



SUSTAINABLE MODULAR HOUSE

Design that reduced the energy consumption in up to 67%

The access to quality housing solutions, the development of neighborhoods and equal, integrated and sustainable cities is an ongoing challenge for national and local governments. Thus, sustainable building construction that improves the quality of life of people while balancing social, economic and environmental aspects throughout their whole life cycle (design-construction-use), presents itself as a constant preoccupation amongst the responsible organizations.

THE TECHNOLOGY

The technology consists in an innovative design for social housings of heightened thermal and building efficiency. It has 60m² of surface, 3 bedrooms (with an optional 4th) and 2 bathrooms, high seismic resistance, comfort and universal accessibility regarding people with reduced mobility. The design considers the self-provision of water for toilet use, radiation control on the front to avoid overheating, solar air panels for heating and photovoltaic ones for electricity, solar-powered clothes dryer and the possibility for an orchard on the third level. This technology saves up to a 67% in energy consumption and up to a 54% in water consumption, compared to an average household.

DEVELOPMENT LEVEL

Design tested and optimized through a real construction with efficiency tests performed.

LEAD RESEARCHER

Pablo Altikes.

MAIN BENEFITS AND ADVANTAGES

This innovative design improves the transportability (modular) and sustainability of social housings in Chile, while standing out for: lowering the amount of materials needed for installing; including access for people with impaired mobility in all the areas on the first floor; increase in recreational areas; includes passive strategies for energy saving and adds elements according to the National Strategy for Sustainable Building (Res. Ex. N°9035); installation time doesn't exceed 9 days and it's transportable in a container.

APPLICATIONS / USES

To be used in the construction of social housing and also as a second house.

TECHNOLOGICAL OFFER

- Available for licencing.

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