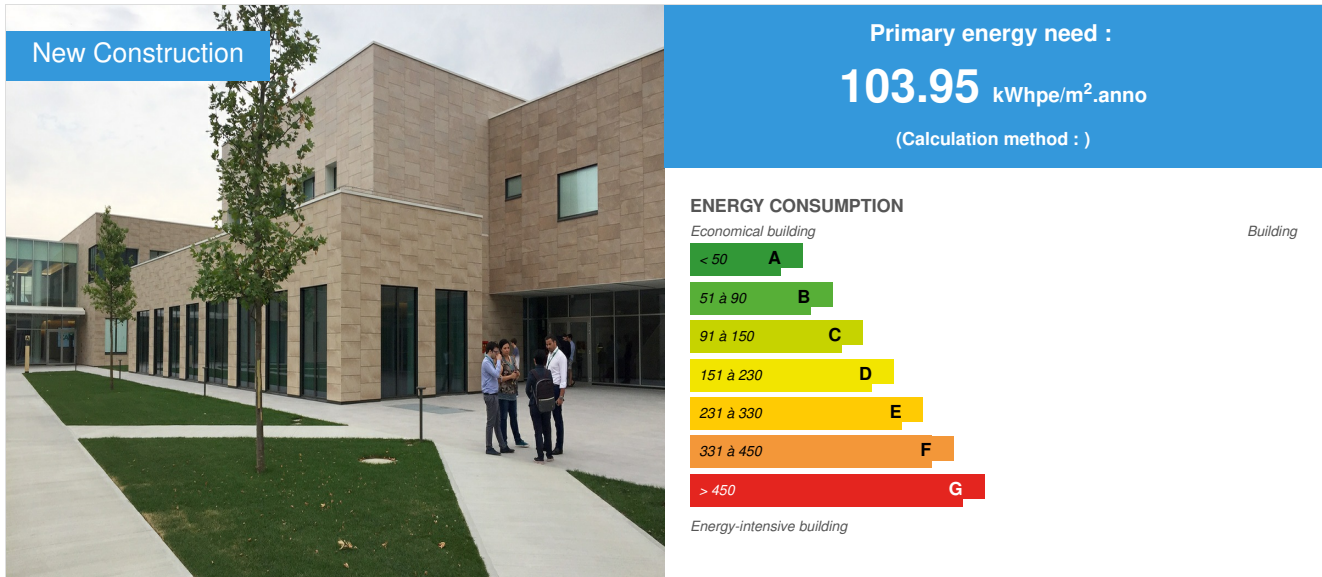


Humanitas University Campus

by Filippo Taidelli Architetto / 2017-06-06 11:49:22 / Italie / 14429 / IT



Building Type : School, college, university
Construction Year : 2017
Delivery year : 2017
Address 1 - street : 20090 PIEVE EMANUELE - MILANO, Italia
Climate zone : [Cfb] Marine Mild Winter, warm summer, no dry season.

Net Floor Area : 12 676 m²
Construction/refurbishment cost : 42 000 000 €
Number of Pupil : 1 000 Pupil
Cost/m2 : 3313.35 €/m²

General information

The Campus Humanitas University, designed for Pieve srl, is a new international university of medicine, located near the renowned Humanitas Research Hospital Hospital in Rozzano, near Milan. The project involves the creation of a new university infrastructure serving about 1000 students. The campus, surrounded by a large park, takes full advantage of its location through a masterplan based on pedestrian paths, offering a harmonious relationship with the surrounding green, with no natural continuity solutions. Campus offers the best of technology, teaching and research resources, combined with maximum comfort for its users, in four buildings that will host teaching activities, a research unit, a multifunctional hub with a canteen and a library, and finally a Student residence.

At a first stage, students will be admitted to the building that houses classrooms and administrative offices and polyvalent hubs (completed in March 2017), while during the summer 2017 the building will be accessible to researchers , For summer 2018 will also open up the student residence.

Credits:

CUSTOMER

Pieve Srl

DESIGN

Arch. Filippo Taidelli

CONSTRUCTION SUPERVISION

Intertecno spa

ATI CAPITAL MANDATORY

Colombo Costruzioni srl

ATI MANDANTE

Landi spa

INSTALLATIONS

S. & C. srl

LIGHTING DESIGN

Rossi Bianchi lighting design

STRUCTURES

Sajni e Zambetti srl

COLLABORATORS

Tommaso Conti, Walter Di Giorgio, Alessandra Naitana, Silvia Ristori, Karen Anyabolu

Data reliability

Self-declared

Stakeholders

Stakeholders

Function : Contractor

PIEVE s.r.l.

via Manzoni 56 - 20089 Rozzano (MI)

Function : Construction Manager

Intertecno s.p.a.

viale Marche 13 - 20125 Milano

<http://www.intertecno.it/>

Function : Construction company

Colombo Costruzioni s.p.a.

via Nino Bixio 4 - 23900 Lecco

<http://www.colombo-costruzioni.eu/>

ATI's parent company is mandated

Function : Construction company

Landi s.p.a.

Strada Francesca 2-2A - 24040 Ciserano (BG)

<http://www.landispa.eu/>

ATI mandants

Function : Designer

Filippo Taidelli Architetto - FTA

Filippo Taidelli - Via Ascanio Sforza 81/A - 20144 Milano

<http://www.filippotaidelli.com/>

Function : Thermal consultancy agency

S. & C. S.A.S. DI ANTONIO SOMAINI

Via Canturina 32 - 22100 Como (CO)

Function : Structures calculist

Sajni e Zambetti s.r.l.

Piazza Grandi 20 - 20135 Milano

<http://www.sajniezambetti.it/>

Function : Others

Rossi Bianchi lighting design

Via Gian Battista Pergolesi 22 - 20124 Milano

<http://www.rossibianchi.com/>

Contracting method

General Contractor

Owner approach of sustainability

The development of climate strategies integrated with the new plant technologies has enabled the achievement of the maximum energy classes CENED A2 and A3 thanks to: FORMA: study of factory bodies with degrading height to optimize summer sunbath and contain winter thermal dispersions .

EXPOSURE: the south facing optimum is suitably shaded at the openings and glazed facades.

- light wells for natural lighting at the main vertical distribution points;
- low energy LED lighting with DALI system;
- photovoltaic and solar thermal panels in roof;
- Glazed ventilated façade with thermal cutout with integrated Venetian blind;
- heat pump with ground water immersion;
- radiant floor heating system; • volumes varying in height depending on the exposure; • shading systems at inputs; • brise-soleil for internal shading; • green as environmental mitigator;
- new plantings for environmental mitigation and shading.

Although buildings within the campus have been designed as part of a single overall body, they have different functional destinations and therefore their energy consumption has been accounted for autonomously. Data on the main building of the University, the seat of didactic activity, of the most significant surface is reported. For transparency, the data of both buildings are enclosed.

Architectural description

The Campus Humanitas University, designed for Pieve srl, is a new international university of medicine, located near the renowned Humanitas Research Hospital Hospital in Rozzano, near Milan. The project involves the creation of a new university infrastructure serving about 1000 students. The campus, surrounded by a large park, takes full advantage of its location through a masterplan based on pedestrian paths, offering a harmonious relationship with the surrounding green, with no natural continuity solutions. Campus offers the best of technology, teaching and research resources, combined with maximum comfort for its users, in four buildings that will host teaching activities, a research unit, a multifunctional hub with a canteen and a library, and finally a Student residence. In the first phase of the opening, students will be admitted to the building which houses classrooms and administrative offices and the multipurpose hub, while during the summer 2017 the building will be accessible to researchers for the summer 2018 Finally, the student residence will also be opened. For all three of the heart buildings of the campus - didactics, hubs and research - a gres ventilated façade has been planned, which in addition to ensuring proper insulation in terms of energy efficiency and protection against atmospheric agents, strengthens the concept that is at the basis of their volumetry. The underlying principle of the project is based on a composition of volumes of warm and moody tones that open to allow natural light to enter, or to protect from the direct isolation of glazed parts in a play of Different heights depending on the exposure. All common interiors - hall, distribution corridors, and rest areas - have a gabled flooring with offset staircases on the short side, which continues outside, near the buildings and the large central courtyard around which they are built and They overlook the services of the polyphonic building, integrating with the green system and defining it. The preference for using the stoneware is due to the inherent motives of weather resistance material and thermal shocks, combined with a very wide range of finishes and minimal maintenance. The choice of an Italian product is linked to the sustainability principle underlying the project, namely the saving of the total energy used for the production and maintenance of the building during its lifetime, from the construction to the use phase . The use of a product that can be found on the territorial area in which the building itself will have to be able to save the part of the construction energy related to the transport of the material, as well as to ensure a direct and temporal relationship between the manufacturer and the supplier of the Material itself, further bonding the built to its territorial context. For the exterior aspect of the campus buildings, it has been chosen for a type of colored tile in pasta, on the color range of the earth, with a natural surface. Three colors with a slight "stoning" on the warm tones cover the buildings and make the play of their volumes more dynamic depending on the hours of day. After a long selection of sizes, colors and surfaces, the choice was made on the Amazonian series of Casalgrande Padana, combined with the Sardegna Stones series, in the 45x90 cm format with offset on the short side. This module of the ventilated facade becomes the foundational basis of the study of the dumps of all buildings.

Building users opinion

The students, professors and administrators who entered the building on June 1st appreciated the brightness of the common spaces, the clear space hierarchy and the dynamism of the interior trim that will positively stimulate their professional activity in the Campus. Particularly appreciated was the physical and visual continuity between the interior spaces and the surrounding park. Finally, the wide green area was pleasantly welcomed exclusively for pedestrians and bicycles suitably shaded by the lush landscape characterized by high-end autochthonous woods.

Energy

Energy consumption

Primary energy need : 103,95 kWhpe/m².anno

Primary energy need for standard building : 130,27 kWhpe/m².anno

Calculation method :

Envelope performance

Building Compactness Coefficient : 0,74

Renewables & systems

Systems

Heating system :

- Geothermal heat pump
- Low temperature floor heating
- Aerotherm Heater

Hot water system :

- Heat pump

Cooling system :

- Geothermal heat pump
- Chilled Beam

Ventilation system :

- compensated Air Handling Unit

Renewable systems :

- Solar photovoltaic
- Solar Thermal
- Heat pump (geothermal)

Renewable energy production : 60,00 %

Smart Building

BMS :

For the university campus, a Building Management System (BMS) facility has been set up to supervise and possibly control the following subsystems: - Automatic air conditioning system

Users' opinion on the Smart Building functions : The adoption of a centralized supervision system for this building allows for the achievement of management and optimization strategies, such as: - Realizing the automation of air conditioning and electrical installations, allowing centralized control supported by graphic and interactive video pages; - Allow centralized and continuous monitoring of the state and alarms related to technological installations and security facilities serving the areas of the complex; - Plan and monitor the maintenance of plants and equipment; - To realize, and document, all the energy saving and optimization strategies that are possible and necessary for waste management and aimed at achieving spending budgets; - Revitalize and make available for further processing all consumer data, with possible charge at different cost centers;

Environment

GHG emissions

GHG in use : 23,09 KgCO₂/m²/anno

Products

Product

Stoneware finish

Casalgrande Padana

Ing Luigi Massa

<http://www.casalgrandepadana.it/>

Product category :

Facade cladding Casalgrande Padana Amazon Dragon Brown 45x90 cm, Casalgrande Padana Amazonia Dragon Beige 45x90 cm, Casalgrande Padana Sardinia stones Porto Cervo 45x90 cm

The system was particularly appreciated by users for their ability to match the aesthetic result of stone monolithic materials, energy-efficient ventilation and shell insulation, and easy facade maintenance.



Aluminum blinds with integrated Venetian blinds

Schüco

Giacomini Loretta

<https://www.schueco.com/web2/it>

Product category :

Adjustable integrated AWS90.SI green retractable aluminum aluminum door frame

The combination of the technical performance of the door with integrated curtain, its great versatility and ease of maintenance coupled with the elegant aesthetic effect.



Ventilated anchorage

AdermaLocatelli

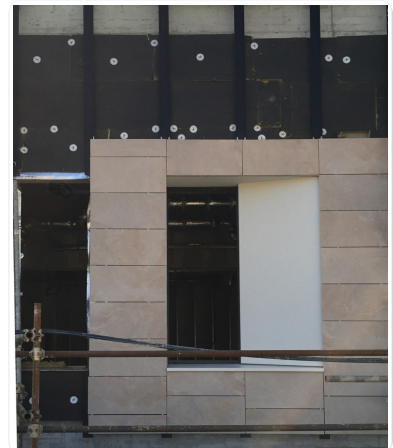
AdermaLocatelli

<https://www.adermalocatelli.it/it/>

Product category :

System with punctual aluminum couplings

Effective continuity of the outside trim and easy maintenance



Internal glass walls

Universal Selecta

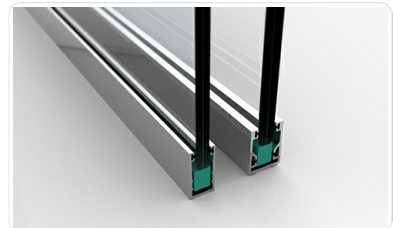
Eugenio Pasta

<http://www.universal-selecta.it/>

Product category :

Spark 15 Plus full height glass partition system

Extreme formal lightness combined with great flexibility of use and transparency



Linoleum floor covering

Forbo Flooring System

Forbo Flooring System

<http://www.forbo.com/flooring/it-it/>

Product category :

Laminated linoleum flooring or raised floor application Forbo Marmoleum Concrete and Walton

Easily unreachable, chromatic rendered



Wall-hung sound system in MDF lamella

Fantoni

Enzo Maniglio

<http://www.fantoni.it/home.html>

Product category :

4akustik. Wall and ceiling sound absorbing sound system, made of MDF lamellas, laminated, lacquered or veneered. The high performance comes from the study of the Helmholtz resonator theory and the porosity sound dissipation.

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Gres flooring

Casalgrande Padana

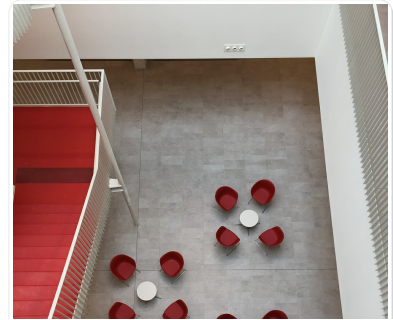
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<http://www.casalgrandepadana.it/>

Product category :

Floor tiles Casalgrande Padana Chalon Chalon gray 30x60 cm with offset on the short side, with natural finish for interior and bushy for outdoor use

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Costs

Construction and exploitation costs

Cost of studies : 42 000 000 €

Urban environment

The complex is situated in a strategic area between the industrial area of Rozzano and the Parco Agricolo Sud in Milan. In particular, the area is identified as a south-facing extension of the Humanitas hospital complex, in a free area, without any continuity with the surrounding greenery.

Land plot area

Land plot area : 96 335,00 m²

Built-up area

Built-up area : 20,00 %

Parking spaces

285

Building Environmental Quality

Building Environmental Quality

- Building flexibility
- works (including waste management)
- acoustics
- energy efficiency
- renewable energies

- integration in the land

Contest

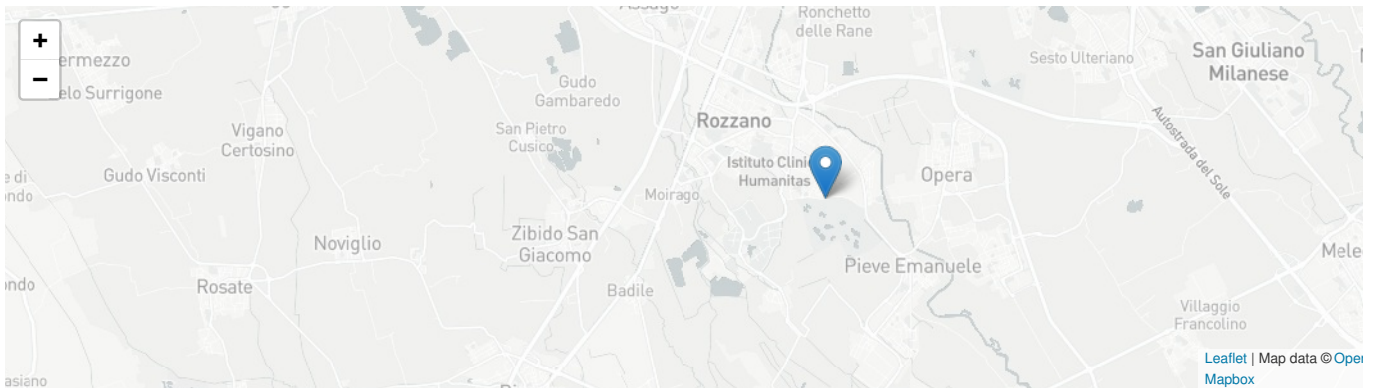
Building candidate in the category



Energia e Climi Temperati



Utenti Preferito



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