loolaboo

THE TERRA PRETA TOILET
Abstract

loolaboo combines sanitary comfort with the Terra Preta Sanitation method.

This universal, modern toilet design has been created for global use in most diverse countries. It allows for use both when sitting or squatting to ensure cultural acceptance around the world. The toilet functions with a minimum amount of water rendering access to water and sewerage systems unnecessary. Production, installation and service of the toilet are very affordable.

Inside the toilet is a storage tank for collecting the feces. The capacity is large enough to serve a family of four for a week. Before the first use a lactic-acid-bacteria-sugar solution is added to the storage tank. These bacteria prevent unpleasant smells from arising and sanitize the storage compartment.

To support the process of lactic-acid-fermentation, the toilet’s tank may be kept air-tight by a sliding gate-valve. A pressure spray nozzle is used to cleanse the bowl and can also be used for anal cleansing as is common for half of the world’s population. Once a week a pump truck empties the tank from outside the house. Through an opening in the wall, the toilet’s storage tank is accessible from the building’s exterior. The service provider also refills the tank with new lactic-acid-bacteria-sugar solution. The truck then transports the waste material to a composting facility for further processing.

The toilet system works for isolated houses, row-houses, small settlements and multi-story living complexes.

The system will be a basis to create work for local people. In the field of service and the operation of composting facilities new jobs can be provided.
- Long-lasting, modern design which is not too far away from contemporary sanitary products to reach the greatest acceptance as possible.
- Housing: two robust plastic parts, rotational moulding production.
- Air-tight sliding gate-valve between bowl and excreta tank. To be moved by a handle at the side (alternative options: 1. up and down movement or 2. turn-handle). The valve construction is robust and easy to produce.
- Inside of the toilet a volume of around 75 L of excreta can be stored.
- Water sprayer for anal cleansing can be fixed at one side. Also usable for toilet cleansing with little water.
- Opening for emptying: a.) at the backside for external emptying, invisible for the user  
  b.) at the top of a side element for internal emptying
- Collection space for the initial load of lactobacteria.
- Space for macerator-pump if needed; optional
- Anti-slip relief on the upside of the two side parts.
- Optional decoration elements give an individual look to the toilet. Various materials and patterns are conceivable (e.g. wood mats as shown or tiles)

- Estimated costs for rotational moulding tool: around 14,000,- USD (quoted by a German Company)
- Estimated production costs when produced in Gemany: around 130,- USD including housing parts and parts for the gate-valve inside.

Design details and construction to be optimized in next steps of the development.
Description, Gate-Valve

The mechanism of the air-tight gate-valve here is described in combination with a turn-handle. The principle to use lamellas (see next page) for the flexible part of the mechanism could also be transfered to the combination with a vertically moving handle.

Turn-handle down = gate-valve closed

Turn-handle up = gate-valve open
Description, Gate-Valve

Closed Condition

(Please note: schematic drawing; constructive elements are not shown in the sketch!)

Turn-handle, 2x, for right and left hand use

Belt

Lamellas

Wedge-shaped slider with soft surface. The slider is pressed against the inclined edge of the toilet bowl. The storage tank is closed almost air-tight.

Cross-section through the toilet housing

Toilet bowl
Description, Gate-Valve

Opened Condition

(Please note: schematic drawing; constructive elements are not shown in the sketch!)

Turn-handle up, 2x, for right and left hand use
Belt
Rolled up lamellas
Wedge-shaped slider with soft surface. The storage tank is opened.
The video describing the toilet and terra preta sanitation can be seen on the loolaboo-website. If required the film can also be provided as a file to the jury.
The design concept *loolaboo* was developed by triften design studio. We are the originators of the described idea.

**Contact**

The design concept *loolaboo* was developed by triften design studio. We are the originators of the described idea.

triften design studio
Sabine Schober
Industrial Designer
Venusberg 14
D-20459 Hamburg
schober@triften.com
+49.40.41 30 57 81
www.triften.com

*terra preta sanitation* | *loolaboo*