Residenza Annamaria

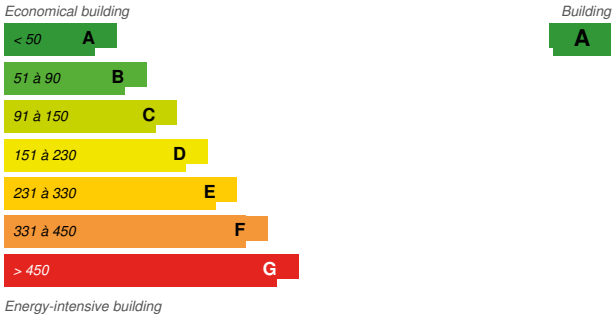
by Moreno Tiberi / 2012-02-21 17:24:35 / Italia / 6319 / IT

Primary energy need :

24.3 kWhpe/m².anno

(Calculation method : UNI TS 11300)

ENERGY CONSUMPTION



Building Type : Collective housing < 50m
Construction Year : 2008
Delivery year : 2008
Address 1 - street : Via del Greppone, 12 6100 PERUGIA, Italia
Climate zone :

Net Floor Area : 500 m²
Construction/refurbishment cost : 800 000 €
Number of Dwelling : 4 Dwelling
Cost/m2 : 1600 €/m²

General information

Building of 4 apartments situated on the hill of Montelaguardia, overlooking the historical center of Perugia

As the building can improve the quality of life in a city?
I guess the city of the future as a set of home, office and sustainable services, integrated infrastructure in an "intelligent". Places of living technological and interconnected where comfort is combined with safety and aesthetic pleasure. In this sense, the energy model of the Residence Annamaria can improve the quality of life of the city of the future. A new way to build that comes from a new way of thinking, planning, not compartmentalized but aware that the house is part of a unique far more extensive. It is part and affects the lives, the economy, the health of the whole district, and ultimately, the world. A small drop that with all of the other can form an ocean of 0 zero emissions.

As the building can be integrated into the infrastructure of the city of the future?
Annamaria La Residenza is located in a strategic place that currently facilitates the use of public transport due to its proximity to bus routes that connect the historical center of Perugia, neighboring municipalities and services (hospitals, schools, etc.). In the near future, about 500 ml from the residence, there is the realization of a terminal minimetrò linking the whole area in the Centre, without the use of its own resources. Annamaria La Residenza is located approximately 500 ml of a park, with multi-activity camps and public areas, as well as the fact that the building is currently being equipped with air centralizato, in the near future, should be made a district heating network, can safely esssere connected and then become independent from the energy fossile.Questo contrubuisce the enhancement of the building that will be increasingly integrated into the infrastructure of the city of the future.

As the building can make a positive contribution to the infrastructure of the city of the future?
With the precautions made and confirmed by the monitoring had been carried out, the Residence Annamaria can be considered a building in line with consumption imposed by current legislation and provided for in the future.

See more details about this project

http://wwwagenziacasaclima.it

Data reliability

3rd part certified

Stakeholders

Stakeholders

Function : Contractor

Gallano Srl - Tiberi e Ortica costruttori - Edilizia Evoluta

Via del Conservificio, 75- 06083 Bastia Umbra (PG) morenotiberi@gallano.it

http://www.gallano.it

Function : Designer

Geom. Gianfranco Ortica

Via del Conservificio, 75- 06083 Bastia Umbra (PG)

Function : Company

Gallano Srl - Tiberi e Ortica costruttori - Edilizia Evoluta

Via del Conservificio, 75- 06083 Bastia Umbra (PG) lauraortica@gallano.it

http://www.gallano.it

Function : Thermal consultancy agency

Per. ind. del Moro Antonio

Via degli ippocastani,1 06083 Bastia Umbra (PG) a.delmoro.734@perindpg.it

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Function : Structures calculist

Ing. Ferroni Giuseppe

Contracting method

Build and sell construction

Owner approach of sustainability

As young entrepreneurs, Moreno and me wanted to do something more for the environment and for people who would have bought the residence Annamaria. Thanks to our decades of experience, we have designed and implemented the best ideas for the home, and in terms of quality of living translate into peace and comfort in its truest form, in harmony with nature, which so generously welcomed us. We thought of a house capable of surprising and welcome ensuring privacy and comfort, so we decided to certify CasaClima Class A, the first in Umbria to ensure maximum comfort for minimum power consumption. The energy certificate we loved it for its "transparency", because, as already done for home appliances, the house is placed in a category from the "G" to "A" as a function of energy consumption. We aimed high, certifying the Class A building, which means that energy consumption are low, about 80% less than the average of buildings. The certificate provides the consumer with information facilemnte understand energy efficiency in housing, also controlling emissions (co2) conteniamo costs and respect the environment.

Architectural description

"Ecology and economy are not contradictory, but essential parts of the whole", this time from the gilosofia that guide the Studio Nettle Eurotecno in the design of buildings rated energy saving, this is the primary source of collaboration with the Gallano Ltd. . Enclosures combining architecturally pleasing and attualia technology that allows those who will live mnostri projects to experience a state of physical and economic well-being is our main goal. why we work hard every day in search of contacts, materials, design solutions, designed to examine issues that actively help the environment through energy savings due to dispersion systems contenimeto termichje. We believe that this is the "Right way", we are growing in consapevlezza of how essential is a correct and farsighted progettazione.siamo ready for new challenges, to implement in our small armopniosamente the great dream of living in the environment that surrounds us, from Hence the design of the residence Annamaria orientation and its distribution of dwelling units: The building has been designed taking into account the size of the lot and its orientation, you can see how the FACADE NORTH facing is that with less than all the others; going to examine the environments corresponding to these windows, we can see that belong to the 80% to service rooms, such as bathrooms and stairwell. Mostly the bedrooms have views of the east and west façades. Toward south overlooking the stay in this case, besides the advantage due to the uptake thermal and light, is facing even more enjoyable with a wonderful view of the hills overlooking the city skyline of Perugia (Mount Light side). Distribution, guidance and protection systems of transparent surfaces: The daylight factor is 2% for the less enlightened environment. E 'respected aeroilluminante the ratio equal to 1/8 for environments above ground and 1/6 for those basements. Using passive solar systems: They are installed to the individual units, the solar panels placed on the roof and facing south. The accumulation

generated will serve for the production of domestic hot water and to the operation of radiant floor panels. Action of the prevailing winds on the building envelope and windows: They are used for special fixtures fitted with vents mechanical hygrometer membrane is sensitive to changes in temperature and humidity, self, which will ensure a constant air. Location and Cadastral Data: The project involves the construction of a building of multi-family residential unit energy class "A", to be built in the town of Perugia, Loc. Ponte Rio, Via del Greppone on the ground to separate the Survey Sheet 194 particle n ° 217, 1269, 1280 and part of 1272 Town Planning Tool: The current PRG classifies the area on which it stands, the building's completion "Bn", the implementation plan of the area on the lot allows a maximum volume urban 1245.00 cubic meters and a maximum height at eaves not exceeding that of ' tallest building already built in lots contiguous and not exceeding the average of ml 7.50. 3) General Features: The building consists of three floors (ground, first and attic) and a basement used as a garage, with a total volume of 1243.89 cubic meters.

The Gallano SRL is a company formed by two young entrepreneurs, and Nettle Laura Moreno Tiberi, after some happy experiences already realized, aims to become the market with a construction characteristics which would improve the quality of the environment, living comfort and affordability of management and obtain, among the first in the town of Perugia, the energy certification class "A", such opportunities will materialize creating an intervention that has qualities superior in performance aspects: ENVIRONMENTAL A-B-C-ENERGY TECHNOLOGY The study draws to hone in particular: a) the thermal insulation of external walls, which will be realized with coating coat thickness of 10 cm in general, and about 15 cm in correspondence of thermal bridges. b) the thermal insulation of floors towards the cold floors and between floors inhabited. c) the thermal insulation of roofs, both those ventilated for attics, both portions made to muricci. d) windows which have a total value of thermal insulation (Uw) of less than 1.3. w / mqK. e) the resolution of thermal bridges: * to column size coat will be such that it does not affect the thermal bridge. * Cantilevered terraces are made of special heat-insulated carriers. * Sidewalks will be made with the appropriate carriers thermally insulated. * Between the ground floor and the garage will be built a suitable ceiling to avoid wasting energy; f) the main system is like with central condensing boiler generation and heating and cooling; g) panels are installed for solar-thermal, in service of the heating system and for the production of sanitary hot water; h) is installed an air exchange with controlled mechanical ventilation with heat recovery; i) sonorecuperate rainwater in a suitable underground tank and reused after appropriate treatment, for health purposes (only the toilet waste) and for 'irrigation of communal gardens and private. l) the stairwell is designed to provide ventilation and the removal of heat loss of housing, contains the branches of the plants controlled mechanical ventilation. 5) Consistency and Destinations: The building project consists of two floors and a basement, in addition to a portion of the attic to attic for a total volume of 1243.89 cubic meters the maximum height of the soffit ' last floor is 7.50 ml of taking into account the extraspessori the floors. The destinations are as follows: Basement: there are five units for a garage, accessible from outside ramp common rooms set aside for counters and an internal staircase and lift for connecting the upper floors. It specifies that the surface of the basement in excess of the outline of the building is permissible as the spaces found are the minimum to be allocated to private parking and in any case less than 30% of the floor area of the building. Ground and first floor: host all four units of various sizes. 6) Architectural Design: The shape of the lot and the maximum size allowed in to the distance from the street and from the borders, they suggested for the new building is in the shape irregular. The criteria informants of the project take into account the location of the lot located in a residential area characterized by buildings of good architectural quality, the building was designed with, in addition to functionality, the aesthetic appeal of the statements, both in the quality of the finish of the vestments outside as shown below, both in alternation of empty and full and characteristics of the balcony railings. 7) Design Features: 7a: Structure and walls The building is constructed with load-bearing structure, beams and columns, concrete traditional, properly sized in accordance with the earthquake regulations in force, the foundations will be in ca continuous, the floors are in brick. The cladding of external walls, wall blocks are made with thermal cm thick. 30-35; externally to which it is put in place thermal insulating and sound absorbing material of suitable thickness which slabs xps from 10-12 cm, density of from 20 to 30 kg / mc. The internal partitions sonorealizzate perforated with six holes of 8 cm and plastered to civil on both sides. At the sanitary partitions are made from 12 cm. The partition walls of the border between the various apartments are made of sound-absorbing block and bottom bricks on both sides. The outer garments are finished with shaving the coat and painted pastel color on the stairs of terre.La coverage is predominantly a hut made special arrangements with regard to insulation and waterproofing. The roofing tile is made of tiles of natural color. The projections of the eaves are made with wooden planking of zampini. The outdoor area of the lot is intended in part to private garden for the use of dwellings on the ground floor, partly green and partly common internal roads, both paved (access ramp to the garage), that pedestrian (access to the apartments) . Sonorealizzati also parking spaces in accordance with the law. 7b: Finish: The interior floors are parquet in the bedrooms with strips of oak or similar, to the living area in porcelain tiles of various shapes and colors, the pose is orthogonal and normal flight, the garage floor is concrete industrial grade quartz. The floors of porches and terraces and common areas are paved with external material non-slip and anti-freezing. The access ramp to the garage and parking, are paved with ballast and finished with highly permeable paving. The interior doors are wood Tanganyika white, the entrance doors are of the type with armored wood finish. The exterior doors are made of PVC with sealing incorporated with the characteristics referred to in paragraph 3, letter d), on the outside are put in place to deal properly with wooden shutters. Garage doors, will be a rocking plate. The walls are finished with plaster and painting to tempera interior. 7c: Facilities: PLANT HYGIENIC - HEALTH: in kitchens are designed with suitable connections and drains and outlet gas.

the main bathroom has a bath in enamelled steel, toilet, bidet, washbasin pedestal in vitreous white with chrome on brass fittings of heavy type, and the bathroom is equipped with shower, porcelain, toilet, bidet and washbasin column in vitreous white in color, complete with relative taps. And 'prepared suitable for loading and unloading the washing machine. All systems are made according to current regulations.

It 'made a cistern to collect rainwater that is used for irrigation. ELECTRICAL SYSTEM: It is released under the track with removable wire suitable section full of boxes with recessed switches and sockets of type ticino or similar, all ENPI rules, according to the usual distribution for the intended use. HEATING SYSTEM: It's like with central condensing boiler 8) Standards: E 'ratio was verified aeroilluminante, which meets the requirements of the current legislation. Have been complied with the requirements of visitability, adaptability and accessibility (L.13/89 and DM 236/89), for which the building is also accessible by people with disabilities, according to the current regulations regarding as the attached report. 9) External Accommodation: and 'planned the construction of the fence of the individual properties located on the Ground Floor made with mesh-type frameworks supported by stakes or other types T in harmony with the aesthetics of the building. The open spaces are arranged in a natural soil by planting at least n. 7 species of native trees tall trees

If you had to do it again?

Residenza Annamaria was the first building in Umbria House Climate Class A certified and as such we used as a testbed for field testing technologies and materials that were mixed in a position to repay a home more comfortable and less expensive in terms of maintenance and utility bills for the end user. We used a lot of "new" materials designed to solve thermal bridges, but never placed first by our staff, who in this way had the opportunity to train, learn and then grow towards a sustainable future with us. For this reason, probably the technologies that we applied, are oversized for a house in class A with the protocol ClimateHouse, although not sufficient to attain an A + or a passive house, have a result significantly better than the 30 kwh / mqa provided by class A In addition, to increase the comfort of the joint owners end, we have included in the project a lift shaft, though it was not mandatory given the current legislation, but between maintenance and operating costs may weigh too much on the four families who live in the residence Annamaria.

Building users opinion

ANDREA and ELVIRA testimony, the owners of the "Stars" 154.50 sqm + terraces and garage: what to choose between good and evil, between the beautiful and the ugly, between a house and a class A to F? for us to live in a house in the class was an easy choice as when you ask a child if he wants to go to the park. the

only downside for us is that every time we have to live for a period of time out of our house, for example on holiday, are suffering from the lack of comfort which we are accustomed. Our experience has taught us that this type of philosophical approach of building only has a positive impact on both those who build and enjoys the fact that to do good to those who use a home that welcomes in the true sense of the word, and for the planet must not struggling to support the well-being of man. Between the best and the worst, I repeat, the choice is forced.

Energy

Energy consumption

CEEB : 0.0001

Primary energy need : 24,30 kWhpe/m^2.anno

Primary energy need for standard building : 80,30 kWhpe/m^2.anno

Calculation method : UNI TS 11300

Final Energy : 63,00 kWhfe/m^2.anno

Breakdown for energy consumption :
The breakdown of the consumption of non-renewable energy (acuqa hot for the part not produced by solar panels, heating, cooling, ventilation controlled, LED lighting communal areas) is carried out with modules contabilizzione from which it can be read remotely.

More information :
100 sqm apartment:

annual expenditure for heating (except kitchen and acs) € 158

methane consumed mc 243

Envelope performance

Envelope U-Value : 0,16 W/m^2K

More information :
Attic to garage insulated with cellular glass U = 0.23 W/m2K PVC joinery with double glazing with low-emissivity argon interposed Ug = 1.1 W/m2K Uf = 1.2 W/m2K UWM = 1.25 W/m2K Insulated cover with wood fiber U = 0.2 W/m2K; the cladding have been realized with block Poroton cm. 30 and coat polystyrene and graphite cm. 14! For a total thickness of 48 cm.

Building Compactness Coefficient : 0,63

Indicator : n50

Air Tightness Value : 1,25

Renewables & systems

Systems

Heating system :
- Condensing gas boiler
- Low temperature floor heating

Hot water system :
- Condensing gas boiler

Cooling system :
- Floor cooling

Ventilation system :
- compensated Air Handling Unit

Renewable systems :
- Solar Thermal

Renewable energy production : 50,00 %

Environment

GHG emissions

, ie xx in use years : 1.43

GHG in use : 74,00 $KgCO_2/m^2$/anno

Methodology used :

CIRIAF - Interuniversity Research Centre Pollution from Physical Agents

GHG before use : 106,00 $KgCO_2$ /m^2

Building lifetime : 50,00 anno/i

GHG Cradle to Grave : 199,00 $KgCO_2$ /m^2

The instrument of the life cycle (Life Cycle Assestment - LCA) in the budget of raw materials and resources of the "building product" made it possible to assess the stages of life of the property in relation to the objectives of economic development

Life Cycle Analysis

method used IPCC GWP100A and CED 2001. From the study carried out by criteria

Water management

Consumption of harvested rainwater : 100,00 m^3

rainwater is collected in a cistern located on ramp to the garage with a capacity of 10,000 liters are used for irrigation and washing vehicles by the owners of the residence Annamaria

Indoor Air quality

The indoor air quality is guaranteed by a system of controlled mechanical ventilation with heat exchanger. The gaming ensures an optimal efficiency for the air exchange; has not been overlooked, however, the aesthetic appearance of the apartments, for which the areas traversed by the ducts for ventilation, have been adequately false ceilings creating a pleasant movement in some of portzioni ceiling.

Products

Product

Schöck Isokorb®

Schöck

Schöck Italia S.r.l Tel: 0039 335 5840342 Fax: 0039 0473 490070 info@schoeck.it

http://www.schoeck.it

Product category :

Schöck Isokorb ® is a thermally insulating element bearing that separates the structural elements outside the building and concrete-concrete concrete-wood, concrete-steel and steel-acciaio.Isokorb ® reduces thermal bridges, preventing the formation of condensation and mold.

FOAMGLAS ® cellular glass

FOAMGLAS®

distributore per il centro Italia Gallano s.r.l. via del conservificio 75 a 06083 Bastia Umbra - Pg morenotiberi@gallano.it

http://foamglas.it

Product category :

we used this recycled product to 90% for its excellent thermal insulation mounting it to the base of the perimeter walls of the ground floor and the basement (unheated)

Product category :

CAPAROL Italiana GmbH & Co. KG

Largo Caparol, 1 - 20080 Vermezzo (MI)

http://www.caparol.it

Costs

Construction and exploitation costs

Global cost/Dwelling : 375000
Reference global cost/Dwelling : 2000
Global cost : 1 500 000,00 €
Reference global cost : 2 000,00 €
Renewable energy systems cost : 15 000,00 €

Energy bill

Real energy cost/m2 : 18
Real energy cost/Dwelling : 2250
Forecasted energy bill/year : 9 000,00 €

Urban environment

The residence Annamaria was built on a lot that is part of a district already fully built in the late 70s. It is located halfway up a hill located between Perugia, which you can appreciate the visual and Montelaguardia. And well served by public transport, shops and parking lots and a few minutes from the historic center of Perugia, from main roads and hospital service and university. A few meters away are the public gardens of Ponte Rio.

Land plot area

Land plot area : 1 200,00 m^2

Built-up area

Built-up area : 20,00 %

Green space

Green space : 200,00

Parking spaces

8 above ground and five underground

Date Export : 20230510002725