


Palazzo Méridia office building in Nice (France)

by Yasmina Sandoz / © 2022-11-14 00:00:00 / France / 1345 / FR



New Construction

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Primary energy need :

32.9 kWhep/m².an

(Calculation method : RT 2012)

ENERGY CONSUMPTION

Economical 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 A

Building Type : Office building < 28m
Construction Year : 2018
Delivery year : 2019
Address 1 - street : Zone Méridia, avenue Simone Veil 06200 NICE, France
Climate zone : [Csa] Interior Mediterranean - Mild with dry, hot summer.

Net Floor Area : 8 622 m² SHON RT
Construction/refurbishment cost : 13 500 000 €
Cost/m2 : 1565.76 €/m²

Certifications :



Proposed by :



General information

The Palazzo Méridia is an office building with a wood structure and positive energy , located at the corner of Avenue Simone Veil and Avenue Julien Lauprêtre in Nice. It was built on the Nice Méridia ZAC, a former agricultural wasteland on the Var plain as part of the Eco-Vallée National Interest Operation.



Following a consultation conducted by the EPA, the project by the Nexity Entreprises / Architecture Studio team was named the winner on June 13, 2016.

The building in R+9 has a solid wood structure which required some **900 tons of wood of French origin at 70%** in particular with the CLT of the Alsatian site of Schilliger which was supplied on the Vosges massif. With its 35 meters high, this building is **the tallest wooden office building in France upon delivery** !

This project is also the subject of a 10-year multi-technical maintenance and charges guarantee contract for a joint-ownership building.

Architectural description

Raised 9 floors on a largely open ground floor, it has a metal exoskeleton supporting the vertical circulations rejected on the periphery of the volume, as well as continuous balconies running all along the facades. It rests on a concrete base insulated by the exterior in glass wool.



The roof terraces, built in CLT, are accessible and encourage future users of the building to meet in these open spaces. They include **an edible garden** . Finally, the lower floors are made of concrete slabs giving the building some of its thermal inertia.

The bracing of this building in an earthquake zone is provided by concrete cores, resting on a parking floor.

In addition to the tertiary surfaces on the floors, the Palazzo Méridia houses commercial premises on the ground floor as well as an underground car park.



A project labeled E3C2 for its energy efficiency

The E+C- label, issued by Certivéa, assesses the energy balance of the building's uses and its greenhouse gas emissions over its entire life cycle. **The first tertiary building in France to obtain the E3C2 level** , Palazzo Méridia, testifies to Nexity's commitment to pursuing an ambitious low-carbon policy.

The building has also obtained the following labels to date: **BDM Silver level (for design and construction - the operation component has not yet been assessed), BBCA and BEPOS Effinergie 2017.**

Concretely, the E3C2 level obtained by the Palazzo Nice Meridia corresponds to:

- "Energy 3": sobriety and energy efficiency, 40% reduction in consumption and use of 40 kWh/m².year of renewable energy.
- "Carbon 2": this level requires work to reduce the carbon footprint both on the energy consumption of the building and on the choice of construction materials and technical equipment, with an analysis of the entire life cycle materials.

These performances have been achieved thanks to **effective insulation** , in particular:

- Wall insulation with glass wool
- low floorconcrete
- High-performance double glazing mounted on aluminum frames with thermal bridge breakers

In terms of equipment, the building is **connected to a heating and cooling network** . At the same time, double-flow ventilation allows good indoor air quality to be maintained. Lighting power has been optimized and presence/absence detectors have been installed in all premises. The desks also have an automatic dimming system to ensure constant lighting. Finally, **a photovoltaic installation makes it possible to cover more than half of the energy needs of the building** .

Beyond the record height in wood and energy and carbon performance, **this building is part of a global and innovative sustainable approach** :

- 70% of the wood is of French origin (Vosges). Wood is also predominant in the interior fittings.

- Enhancement of natural spaces and shared edible vegetated space. The vegetation, witness to the agricultural past of the plain of the Var, is judiciously distributed around the perimeter of the building, extending the garden towards the canopy.
- Dry site limiting waste.

Key dates



- Submission of PC: November 29, 2016
- Delivery of the PC: June 13, 2017
- Start of work: April 2018
- Assembly of the tower crane: July 30 and 31, 2018
- Delivery: end of 2019
- E3C2 certification: September 2020

Photo credit

Antoine Duhamel

Stakeholders

Contractor

Name : Nexity

Contact : 01.85.55.16.84

<https://entreprises.nexity.fr/nos-realisations/palazzo-meridia-nice>

Construction Manager

Name : Architecture Studio

Contact : as[a]architecturestudio.fr - 01.43.45.18.00

<https://architecturestudio.fr/projets/nce2-immeuble-de-bureaux-sur-lilot-1-1-c-de-la-zac-nice-meridia/>

Stakeholders

Function : Other consultancy agency

CBS-Lifteam

[https://cbs-cbt.com/fr/realisations/Immeuble-de-bureaux,-Nice-\(06\)-6-0-101](https://cbs-cbt.com/fr/realisations/Immeuble-de-bureaux,-Nice-(06)-6-0-101)

Calculation, construction

Function : Construction company

Schilliger Bois SA

<https://www.schilliger.ch/fr/referenz/palazzo-meridia-nice/>

French wood supply

Function : Others

Fibex

<https://fibex.fr/realisations/fourniture-de-teknoSAFE-2467-traitement-sur-tout-support-bois-brut-rabote-ou-panneaux-a-base-de-bois/>

Function : Certification company

Certivéa

<https://certivea.fr>

Function : Thermal consultancy agency

BG Ingénieurs Conseil

marseille[a]bg-21.com - 04.91.25.53.53

<https://bg-21.com/fr/>

Function : Others

Tangram Architectes

Landscaper

Contracting method

Other methods

Energy

Energy consumption

Primary energy need : 32,90 kWh_{ep}/m².an

Calculation method : RT 2012

Breakdown for energy consumption :

- Heating: 11.5%
- DHW: 7.6%
- Lighting: 27%
- Breakdown: 27.5%
- Cooling: 26.3%

Real final energy consumption

Final Energy : 32,90 kWh_{ef}/m².an

Envelope performance

More information :

EXTERIOR WALLS

R = 4.3 (m².K)/W

Wooden frame walls made up of 12 cm perpendicularly crossed solid wood slats (CLT) insulated on the outside with 14 cm of glass wool

R = 4.2 (m².K)/W

Wooden frame walls with 12 cm of glass wool between the uprights

ROOF

R = 6.7 (m².K)/W

16 cm solid wood terrace roof insulated with 12 cm of insulating panels waterproofing support in rigid polyurethane foam (PIR) expanded between two multilayer composite facings.

FLOOR

R = 3 (m².K)/W

Low floor on car park composed of a 30 cm concrete slab insulated on the underside with 12 cm of mineral wool flocking, and a 5 cm concrete screed insulated with 4 cm of glass wool

WINDOWS/DOORS

U_w = 1.3W/(m².K)

Aluminum joinery with thermal bridge breakers - 4/16/4 double glazing with low emissivity and argon blade - Presence of rolling shutters or blinds

U_w = 1.4W/(m².K)

Aluminum joinery with thermal bridge breakers - 4/16/4 double glazing with low emissivity and argon blade - No mobile protection

GLASS SURFACE

19.62% of the useful or habitable surface

Breakdown of losses:

- Roofs: 3%

- Walls: 35.6%
- Berries in winter: 36.1%
- Low floor: 4.9%
- Thermal bridges: 20.4%

THERMAL BRIDGES

Psi Ratio: 0.16W/(m².K)

Average Psi value: 0.18 W/(ml.K)

Air Tightness Value : 0,60

More information

- Primary energy consumption without solar production: 64.8 kWh/m².year
- Solar production: 31.9 kWh/m².year

Renewables & systems

Systems

Heating system :

- Urban network

Hot water system :

- Individual electric boiler

Cooling system :

- Urban network

Ventilation system :

- Double flow heat exchanger

Renewable systems :

- Solar photovoltaic

Renewable energy production : 52,00 %

Other information on HVAC :

Building connected to the heating network - CO2 content: 0.08 kg CO2/kWh - Power of the substation: 455 kW - Insulation of the secondary network in class 4 and the primary in class 5. Emission by fan coil units.

Production of DHW by 18 electric balloons of 15 liters.

Double flow ventilation with an exchanger efficiency of 72% in offices. Simple flow ventilation in the toilets.

Cooling: building connected to the cooling network - Power of the substation: 568 kW. Emission by blowing cold air

Surface of the photovoltaic installation: 443.36 m²

Peak power: 88.94 kWp

Production: 31.9 kWh/m².year

Products

Product

French wooden CLT

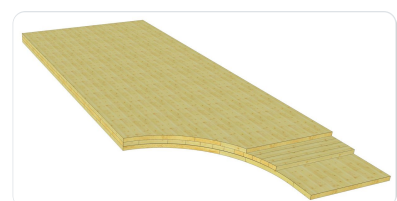
Schilliger

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

Cross Laminated Timber (CLT) was used for this project, making it possible to build wooden buildings taller and faster. The high degree of prefabrication of CLT panels allows the erection of a building in just a few days.

Beyond the advantageous properties (sustainable and renewable management, natural, zero carbon, waterproof insulation, hygrometry and quality of life, acoustics), their particularity is that they are made of French wood - only two manufacturers offer them in France!

The use of CLT is now well developed in France, but few are made from French wood. In addition, the philosophy of the CBS-Lifteam Group "More engineering, less material" has been applied because its ECOTIM factory has sourced just the necessary elements and which have been re-assembled on site without loss of



material.

Costs

Construction and exploitation costs

Total cost of the building : 13 500 000 €

Carbon

GHG emissions

GHG in use : 5,00 KgCO₂/m²/an

Life Cycle Analysis

Software

The data comes from the INIES and pep ecopasseport database. The simplified method was used to assess the emissions of the Water contributor and certain batches of the Construction Products and Equipment contributor

Perimeter

The scope of the E+C- experiment has been taken into account.

Results

In conclusion, construction products and equipment represent nearly 75% of GHG emissions. The metal structure (13% of GHG emissions), floor coverings (8%), foundations, walls, floors and concrete beams (10%) are the main emitters for the construction products part. Equipment represents 35% of the contributor's emissions of construction products and equipment.

GHG emissions are mainly emitted during the use and production phases of the building.

Share of emissions by phase (in kgCO₂/m².SdP):

- Output: 49.3%
- Building: 8.6%
- Usage: 26.8%
- End of life: 15.3%

Contest

Reasons for participating in the competition(s)

- First E3C2 certified office building in France.
- The tallest wooden office building in France upon delivery.
- A construction that gives pride of place to wood, 70% of which comes from the Vosges.
- Focus on energy efficiency and renewable energies.
- Obtaining numerous labels.
- A resilient construction in the face of seismic risks.





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