KRAZEE BOIZ
CONSTRUCTION

Rethinking **Construction**

Sandbag building

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SANDBAG BUILDING

Sandbag building

The use of recyclable and available materials in large quantities is one of the recent trends in sustainable building.

Sandbag building is surely one of the lowest cost, most practical building methods.

First used by the military for building durable, bullet and blast resistant structures, this building method has recently experienced a surge of interest among builders. There are now an estimated 2,000 to 3,500 earthbag structures, including homes, offices, shops, schools, temples, clinics, orphanages and even ecovillages.

Our sandbag building system is one of the best and easy ways to do it, with lots of advantages for you, the environment and the economy.

This construction alternative offers design flexibility, environmental responsibility, energy efficiency, long-term structural integrity, durability and lower home-operation costs.

ADVANTAGES

Ecological advantages

- Sand is ecological;
- Minimal water needed for construction;
- Relatively low carbon footprint and embodied energy;
- Sandbags can be reused or recycled;
- No energy consumption for burning bricks or producing cement;
- Less transportation: Sand is locally available nearly all over the world, so it can be obtained on site;
- Very good thermal properties (cool in summer - warm in winter), reducing the use of air conditioning or heating, it can cut a utility bill by up to 70 percent.

Economical advantages

- Sandbag construction is between 5 to 30% cheaper;
- The ease of transportation of building material will reduce construction time;
- The main work can be done by unskilled labour or semi unskilled labour, reducing labour costs and potentially providing job and entrepreneurial opportunities to the local community;
- Foundations usually are very simple and cost effective;
- Sand is easy to find.

Sand properties

• Waterproof structure, sand does not have the intrinsic capillary action found in cement or brick;

• The huge weight makes them wind and water resistant;

• Good thermal properties (cool in Summer - warm in Winter);

• Our walls never develop cracks in the plasterwork as cracks cannot run through sandbag walls;

• Walls absorb all kinds of impacts, e.g. bullets or earthquakes;

• Healthy room climate, walls are vapour permeable;

• Earthquake safe;

• Soundproof, excellent sound absorbing;

• Fire resistant;

• Nontoxic;

• Rodent proof;

• Hurricane and flood resistant.

Advantages

- Construction technique can be learned easily by unskilled labour;
- The bags can be handled by one person;
- Construction can take place without road access and without electricity;
- Unused bags can be removed over night, thereby reducing the incidence of theft.

Usage

This construction method can be used in almost every kind of buildings, being versatile and durable.
The walls can be curved or straight, domed with earth or topped with conventional roofs.

It is ideal for temperate climates with hot and cold seasonal swings, cold climates, hot dry climates and isolated areas, as the weight and design of the construction material makes it easy to transport.

Types of construction:
- Residential houses;
- Commercial houses/shops/offices;
- Temporary buildings, as the materials are mostly reusable;
- Emergency shelters and housing for refugees, very useful for NGO´s;
- Schools;
- Clinics;
- Eco villages;
- Boundary walls;
- Pools;
- Etc...

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OUR METHOD

Our construction method

Sandbag construction consists of lightweight plastic bags filled with sand or other earth mixes. Ideally the soil or mix is available on site.

Our sandbag construction doesn't use pillars or beam type of structural framework construction where the bags are used as 'in-fill' by laying in courses between the pillars.

Our method consists in placing the sand bags crisscrossed, like a typical brick wall, strengthened with rods.

The basic construction method usually begins by digging an area down to undisturbed mineral subsoil.

This area will then be partially filled with cobblestones or gravel to create a better drainage system. Above that, several rows of doubled woven bags are filled with gravel and placed into the area and one or two courses above ground to form a water-resistant foundation.

Our construction method

For the walls, each successive layer will be secured in place preventing slippage of subsequent layers.
Bags can be pre-filled with material and hoisted up, or bags or tubes can be more simply filled in place. The weight of this earth-filled layer pushes down, locking the bag in place on the row below.

A light tamping of the bags serves to consolidate the moist clay-containing fill. The same process continues layer upon layer, forming walls.

Once the walls are completed, normal chicken mesh is then attached to the sandbags, which will allow the walls to be plastered, ideally with lime plaster. The house is then painted.

Various types of roofs may be used, including earth bag extensions of the wall which create barrel vaulted or domed roofs, although vaulted roofs of much size are difficult to achieve with earth bags.

Our construction method

Recently rectangular and round buildings are being built with roofs of wood or metal structure to mimic local architectural styles.

Windows and doors can be formed with a traditional masonry lintel or with corbeling or brick-arch techniques, usually on temporary forms.

Light may also be brought in by skylights, glass-capped pipes or bottles, which are placed between the rows of bags during construction.

To prevent damage to the bags from UV rays or moisture, it is necessary to cover the exposed outer surfaces of the bags with an opaque material: cement-based stucco, lime or earthen plaster.

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BUILDING PROGRESS

Building progress









Building progress









Building progress

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ABOUT US

About us

Krazee Boiz Construction is an owner operated entity which has been running successfully from 2006 and offers a professional service to clients at an affordable price.

Hard work, dedication and professionalism ensure we deliver a quality service to suit each and every clients specific budget and requirements.

Whether it's a new contruction, a fresh coat of paint or a complete renovation, we are commited to working with you every step of the way towards a successful and aesthetically pleasing transformation.

We offer a turnkey service including building with sand bags, interior and exterior painting and waterproofing, roof coatings, colour consultation, dry walling and partitioning, wet works, space planning, interior design, project management, complete renovations as well as plumbing and electrical.

Our corporate clients include the likes of L'oreal, Hgroup, Air Liquide, Island Group of Advocates, Alstom and several private homes and residential complexes.

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PO BOX 69431
Bryanston 2021
Johannesburg
South Africa

Demetre - 0826002550

e-mail:
demetre@krazeeboiz.co.za

www.krazeeboiz.co.za