

## What is Superadobe? Essentials of the technology

**On-site earth** – optionally mixed with **stabilizing material** (e.g. lime or cement) – is filled into **polypropylene bags (sandbags) or tubes** (the uncut raw material of the bags). The superadobe tube is **tamped** like it is done when we build a traditional rammed earth house.



We lay strands of galvanized **barbed wire** between the superadobe rows, which keep the layers together (like mortar) and increase the tensile strength of the structure.

The long-lasting polypropylene (PP) tube acts as a **formwork** that stays in the wall giving a permanent extra strength to the structure. The water can leave the earth through the gaps of the woven strands of the PP tube, and it keeps the filled plastic earth together until it gets dried and set. Finally the wall is **plastered** that protects the PP from the damage that UV-radiation could cause to it.

Superadobe is like a large “superlong” adobe, an **instant and flexible wall generator**, which we can use to form long rows without intermission. Since the raw earth is plastic and the tubes are flexible, we can easily build a great variety of structures, not only squared buildings but also **arched walls, vaults and domes** that have many **static and aesthetic advantages**.

Building with Superadobe is **easy, environmentally and economically friendly, and anyone can learn it**.

Superadobe structures are **stable and water resistant**, and can resist even to **extreme weather and environ-**



**mental conditions** – like **floods, windstorms, fire or earthquakes**. **Eco-Dome** – prototype of the technology – passed the very strict California’s building codes.

Dependent on what a structure we want to build, PP tubes can be substituted with different materials, e.g. with raschel (**hyperadobe**) or with natural materials like burlap or linen (**bagadobe**).

## Origins of Superadobe technology

Superadobe technology integrates traditional, timeless building techniques and materials with the latest results of science and industry.

The concept comes from the Persian-American architect **Nader Khalili**, who was working before as a successful skyscraper specialist. In 1991 he founded the **California Institute of Earth Art and Architecture (Cal-Earth)**. His basic idea was to help the poor and the victims of environmental catastrophes with quick and cheap living solutions. However the development of the concept showed that the possible utilization of the technology or its combination with other building methods is so extensive that maybe only our fantasy can set a limit to it.

Superadobe system is proper for the current structures and building engineering, but it is a great alternative to build **eco (green) and autonomic houses**, and for the fans of **organic building, earth houses, sacral geometry** (e.g. feng shui) or **folk architecture**. From **simple and cheap to luxurious** we can build different kinds of structures that meet the contemporary global safety and comfort requirements: from **houses, industrial and farm buildings to landscaping structures** etc.

With his original “Velcro-adobe” concept Khalili was invited to the NASA program of **“Lunar bases and planetary activity in space in the 21st century”**.

## What can you build from Superadobe?

- Family houses, semi-detached and terraced houses;
- Small block of flats, subdivisions, eco-villages;
- Holiday houses, bungalows, camps, garages;
- Community, educational and cultural buildings;
- Offices, shops, marketplace, pavilions, kiosks;
- Industrial, farm and outbuildings, cellars;
- Renovation, strengthening, protection or enlargement of old adobe or brick buildings;
- Walls, steps, ovens, plasterwork inside and outside;
- Garden facilities, landscape architecture: fences, buttress walls, garden furniture, fireplaces, rose-bowls, flowerbeds, doghouses etc;
- Works: lakesides, river bends, barrages, flumes, pools, cisterns;
- Temporary or permanent shelters;
- Flood, underflow, erosion and landslip control.



## SuperAdobe and PermaCulture Workgroup

Hungarian Superadobe Workgroup was founded in 2010 December. It is working on the **adaptation, development and introduction of Superadobe technology in Hungary** and in the **CEE region** by the guidelines acquired in the Cal-Earth Institute. Our aim is to **join with the local and regional communities of organic building and environmentally conscious, sustainable living**. We have started to establish a small **eco-village – Rainbow Village** – that aims to serve not only a model but also an **educational center** for green building and the connected topics, like **permaculture, renewable energy, water protection, healthy and conscious living**.