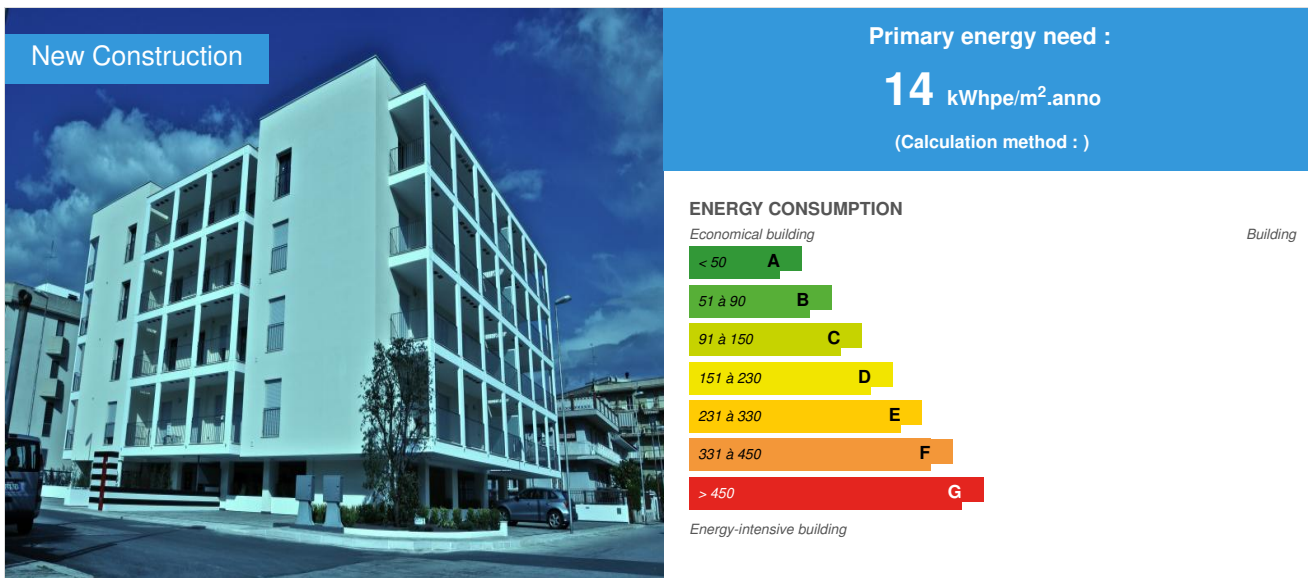


## Complesso Residenziale Solaria

by Antonio Stofa / 2014-01-30 18:42:32 / Italie / 13611 / IT



**Building Type** : Collective housing < 50m  
**Construction Year** : 2011  
**Delivery year** : 2014  
**Address 1 - street** : Via San Carlo 15 70010 CAPURSO (BA), Italia  
**Climate zone** : [BSh] Subtropical Dry Semiarid (Steppe)

**Net Floor Area** : 2 045 m<sup>2</sup>  
**Construction/refurbishment cost** : 1 300 €  
**Number of Dwelling** : 25 Dwelling  
**Cost/m2** : 0.64 €/m<sup>2</sup>

**Certifications :**



### General information

The building stands on a plot of a square corner in Via San Carlo Via Einaudi in Capurso (BA). The project is based on criteria such as innovation and building systems, sustainable materials and certificates with respect to health and the environment. They will also be subject to the provisions of the Regional Law n. 13 of 2008, which made him eligible to be recognized as a "pilot project" of a Memorandum of Understanding between the Puglia Region and the Municipality of Capurso, for the purpose of testing the Protocol Ithaca 2011 with the construction of apartments in the energy class A + and sustainability level 3. The building is spread over 4 floors used for residential and two car garage and basement used as cantinole, consists of 25 units divided into 6 different types of cutting and distribution covering an area of 2045.00 square meters, while the area devoted to parking is 2,420.00 square meters and the external relevance of the building is 1,280.00 square meters for parking places, garden area and access ramp to the basement. For the external areas has been provided the planting of native species.

**Data reliability**

## Stakeholders

### Stakeholders

Function : Contractor

Gruppo Stolfa Edilizia s.a.s.

Via F.lli Cervi, 6 - 70010 Capurso (BA)

[www.gruppostolfaedilizia.it](http://www.gruppostolfaedilizia.it)

Function : Construction company

Gruppo Stolfa Edilizia s.a.s.

geom. Antonio Stolfa

[www.gruppostolfaedilizia.it](http://www.gruppostolfaedilizia.it)

Function : Thermal consultancy agency

Studio di ingegneria ing. Petrelli Francesco

Function : Others

Consulente energetico-ambientale arch. Petrone Daniela

### Contracting method

Build and sell construction

### Owner approach of sustainability

Business ethics should be based on a new concept of the role of business today , combining the quality of life and economic development and profit , which translates into a Sustainable Development. My company is also committed to contributing to the dissemination of knowledge of the principles of sustainable building construction in accordance with Community rules, and being associated ANCE Bari -Bat and the District of Sustainable Puglia, as well as associated Confindustria, plays a role active in line with that of the associations, so that materializes a network of operators of excellence with the common interest to produce innovation for both the territory and for export of the same. If you do not tip on energy sustainability, it will be difficult to locate new housing on the market. Recent research confirms that the elements for the selection of new homes are rapidly evolving , until ten years ago it was thought to finish, today's safety and energy saving, in short, to reduce consumption.

### Architectural description

The development does not seek formal aesthetic effects spectacular, but it translates into concrete forms of spaces well distributed. The extreme rigor and simplicity of the architectural composition, not to be confused with the schematic, define the volume of the building as a compact body, which aims to return to the readability scores. The design choices were influenced by feedback of bioclimatic nature, to enhance the contribution of solar and prevailing winds in the area. This will make a building with a low environmental impact.

### If you had to do it again?

Assuming the absence of any repentance on innovative choices made, I would continue on the road to search for new engineering solutions and construction with the goal of consistently achieving houses to zero environmental impact.

## Energy

### Energy consumption

Primary energy need : 14,00 kWhpe/m<sup>2</sup>.anno

Primary energy need for standard building : 60,00 kWhpe/m<sup>2</sup>.anno

Calculation method :

Breakdown for energy consumption :

Provision heating 9 kwh/sqm/year Performance hot water 5 kwh/sqm/year

### Envelope performance

Envelope U-Value : 0,18 W/m<sup>2</sup>K

#### More information :

The structure of the building is reinforced concrete frame (columns and beams), with flat floors in brick and cement. The vertical partitions are as follows: - infill masonry exterior is of homogeneous type, made of aerated concrete blocks with a thickness of 42 cm, transmittance of about 0,20 W/m<sup>2</sup>K, - toward the stairwell walls/dividers between different units: are of type box, with double lining of different thicknesses of concrete and autoclaved interposing layer for thermal and acoustic insulation, consisting of a panel of polyester fiber laminated to a layer of cross-linked polyethylene closed-cell foam, the transmittance of the wall thus obtained was approximately 0,20 W/m<sup>2</sup>K - walls toward the elevator shaft: they are characterized by an interlining applied in overlapping septa structural concrete , and the interlining is made up of single-or double fiber board mounted on metal frames simple, with interposition of thermoacoustic insulating polyester fiber coupled to cross-linked polyethylene closed-cell foam , the overall transmittance is reported to be about 0,23 W / m<sup>2</sup> K.Le horizontal partitions consist of: - slab on stilts is characterized by isolation soffit via EPS panels added with graphite, for a transmittance of about 0,18 W/m<sup>2</sup>K; - slab interstorey: Faced with a transmittance of less than 0.80 W/m<sup>2</sup>K obtained with the interposition of EPS panel coupled to the supports ashlar HDPE of pipes of the air conditioning radiant type , its function is essentially to bring down the noise level of impact noise, performance obtained by the construction of a floating screed with interposition of a resilient layer of crosslinked polyethylene foam, closed cell high density coupled with needle-punched fiber - roof slab: the flat roof practicable and masonry is characterized by isolation of the type " hot roof ", with a layer of waterproofing in place above panels battentati in XPS, the overall transmittance of the stratigraphy (consisting of from boulder slope, vapor barrier panel Thermoinsulating, waterproofing, finishing screed and flooring) is approximately 0,18 W/m<sup>2</sup>K. The thermal bridge pillar - wall, beam - wall and balcony are corrected through the use of panels EPS with added graphite, suitably solidarized to the masonry through reinforcements network fiberglass.

Building Compactness Coefficient : 0,57

## Renewables & systems

### Systems

#### Heating system :

- Heat pump
- Low temperature floor heating
- Solar thermal

#### Hot water system :

- Heat pump
- Solar Thermal

#### Cooling system :

- Reversible heat pump
- Floor cooling

#### Ventilation system :

- Natural ventilation

#### Renewable systems :

- Solar photovoltaic
- Solar Thermal

Renewable energy production : 60,00 %

## Environment

### GHG emissions

GHG in use : 3,16 KgCO<sub>2</sub>/m<sup>2</sup>/anno

Building lifetime : 100,00 anno/i

### Water management

Consumption from water network : 360,00 m<sup>3</sup>

Consumption of grey water : 360,00 m<sup>3</sup>

Consumption of harvested rainwater : 375,00 m<sup>3</sup>

## Products

### Product

Climagold M / F 300 62,5 x20x42 cm; Climagold M / F 300 62,5 x25x15 cm

Xella Italia srl

-

<http://www.ytong.it>

Product category :

Infill masonry exterior is of homogeneous type, built with blocks of aerated concrete with a thickness of 42 cm, transmittance of about 0,19 W/m<sup>2</sup>K - walls to the stairwell/dividers between different units: are of type cassette, with double lining of different thicknesses in cls autoclaved and interposing layer for thermal and acoustic insulation, consisting of a panel in polyester fiber coupled to a mattress made of crosslinked polyethylene closed cell foam, the transmittance of the wall thus obtained is approximately 0,20 W/m<sup>2</sup>K.



The product is a high performance in terms of breathability and thermal inertia.

## Costs

### Energy bill

Forecasted energy bill/year : 120,00 €

### Urban environment

The area on which the building stands is located south-west of the city within walking distance from the center, the area is completely urbanized, in the vicinity of a line of local public transport and is fully served by sewerage, mains electricity, mains drinking water, methane gas network.

### Land plot area

Land plot area : 1 300,00 m<sup>2</sup>

### Built-up area

Built-up area : 60,00 %

### Green space

Green space : 100,00

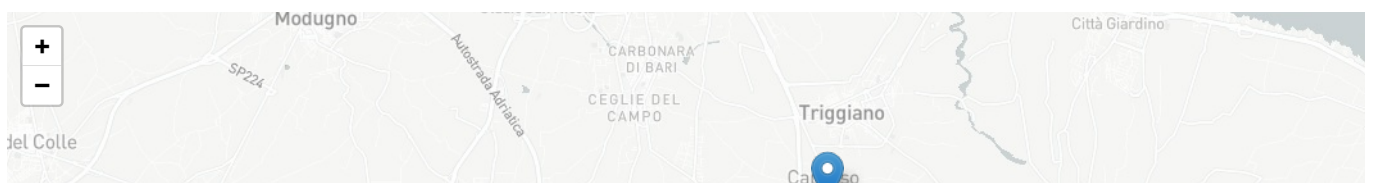
### Parking spaces

NR. 18 parking spaces on the ground floor

## Building Environmental Quality

### Building Environmental Quality

- Building flexibility
- indoor air quality and health
- acoustics
- comfort (visual, olfactive, thermal)
- water management
- energy efficiency
- renewable energies
- mobility





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