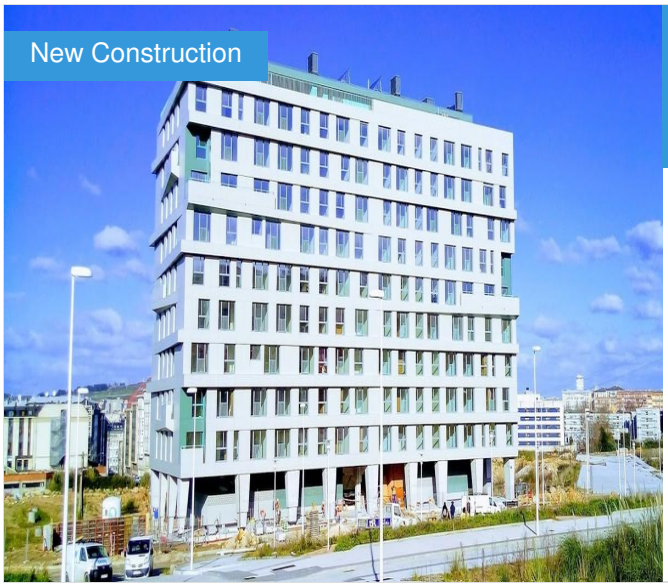
Cooperative of 74 homes at Parque Ofimático

by María J. Maroño Breijo / 2017-06-13 00:00:00 / España / 12014 / ES

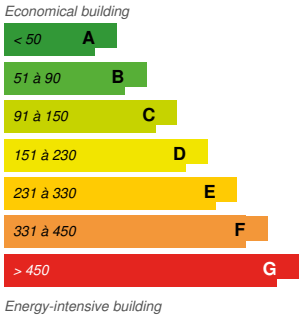


Primary energy need :

9.5 kWhpe/m^2.year

(Calculation method : RD: 47/2007)

ENERGY CONSUMPTION



Building Type : Collective housing < 50m
Construction Year : 2016
Delivery year : 2017
Address 1 - street : 15009 A CORUñA, España
Climate zone : [Csb] Coastal Mediterranean - Mild with cool, dry summer.

Net Floor Area : 13 633 m^2 Superficie útil
Construction/refurbishment cost : 6 105 160 €
Number of Dwelling : 74 Dwelling
Cost/m2 : 447.82 €/m^2

Proposed by :

MAGARAL INGENIERÍA

General information

Residential building consisting of five basements of garage, ground floor for commercial premises, 9 floors dedicated to 74 houses and a floor under cover where the technical rooms of the building are located. Given the sustainable character that the Cooperative wants to give its building, they have decided to go several steps beyond the norm and obtain a GREEN Environmental Certification, which recognizes their criteria and guarantees their respect for the Environment, giving visibility to the good practices carried out finished. Among the main conditions to be respected, and totally unrenounceable, is the improvement of the quality of life of the users while maintaining the environmental values, all without increasing construction costs. This project involves the construction of homes with noble appearance, durable and functional finishes and high energy efficiency (with Energy Certification type A), and is about to become the first housing with GREEN Environmental Certification in the Galician Autonomous Community.

See more details about this project

http://www.gbce.es/es/edificio/cooperativa-de-76-viviendas-libres-locales-y-garajes-en-el-parque-ofimatico

Data reliability

Assessor

Stakeholders

Stakeholders

Function : Designer

RÍO Y JUNCAL ARQUITECTOS, S.L.

Pilar López Río - pilarlopezrio@rioyjuncal.es

http://www.rioyjuncal.es

Project and construction management

Function : Construction company

MAGARAL INGENIERÍA, S.L.

Manuel García Álvarez - manuelgarcia@magaral.com

http://magaralingenieria.com

Facilities Consulting

Function : Environmental consultancy

MAGARAL INGENIERÍA, S.L.

María J. Maroño Breijo - maria@magaral.com

http://magaralingenieria.com

GREEN Environmental Assessment

Contracting method

Other methods

Owner approach of sustainability

Residential building consisting of five basements of garage, ground floor for commercial premises, 9 floors dedicated to 74 homes and a floor under cover where the technical rooms of the building are located. Given the sustainable character that the Cooperative wants to give to its building, they have decided to go several steps beyond the norm and obtain a GREEN Environmental Certification, which recognizes its criteria and guarantees its respect for the Environment, giving visibility to the good practices carried out during the construction. Among the main conditions to be respected, and totally unavoidable, is the improvement of the quality of life of the users while maintaining the environmental values, all without increasing construction costs. This project involves the construction of homes with noble appearance, durable and functional finishes and high energy efficiency (with Energy Certification type A), and is about to become the first building of housing with GREEN Environmental Certification in the Galician Autonomous Community.

Architectural description

The Galician Cooperative Society of Parks Parque Ofimático aims to build a high quality building, durable and requiring low maintenance, with maximum energy efficiency and showing great respect for the environment. For this reason, it decided to go several steps beyond the norm and obtain a GREEN Environmental Certification, which is currently in process, and that it will recognize its criteria and guarantee its respect for the Environment, giving visibility to the good practices carried out. This project involves the construction of homes with a noble appearance, durable and functional finishes and a high energy efficiency (with Energy Certification type A), and is about to become the first building of housing with GREEN Environmental Certification in the Galician Autonomous Community .

Energy

Energy consumption

Primary energy need : 9,50 kWhpe/m^2.year

Primary energy need for standard building : 89,20 kWhpe/m^2.year

Calculation method : RD: 47/2007

Final Energy : 3,60 kWhfe/m^2.year

Breakdown for energy consumption :
Heating: 2.10 kWhEP / m^2.year
Cooling: 0.00 kWhEP / m^2.year
ACS: 7.30 kWhEP / m^2.year

Envelope performance

Envelope U-Value : 0,27 $W.m^{-2}.K^{-1}$

More information :
U covers: 0.33 W / m²K
U facades: 0.27 W / m²K
U exterior floors: 0.27 W / m²K
U Glasses: 1.60 W / m²K
Solar Factor Glasses: 0.59
Air permeability of carpentry: Class 4

Building Compactness Coefficient : 0,34

Renewables & systems

Systems

Heating system :
- Heat pump
- Low temperature floor heating
- Solar thermal

Hot water system :
- Heat pump
- Solar Thermal

Cooling system :
- No cooling system

Ventilation system :
- Single flow

Renewable systems :
- Solar photovoltaic
- Solar Thermal
- Heat pump

Solutions enhancing nature free gains :
The architectural design is based on an environmental strategy based on the capitalization of the benefits of solar radiation and prevailing winds. On the resulting volume of building, an eave system is projected onto the façades

Smart Building

BMS :
All homes have a home automation system that allows both the management of alarms and the management of the operation of blinds, lighting and heating using tablet, pc or telephone with internet connection. They also have thermal counters

Environment

GHG emissions

GHG in use : 2,30 $KgCO_2/m^2$/year

Methodology used :
Spanish Royal Decree: 47/2007

Building lifetime : 50,00 year(s)

Life Cycle Analysis

Indicators contemplated: Incorporated energy (57,363,474.82 MJ) and global warming potential - equivalent CO2 emissions (4,976.80).

Water management

Consumption from water network : 13 828,00 m^3

Water Consumption/m2 : 1.01

Water Consumption/Dwelling : 186.86

The building has timed faucets of low flow and cisterns of double discharge to reduce the consumption of inner water as much as possible.

Comfort

Health & comfort : 100% of the houses are protected of the exterior views. 50% of homes are entitled to the sun, so they get direct sunshine in the areas inhabited during the central hours of the day throughout the year. And 12% of the homes have private open spaces through terraces.

Measured thermal comfort : Temperatura interior en invierno: 21°C - Valor de aceptabilidad: 90%

Products

Product

Ceramic sheet for ventilated facade LAMINAM

LAMINAM

info@laminam.it

http://www.laminam.it/es/home/

Product category : Obras estructurales / Estructura - Albañilería - Fachada

LAMINAM sintered porcelain sheet of 3000x1000 mm and 5 mm thickness for exterior sheet of ventilated facade system.

Direct acceptance by recognition of the brand.

Drawer SUNON prefabricated box

SUNON

zonanorte@sunon.es

http://www.sunon.es/esp/cajones_sunon.php

Product category : Acabados / Carpintería exterior - Puertas y Ventanas

SUNON STABIL PREMIUM pre-fabricated drawer formed by Heraklith type insulating plates and high density polyurethane.

Direct acceptance by recognition of the brand.

Carpentry CORTIZO COR-60 blade hidden

CORTIZO

jfigueroa@cortizo.com

https://www.cortizo.com

Product category : Acabados / Carpintería exterior - Puertas y Ventanas

Aluminum joinery CORTIZO COR-60 Blind sheet, European RPT channel. Classified class 4 according to UNE EN1026, 9A according to UNE EN102 and C5 according to UNE EN12211.

Direct acceptance by recognition of the brand.

Thermal insulation VERTIROCK DUO ROCKWOOL

ROCKWOOL

asistencia.tecnica@rockwool.es

http://www.rockwool.es

Product category : Acabados / Acabado, aislamiento

Semi-rigid panel of uncoated 80 mm VENTIROCK DUO rock wool from ROCKWOOL for thermal insulation of facades.

Direct acceptance by recognition of the brand.

Heat pump SAMSUNG AM060FXMDGH / EU

SAMSUNG

airconditioner@samsung.com

http://www.samsung.com/es

Product category : Climatización / Calefacción, agua caliente

SAMSUNG DVM S mini AM060FXMDGH / EU heat pump with 18 kW nominal power and COP of 4,10. Inverter Compressors with steam injection technology controlling the performance at low temperatures. Partialization from 5 to 100%.

Direct acceptance by recognition of the brand.

Radiator panel DIFUTEC of ALB

ALB SISTEMAS

info@alb.es

http://www.alb.es

Product category : Climatización / Calefacción, agua caliente

DIFUTEC® insulation panel, made of self-extinguishing expanded polystyrene (Eurocalse E) 30 mm thick and 30 Kg / m³ density. It has a superficial sheet of 0.25mm aluminum, heat diffuser, self-adhesive flaps and screen-printed guide grid.

Direct acceptance by recognition of the brand.

Costs

Construction and exploitation costs

Reference global cost : 634,13 €

Renewable energy systems cost : 56 687,60 €

Reference global cost/Dwelling : 634.13

Total cost of the building : 6 105 161 €

Urban environment

The building is located in a new urbanization which represents the natural continuation of Matogrande, a fully consolidated urban area located at the entrance of the city of A Coruña. This urbanization constitutes a newly designed neighborhood with multitude of green areas. It is a perfectly connected area that has all the services and is surrounded by shopping centers.

Land plot area

Land plot area : 1 000,00 m^2

Built-up area

Built-up area : 43,75 %

Green space

Green space : 281,24

Parking spaces

The building has a total of five underground floors where the storage rooms and parking spaces are located. The total number of parking spaces is 128.

Building Environmental Quality

Building Environmental Quality

- works (including waste management)
- comfort (visual, olfactive, thermal)
- water management
- energy efficiency
- renewable energies
- integration in the land

Contest

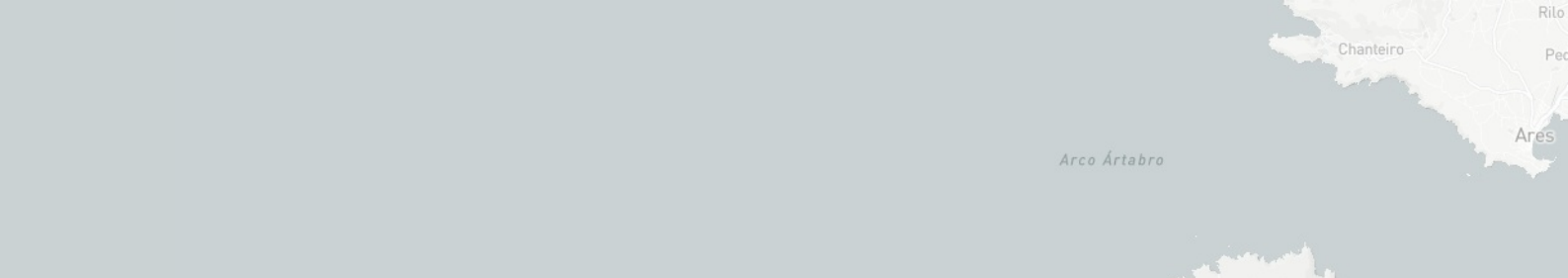
Building candidate in the category

Energía & Climas Templerados

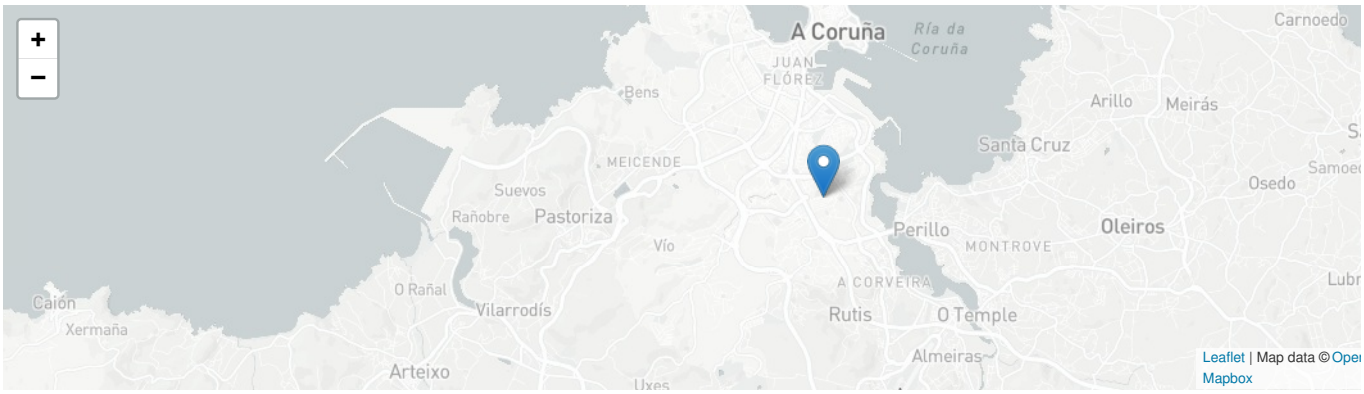
Bajo Carbono

Salud & Comodidad

Edificio Inteligente



Premio de los Usuarios



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