CONSTRUCTION21

ETHOS

by Claudia Bottizzo / () 2012-02-07 11:46:09 / Italia / () 5404 / 🍽 IT



Building Type : Collective housing < 50m Construction Year : 2011 Delivery year : 2009 Address 1 - street : 52-54-56-58, Viale Masera 12051 ALBA (CN), Italia Climate zone :

Net Floor Area : 4 539 m² Construction/refurbishment cost : 6 127 650 € Cost/m2 : 1350 €/m²

General information

The building, located in Alba (CN), owned by CO.RE.COM Ltd, is part of an estate in PRGC 4.4 C, in which, by about 10 years, is underway to build a new neighborhood in the city. At the end of the construction, this district will have 500 new housing units, a retail area of 5000 square meters (yet to be fully implemented) and an area of 8000 square meters of Tertiary. The real estate initiative promoted and carried out by Franco Barberis SpA, a company active in construction for four generations, is representative of the socio-economic progress in the area around Alba. The realization of this initiative within the real estate, a building of medium size with a very low annual energy consumption, suitable for a target audience of families with modest financial resources, represents a "flying" for real estate projects of the entire territory. The visibility and dissemination of the intervention are a priori guaranteed by the strong interest generated by the initiative of which this real estate property is a part.

Data reliability

Self-declared

Stakeholders

Stakeholders

Function : Contractor CO.RE.COM srl

Corso Barolo, 48/A, Alba (CN)

Function: Designer Arch. Aimaro Oreglia d'Isola - Isola Architetti srl

Via Mazzini 33, Torino (TO)

Attp://www.isolarchitetti.it

Function : Construction company Franco Barberis Spa

Corso Barolo, 48/A, Alba (CN)

Attp://www.francobarberis.it

Owner approach of sustainability

In recent years the issue of saving energy in buildings has assumed primary importance both because of commitments made by various organizations at international level to respect the parameters related to CO2 emissions, and of the constant increase of global energy use and costs of conventional energy sources. For this reason it is imperative for designers and builders to consider the goal of minimizing the needs for traditional fuel, using the renewable energy sources, reducing losses of the envelope, and improving the efficiency of production cycles. Given these premises, the project aims to create a building with a very low average consumption through a mix of solutions and technologies to guarantee high energy efficiency.

Architectural description

The character of the new quarter 4.4 C in Alba is identified by a large ring that opens on Europe Street. Born on a flat terrain, which does not have any kind of constraint, and was once farmland. They still perceive the signs of agrarian division, channel, parcels and catastal lots: these are important views that are generally taken by the organization of the buildings in plant, which are arranged in line on the ground, tracking and tracing these plots. The whole composition is organized around this straight and curved geometries game, the intersection between the linear features of the buildings and the grand green avenue of distribution. The residential building of 5 levels plus penthouse has plan dimensions of approximately 5000 m² and houses 50 dwellings of different sizes, and consist mainly of: - Apartments with kitchenette and living room, bedroom and toilet disengaged; - Apartments of two bedrooms, living room, kitchen and bathroom. In the basement there are 50 wineries and 69 garages. The long facades are divided and marked on one side by external stair towers and the other side by lodges in metal structure applied to the facade.

Energy

Energy consumption

Primary energy need : 9,83 kWhpe/m².anno Primary energy need for standard building : 86,85 kWhpe/m².anno Calculation method : UNI TS 11300

Envelope performance

Envelope U-Value : 0,28 W/m²K

More information :

The external walls above ground were cavity-wall of the variable thickness from 50 to 55 cm with external finish consists of facing of split colored concrete blocks, on which has been executed a rough coat on the inner side, and internal facing performed with blocks Poroton. The insulation of external masonry of the building consists of glass wool panels from 18 to 28 cm ($\lambda = 0.036$ W/mqK) while, to avoid a possible thermal bridge, in correspondence of RC structures (floors and columns), was glued a layer of insulation of 10 cm consisting of polyurethane ($\lambda = 0.024$ W/mqK). With regard to the building shell indented from the wire building, i.e. those of the lodges and those facing the stairwell, they are made with block Poroton and coating with thermal insulation obtained with the use of the Thermal Protection System Integral STO Therm. The same system of thermal insulation is applied to the soffit of the floors of the balconies and terraces. The floor of the attic is protected with a layer of 12 cm STIFERITE GT24, which was created on a slab of concrete about 6 cm. The PVC windows profile INTERNORM model DIMENSION + prof. 80 mm with doubleglass ibe-light (2UP), 4 be/16Argon/3/1F/3, horizontal beams 40 mm, ensuring an exceptional thermal and acoustic insulation.

Building Compactness Coefficient : 0,36 Indicator : n50 Air Tightness Value : 0,35

Systems

Heating system :

- Geothermal heat pump
- Low temperature floor heating

Hot water system :

• Heat pump

Cooling system :

- Reversible heat pump
- Floor cooling

Ventilation system :

• Double flow heat exchanger

Renewable systems :

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

Environment

GHG emissions

GHG in use : 4,00 KgCO₂/m²/anno Methodology used : Casaclima

Products

Product

Product category :

Costs

Construction and exploitation costs

Renewable energy systems cost : 140 000,00 €

Urban environment

The building is located in Alba (CN) in Avenue Masera, and it is part of the area C 4.4 (78,437 square meters) which is the subject of a detailed design for construction of residential areas of relevance to private and public square.





Date Export : 20230412163743