sun breakers
- Roof external insulation in polyurethane

Indicator : n50

Air Tightness Value : 0,59

More information

Important work done in partnership with the occupants on reducing electricity consumption: light clients, low consumption lighting, printers, photocopiers, coffee machines in small number and shared. This allows to pass below the threshold of 120 kWh/m².year) of final energy consumption

Renewables & systems

Systems

Heating system :
- Condensing gas boiler
- Water radiator

Hot water system :
- Individual electric boiler

Cooling system :

- No cooling system

Ventilation system :

- Double flow heat exchanger

Renewable systems :

- No renewable energy systems

Hot water directly on sinks (reduction of losses). No solar thermal.

Environment

Urban environment

Land plot area : 3 000,00 m^2

Built-up area : 40,00 %

Green space : 2 400,00

100 m from the Metro station Mons. Urban area.

The principle of landscaping is based on the total overhaul of surfaces dedicated to traffic, with parking and green spaces, in a spirit of safeguarding biodiversity and infiltration of rainwater.
• Creation of parking lots, roads and footpaths
• Plantation of 98 high trees
• Plantation of hedges, massive and perennial
• Creation of planted infiltration ditches
• Creation of wooden pontoons
• Installing seat cubes
• Replacement of portals and gates
• Moving the recylcing and dumpster areas
• Resumption of underground networks
• Outdoor lighting in LED candelabra and terminals

Products

Product

AEROVAP SD18M

SALOLA

+33 (0)3 27 32 44 12

http://www.salola.eu/

Product category : Gros œuvre / Charpente, couverture, étanchéité

Vapor barrier compatible with timber construction. Health label A +

no problem

Blue Kit

BK Factory

Nathan Nyong - +33 (0)6 14 90 82 68

http://www.bluekit.fr/a-propos/bk-factory/

Product category : Génie climatique, électricité / Ventilation, rafraîchissement

The installation of BlueKit® ensures hygienic ventilation and significant energy savings while respecting the obligation of ventilation and fire detection in elevator shafts and service ducts. Simultaneously, the ventilation of the elevator shaft is ensured in case of failure and during maintenance work to garantee the safety of passengers and maintenance personnel.

no problem

Steico Universal rain barrier

Steico

+33 3 88 11 25 70

http://www.steico.fr/

Product category : Gros œuvre / Structure, maçonnerie, façade

Insulating panels rainscreen and windproof for roofs and walls. Wood fiber insulation panels compliant with NF EN 13171, EN 13986 and EN 622-4.

no problem

SYLVACTIS 40FX

Product category :

Wood fiber insulation panel WF-EN 13171-T3-TR1-MU2-AF5 compliant with EN 13171.

no problem

Costs

Construction and exploitation costs

Total cost of the building : 8 000 000 €

Health and comfort

Water management

- Partial recovery of rainwater in an underground tank to use for watering, maintenance and flushing of the building
- Rainwater retention in an infiltration ditch planted and a pool fostering biodiversity
- Maximum infiltration of rainwater on the land by treating green areas and parking: parking lots with permeable grassed slabs, pavements, roads in stabilized

sand, ditches ...

Comfort

Health & comfort : There is a clear goal to achieve real performances and ensure the well being of employees. This therefore requires a mastery of use of equipment settings through simple user interface and a capacity to accompany building users.

Acoustic comfort : See the HQE Notice of the Tribe consulting engineers agency

Carbon

GHG emissions

GHG in use : 4,00 $KgCO_2/m^2/an$

Methodology used :
Thermal study of the consulting engineers agency (Tribe)

See the HQE Notice of the Tribe consulting engineers agency

Life Cycle Analysis

Eco-design material : Main facades in timber frame for office floors with integrated blown cellulose insulation and inner complement in wood wool .

https://www.construction21.org/france/data/sources/users/4713/tableaux-cov-et-bois.xls

Contest

Reasons for participating in the competition(s)

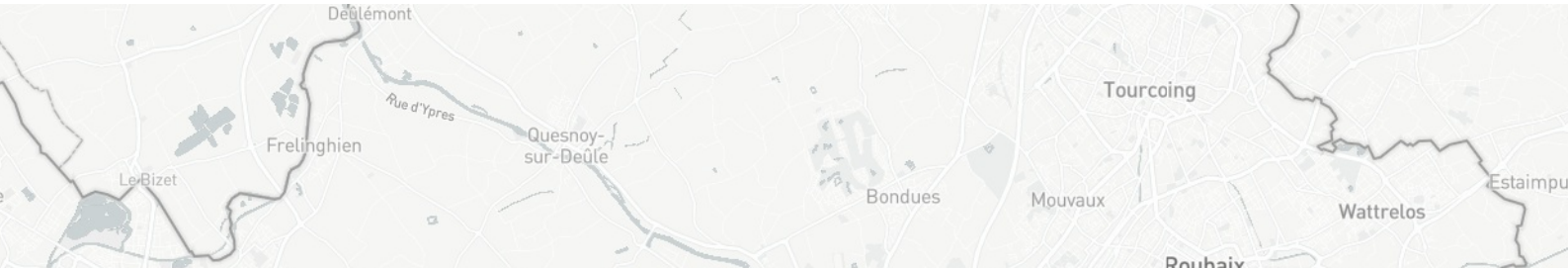
Bio-based and Recycled Materials : timber facade, wood fiber and cellulose wadding insulationZero Energy building : passivhaus certificationHealth & Comfort: passivhaus certification and HQE TP targets
Green building site with an ecodesigned life base
Third Industrial Revolution :- Energy Efficiency- Circular Economy

Building candidate in the category

Green Building Solutions Awards 2015
powered by Construction21

Matériaux bio-sourcés et recyclés

Bâtiment zéro énergie



Santé et confort

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