Building EnergyPlus Orru

by Paolo Orru / 2013-02-12 19:27:57 / Italia / 6889 / IT

Primary energy need :

5 kWhpe/m².anno

(Calculation method : UNI TS 11300)

ENERGY CONSUMPTION

Economical building *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 Type : Isolated or semi-detached house
Construction Year : 2010
Delivery year : 2010
Address 1 - street : 39028 SILANDRO, Italia
Climate zone : [Dwa] Humid Continental Hot Summer, severe, dry winter

Net Floor Area : 170 m² NGF (de)
Construction/refurbishment cost : 310 000 €
Number of Dwelling : 1 Dwelling
Cost/m2 : 1823.53 €/m²

Certifications :

General information

Passive House and Klimahaus Gold Plus, Passive House and CasaClima Oro Più, annual energy requirement of 3 kWh / m2a, 170m2 net, infrared electric heating system (1.5kW), 5.6kW photovoltaic system, solar thermal system, thermal coat 20cm rockwool, triple glazing fixtures.

See more details about this project

http://old.tekneco.it/progetto/abitazione-energy-plus/

Data reliability

3rd part certified

http://old.tekneco.it/progetto/abitazione-energy-plus/

Stakeholders

Contractor

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Construction Manager

Name : Ing. Paolo Orru
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Stakeholders

Function : Designer

Ing. Paolo Orru

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Contracting method

Build and sell construction

Owner approach of sustainability

self-sufficient building with almost zero environmental impact

Architectural description

3-storey single-storey terraced building, sustainable materials on the outside and inside, free of thermal bridges. 1,5kW infrared electric heating system, photovoltaic system, thermal soles plant, controlled mechanical ventilation system with heat recovery, clay plaster

If you had to do it again?

Anything

Building users opinion

very comfortable, nothing management expense

Energy

Energy consumption

Primary energy need : 5,00 kWhpe/m^2.anno
Primary energy need for standard building : 30,00 kWhpe/m^2.anno
Calculation method : UNI TS 11300

Envelope performance

Envelope U-Value : 0,25 W/m^2K
More information :
coat walls 20cm rockwool U 0.17

roof 32cm wood fiber U 0.14
Slab towards cellar 15cm perlite U 0.24

Building Compactness Coefficient : 0,43

Indicator : DIN 4108-7

Air Tightness Value : 0,60

Real final energy consumption

Year of the real energy consumption : 2 017

Renewables & systems

Systems

Heating system :

- Electric heater

Hot water system :

- Individual electric boiler

Cooling system :

- No cooling system

Ventilation system :

- Double flow heat exchanger

Renewable systems :

- Solar photovoltaic
- Solar Thermal

Renewable energy production : 100,00 %

Environment

GHG emissions

GHG in use : -9,00 $KgCO_2/m^2$/anno

Products

Product

Self-sufficient electric heating system

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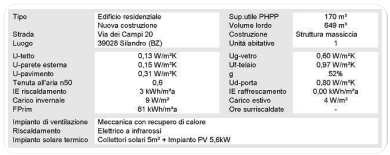
Product category :

Self-sufficient residential building

Excellent comfort, zero operating costs



Tipo	Edificio residenziale	Sup.utile PHPP	170 m²
	Nuova costruzione	Volume lordo	649 m³
Strada	Via dei Campi 20	Costruzione	Struttura massiccia
Luogo	39026 Silandro (BZ)	Unità abitative	1
U-tetto	0,13 W/m²K	Ug-vetro	0,60 W/m²K
U-parete esterna	0,15 W/m²K	Uf-telaio	0,97 W/m²K
U-pavimento	0,31 W/m²K	g	52%
Tenuta all'aria n50	0,6	Ud-porta	0,80 W/m²K
IE riscaldamento	3 kWh/m²a	IE raffrescamento	0,00 kWh/m²a
Carico invernale	9 W/m²	Carico estivo	4 W/m²
FPrm	81 kWh/m²a	Ore surriscaldate	-
Impianto di ventilazione	Meccanica con recupero di calore		
Riscaldamento	Elettrico a infrarossi		
Impianto solare termico	Collettori solari 5m² + Impianto PV 5,6kW		

Costs

Construction and exploitation costs

Total cost of the building : 310 000 €

Urban environment

Inserted in a complex of terraced buildings

Building Environnemental Quality

Building Environmental Quality

- indoor air quality and health
- biodiversity
- acoustics
- comfort (visual, olfactive, thermal)
- energy efficiency
- renewable energies

Contest

Building candidate in the category

Energia e Climi Temperati

Utenti Preferito

Date Export : 20230522225833