

## BoxBox ADU

Durable and green materials, innovative building methods, and compact yet comfortable spaces are the criteria BoxBox uses to compose a detached Accessory Dwelling Unit (ADU). As the effort to increase residential density ensues, homeowners have the opportunity and obligation to contribute to affordable housing and generate a source of passive income simultaneously. In order to accomplish these goals, designers can play a key role to responsibly articulate these spaces to be efficient, affordable, and livable.

It is one thing to build an affordable and efficient living space, but doing so with eco-friendly materials which heighten a building's resilience and aesthetic appeal is another feat in itself. Bamboo, however, is quickly proving itself as a miracle material that can accomplish sustainability, durability, and aesthetic goals.

**Sustainability:** Giant bamboo is the fastest growing plant on the planet; particularly, *Phyllostachys Pubescens* or 'moso bamboo' is claimed to be the fastest species. Technically a grass, this plant only needs a couple of months to reach its full length of 20 meters (65.62 feet), and 5 years to mature into the hardness required for flooring and cladding applications. Compared to a typical hardwood tree, which needs approximately 50 years to mature, bamboo takes a fraction of the time. Furthermore, poles are harvested from the mother plant, which will not kill the plant. As a result, new shoots will grow from the mother plant, and no deforestation occurs. Bamboo is easily recyclable. It can be used as a by-product to make chipboard or can be burnt in a biomass plant to create a greener electricity source

**Durability:** Bamboo's durability also factors into its sustainability in that, the longer the life span a material possesses, the longer it takes to replace it. Per European Standard EN 350, Moso bamboo tested in the highest durability class (class 1).

**Aesthetics:** Bamboo has a unique natural grain, offering a brilliant texture to flooring, cladding, and decking applications. While the design appearance of wood grains are subjective, Moso offers a wide range of styles, configurations, and colors.

Considering how bamboo products possess a circular life cycle, a lengthy life span, and aesthetically pleasing qualities, it was an easy decision to clad and floor this ADU with bamboo products from Moso.

<https://www.moso-bamboo.com/>

Another goal BoxBox sought to achieve was to inspire a do it yourself (DIY) mentality for homeowners. Building a home, however small, can seem like a daunting task. This is why we typically leave this type of task to the professionals. However, with the current state of the economy, an experienced builder may be a luxury people cannot afford. But what if you could build it yourself? Furthermore, what if you could build your ADU with a material inspired by everyone's favorite stackable toy? This is now possible with Gablok, an easy-to-use stackable block made from OSB and rigid insulation. From a Berlin-based company, Gablok aims to

revolutionize the building industry by presenting the homeowner an intuitive method to frame their building. Consequently, this reduces labor cost, and by using a thick graphite expanded polystyrene insulation material, it reduces energy consumption. By embracing a DIY approach, homeowners can use the funds normally dedicated towards labor, and direct those funds towards higher quality materials.

<https://gablok.be/en/>

Compact, yet comfortable spaces is the final criteria BoxBox ADU attempted to solve. As we increase density in our urban and suburban environments, it is critical these smaller spaces are composed to be accessible, simple, and efficient. To address concerns for individuals who might age in place, a single story building with a slab on grade was chosen for this scheme. In an effort to make a simple, light space, instead of defining living zones with solid planes, moveable 7 foot built-in cabinets were added to clearly define spaces with an added feature of flexibility. To successfully craft small but pleasant spaces, furniture should be thought of as dynamic, rather than static. A Brooklyn based company called Ori excels at this concept. While they apply their innovative smart furniture to micro apartments, the same principle can and should be applied to ADUs. With a multitude of configurations for closet, living, and work spaces, the possibilities are seemingly endless. Applying Ori's concepts to create a live/sleep zone and an office/closet zone permitted a larger kitchen and bathroom. Spaces that are typically sacrificed in order to save square footage. Dynamic furniture is the future of well-designed micro spaces.

<https://www.oriliving.com/>