

# Types and advantages of ecological bricks

[Design](#), [Architecture](#)



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Ecological bricks are a key element in ecological architecture. However, the term groups different types of materials and their benefits can also be very different. Despite their differences, all of them will have in common a series of environmental or sustainability advantages. In this article we are going to make a brief and simple introduction to the subject, which is actually much broader and more complex. Keep reading this article and learn the most important thing about ecological bricks: what they are, types and advantages.

## **What are ecological bricks**

In general, we associate the bricks with a contaminating material. That's right, except for ecological bricks or eco-bricks. Nowadays, the use of ecological bricks is unusual, although historically more sustainable construction materials were used on a regular basis. Among others, straw, mud or wood, say. Currently, conventional bricks require a lot of energy for their manufacture, so the environmental impact is important. Of course, we must recognize that there are more and more ecological initiatives that try to reinvent or replace traditional bricks using sustainable materials or promoting sustainability with their use to help us save energy. Or, which is

the same, to offset the carbon footprint by acting as insulation to the house. Thus, we will define ecological bricks as those whose manufacture does not imply an environmental impact as great as that of conventional bricks. Both the type of materials used and their manufacturing process and functionality can determine that they are. Logically, we will find more ecological bricks than others, depending on their level of sustainability in some aspects. For the rest, green bricks provide the same or even greater strength than traditional bricks. Used within an architectural plan of the bioconstruction can offer us the same aesthetic qualities and advantages in terms of comfort and safety.

## **Types of ecological bricks**

These are the main types of eco-bricks or ecological bricks and their characteristics: The coal ash bricks invented by Henry Liu in 1999 are a great way to recycle the ashes generated in coal-fired power plants, while taking advantage of their high temperatures for their manufacture. A similar version, still in the prototype phase, is the black brick proposed by an MIT team led by Michael Laracy and Thomas Poinot, who propose to manufacture them from the waste produced by the paper industry in India. Its objective is to obtain an alternative to the traditional red clay brick so that that country does not continue to deplete its natural resources, while at the same time they can take advantage of this waste. Hemp and straw bricks or peanut shells are also well known . In both cases we obtain very resistant bricks with great insulating properties, which help us to save on the heating and air conditioning bill while we take care of the planet. The irregular brick that shows the image that opens the post is an example of conventional brick, it

is made of clay, which nevertheless provide us with ecological advantages thanks to its insulating capacity. Basically, they are bricks that add the geometric shapes of a triangle and a rectangle to slow down the heat and thus keep the house cool. Also, acoustic insulation is achieved and the facade can remain as such, because its appearance is aesthetic.

On the other hand, earth bricks or compressed sand are more expensive and brittle than conventional bricks or concrete blocks, but they provide much better insulation. That is, we will need to make a subsequent isolation that will increase the expense and the carbon footprint. In an avant-garde key, the Massachusetts Institute of Technology, in collaboration with the Lawrence Livermore National Laboratory, proposes a novel material as light as airgel, also called frozen smoke. It is capable of supporting up to 160, 000 times its own weight and can easily be produced with 3D printing. There are also those bricks that do not have a known inventor, very used thanks to word of mouth, and in this internet has a good part of the merit. This is the case, for example, of the eco-made with domestic waste, such as recycled plastic bricks, ideal for making a wall or a small house. For this we will use plastic bottles in which we will introduce sand or other non-organic waste, such as paper, cardboard or plastic bags. The objective is to fill them with materials that provide resistance to the bottles. Once achieved, we group them in a mold in which we will pour cement to fill the gaps. In this way, when they dry, we will get bricks of good size, which can be used as a block.

## **The Advantages of Green or Ecological Bricks**

At this point, it is easy to understand that since ecological bricks encompass a very wide casuistry, they also have very different advantages. Analyzing each brick is the best way, therefore, to choose the one that best suits our preferences and needs. In general, however, we can mention some advantages of ecological bricks, although they are not always met, without implying that they are not. Between them: Lower environmental impact, insulating capacity of cold, heat, noise and humidity. Savings, both when purchased or manufactured in an artisan way and amortizing them through the energy savings they provide. They also tend to be lighter, finally, thereby reducing construction times and the effort that workers must make. Without forgetting, of course, the preservation of ecosystems and biodiversity that leads to the manufacture of many of them.