

# bottle|brick

waste glass bottles as aggregate replacement in building bricks



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Due to an ever increasing number of tourists visiting the island Zanzibar, and increasing alcohol consumption, waste production is increasing rapidly on the island, resulting in a growing number of waste glass bottles annually. Most of this glass ends-up alongside roads or on landfills. Glass however, is not biodegradable.

2

The bottle-up foundation is established to solve this problem. This graduation project was initiated to get rid of 16000kg waste bottles per month.

3

Conducted context research led to the desire to transform waste glass bottles into cullet to serve as aggregate replacement in bricks. The bricks with glass aggregate should compete on durability, strength and price with the locally produced bricks.

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From this research the bottle | brick (bb) was born. The bb is made from the chupa (bottle) mix, containing 35% aggregate replacement with glass, which accounts for 42% of its weight and is at least twice as strong as the local brick.

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To improve the system a glass bottle crusher is created: The farasi machine. This low-tech and cheaply produced machine can process up to 10.000 bottles a day, which is 8 times as much as the current supply of bottles. The machine is designed, prototyped and built on Zanzibar. It is still being operated every day to process glass.

bottle-up is considering to further develop the bb and the recycling process next year.



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29th of September 2017  
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