

1. Business information.

Empty Space Architecture

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Practice

Empty Space Architecture, is a office, formed to operate in the market of Architecture, Design and Construction, covering the areas of Projecting, Planning, Consulting and Coordination, Private and Public Works.

The Empty Space Architecture, rule, is the continued investment in research and development of new methodologies in different areas of design and construction.

The office is composed of architects and engineers who develop together each phase of the project.

2. Entry details.

General framework of the house.

Project name: "Godiva House"

Location : Cascais, Portugal

Date : 2012

3. Purpose of the design.

The premisses of this study were based on creating a contemporary and more sustainable possible architectural object, where the easy living space associated with a constant dialogue "inside / outside", gave rise to a dwelling designed for two users with reduced mobility.

The "Godiva house", fits in a rational architecture, where the accuracy of the design associated with the use of simple geometric, use of noble materials and new construction methods, giving rise to a dynamic architectural object where the accuracy of the construction detail and the artistic form derived from a method based on constant dialogue between form and function.

4. Spatial organization of the intervention.

Implantation

In a terrain of triangular drawing, two rectangular volumes interconnected by a central quadrangular volume (pivot), are rotated according to the imposed limits by municipal rules alignments, materializing the drawing of a house

Spatial organization.

This architectural object is composed of three containers of different dimensions. The South container is designed to accommodate private spaces of the house (rooms, suites). This volume is torn in its south elevation, for an outdoor space for seating and circular, which has as main objective to create the frontier of the immediate contact (room / garden). Since this is a "Foyer" in the open air.

The North container receives the social spaces of the house (semi-public). composed of the main room, dining room and kitchen. This container torn by large spans, is dependent on the constant relationship indoor / outdoor, regardless of how direct or indirect reach their spaces. This volume oriented to infinity , has the pretension to be the central "box seat" of an green outdoor "scene"

The smaller central container, is the prime and principal element of all formal and spatial organization of this architectural object. It is the hinge. It is the element of arrival and departure. He is the interconnection element of the low elevation to the high. He is the center of the building.

The set of spaces that formalize the ground floor as a whole are designed to accommodate all the equipment of treatment to which users are daily subjected (hydrotherapy pool, physiotherapy rooms) as well as space for receiving the complex mechanical equipment that this house is subject, to respond to the demands of a more sustainable way possible.

5. Architectural Solutions to highlight.

The design of spaces that compose this architectural piece is essentially a constant and ever-present dialogue between the interior and exterior spaces, where the nature of each one can reflect what he wants to be. The interior spaces whatever the function combined with the exterior space for the garden which is open directly or indirectly to suggest its own function. The garden is designed as if it were a set of interior spaces to relax or walk, without a roof. The constant presence of natural light to flood the interior spaces in several hours of sun exposure, is materializing and enrich the architectural piece, through a constant and interesting play of light and dark (light and shadow). This piece of architecture intended for dwelling, reflects a very singular way to live and walk in the world by its users.

6. Sustainability and Environment.

This is a project where attention to the specific characteristics of the materials and environmental sustainability, was a constant. The permanent resource of new technologies associated with a construction will use new materials (Passive Thermal Solution), provided that the building received (**Certification of Energy Performance and Indoor Air Quality "A +"**).

The Energy sustainability of this building can be divided into three chapters:

PASSIVE THERMAL SOLUTIONS

Use ETICS System (Thermal Insulation on the outside), correction of thermal bridges from the foundation until the coverage, use of frames with a high break thermal coefficient, double glazing with thermal break and UV filters, etc.

ACTIVE THERMAL SOLUTIONS

The main bases that the Project "Godiva House" relies on order to be environmentally sustainable.

First of all the architectural Project in terms of solar orientation provides thermal gains.

HVCA system and hot water production based on renewables energies.

Hot water: Generated by solar thermal system, surpluses diverted to central heating and indoor pool.

Underfloor heating hydraulic pump system, obtained by heat pumps and thermodynamic, as well the pool. All devices with very high coefficient of performance. COP.

The whole system allows deallocate a significant amount of fossil energy, and, therefore, the "Godiva House", obtained by **the official certification body, the energy class rating A + (highest)**.

note:

- Safeguarded the collection of rainwater for irrigation through buried deposits.
- All mechanical equipment and lighting energy - Class A "