

# RICEHOUSE – FROM AGRICULTURE TO ECOLOGICAL ARCHITECTURE IN ITALY

[Ricehouse](#) is an Italian startup company, created in 2016 by the architect Tiziana Monterisi, which transforms waste derived from rice processing into bioconstruction materials suitable for all types of buildings.

By adopting a *circular economy* approach, RiceHouse uses the residues of the agricultural production in the territory to give them a new life in the field of ecological constructions that seeks new solutions to reduce environmental impact and to guarantee energy savings.

Thanks to the mixture of natural lime, rice husk and straw, RiceHouse products are completely natural, very light, highly thermal, breathable and healthy. The new materials also stand out for their easy application, manual or mechanical, and are suitable for all types of works, from renovations to new buildings.

In particular, Ricehouse produces the following products from rice residues:

- [Warm and natural plaster for thermal and acoustic insulation](#) with remarkable hydrothermal properties. Produced with natural lime and rice husk, it reduces indoor pollution by absorbing internal CO<sub>2</sub>, ensuring better living comfort and saving on heating.
- [Natural finishing plaster](#) that exploits the chemical characteristics of rice chaffs in combination with a selection of lime, marble dust and earths of natural origin. The material is stable with UV rays, resistant to bad weather and with a high evaporation capacity of the humidity present in the walls.
- [Enlightened foundation screed](#) of different types based on natural lime and rice husk. It is light, extremely flexible, breathable, compatible with all substrates and it is not attacked by rodents or insects. It can be used for thermal insulation and for the reduced load on the slabs, in the bio-building interventions and in the renovation of buildings of historical interest.

In collaboration with the *Novellocase* company, Ricehouse has also created the new *Risorsa* brand, which promotes the development of prefabricated houses in wood and rice straw, with a bio-architecture approach. The *Risorsa* project has industrialized the manufacturing process of wood frames and pre-compressed straw to create homes with a very high energy





efficiency that meet passive standards. The materials used are exclusively of natural origin, coming from a short supply chain.

The design of the new Ricehouse materials was born in Biella (Piemonte Region), in a territory characterized by rice production and where large quantities of waste, that are not suitable for breeding purposes, generally remain in the fields, waiting to be eliminated. Taking into account the experiences using the straw generated by other cereals, Ricehouse has designed the processes to recover and transform the waste from rice production into bioconstruction materials suitable for all types of buildings

The production process created by Ricehouse brings significant economic and environmental benefits for the sustainable development of the territory, valuing its specific natural and productive resources. In particular:

- It offers high quality, competitive and low environmental impact materials, created with local resources, for the green building sector;
- it helps solve environmental problems related to the current practices for the elimination of wastes from rice processing, and to reduce relative costs;
- it allows the organization of structured processes of collection, storage and recovery of rice crop residues, involving the producers in the entire production chain;
- It allows to strengthen a traditional agri-food production, discouraging the replacement of rice cultivation with other unsustainable practices, contributing to improve the territory with a new innovative economic chain that combines agriculture and ecological architecture.

RiceHouse products have successfully passed all the necessary trials to obtain certifications on their technical, insulating and acoustic characteristics. Since January 2019, the products are for sale and can be purchased by anyone, by contacting the company directly. The company has already built more than 1,000 square meters of walls with these natural materials, saving 525,000 kg of CO2.

During 2018 and 2019, Ricehouse received important awards in competitions organized in Italy to reward innovative projects in the fields of natural architecture, green building and energy saving. RiceHouse is mentioned in a 2019 publication by Ellen MacArthur Foundation for the creation of new materials and bioenergy through a circular economy approach.

#### To know more

[Ricehouse website](#)

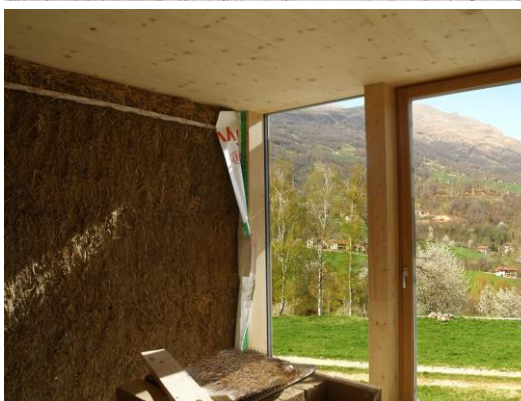
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