

**UBIKO<sup>-</sup>**

**Energy Efficiency**

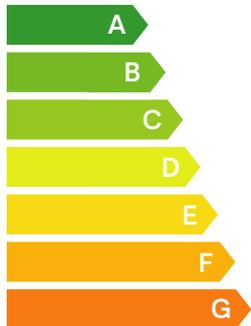
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We care about houses, but we also care about how you live inside and outside them: at UBIKO we want our homes to achieve the best energy ratings.

In fact, a team of technicians studies each project so that it is sustainable and generates the minimum consumption. And we take care of accomplishing this, by combining passive architecture with insulation systems in parameters, roofs, and carpentry.

The regulations have changed since 2007: it is now compulsory to prove that an energy performance certificate has been obtained, starting from the initial phase of the project. In the same year, it was also specified that new buildings must meet the minimum requirements of the Spanish Technical Building Code (CTE), which refers to energy saving and thermal insulation.

### Energy Efficiency Labels



## What is Energy Rating?

The energy rating of a house is the index that indicates its efficiency, through a scale of letters that goes from A (for the most efficient homes) to G (for the least efficient).

## Energy Rating

The factors that are taken into account when defining the rating are detailed below:

The energy efficiency level is determined by calculating the necessary energy consumption to satisfy the energy demand of the building, based on normal operating and occupancy conditions.

01



Limitation of energy demand.

02



Performance of thermal installations.

03



Energy efficiency of lighting installations.

04



Minimum energy contribution.

## Energy Rating

The energy rating scale, which has been agreed upon and approved in the current legislation, is based on a set of guidelines:

- The scale should clearly differentiate efficient buildings from non-efficient buildings.
- It should also be sufficiently sensitive to improvements. That is to say, when the recommended improvements are made to a building, in relation to its encompassing thermal system, and based on the requirements demanded by the CTE, the scale should have the option of raising its rating by at least one level. And in special circumstances, it should have the possibility of gaining more than one letter, in the context of economic profitability
- Achieving the highest A-level rating should be feasible in all climates.
- The highest rating will be reserved for buildings with an ideal design, significant use of renewable energies, and highly energy-efficient solutions, both in their thermal envelope structure as well as in their air-conditioning installations (without the context of economic profitability being a determining factor).





### And what about UBIKO homes?

The façade enclosure is made up of the structural system of the house using prefabricated concrete panels. On the inside, these panels are lined with acoustic and thermal insulation, which is defined by the energy efficiency calculation. The final interior layer is laminated plasterboard that can be painted or coated with any material available on the market.

On the other hand, the interior vertical partitions consist of a simple self-supporting framework, made of two 13 mm thick laminated plasterboards on each side, screwed to a simple substructure of 48 mm wide galvanised steel profiles, with 600 mm spacing between uprights, and the corresponding insulation.

Everything is defined, through calculation, by a control laboratory which, based on the orientation and location of the plot, as well as the openings (windows of the house), specifies the characteristics and thicknesses of the insulation.

In these studies, we work on the orientation of each opening, as well as the proximity of other constructions and the way in which these act as a screen to the wind, rain, or cast shadows on the house. This is a fundamental analysis, not only in terms of regulations but also because we firmly believe in the need for energy awareness to be applied in our daily lives.

Combining this system with efficient, low-consumption installations allows us to achieve A and B energy ratings.

Finally, UBIKO houses are built with precast concrete. This brings two benefits: the amount of waste generated during the construction phase is reduced, and the execution process is cut by half (five / six months) compared to traditional construction.

**UBIKO™**

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