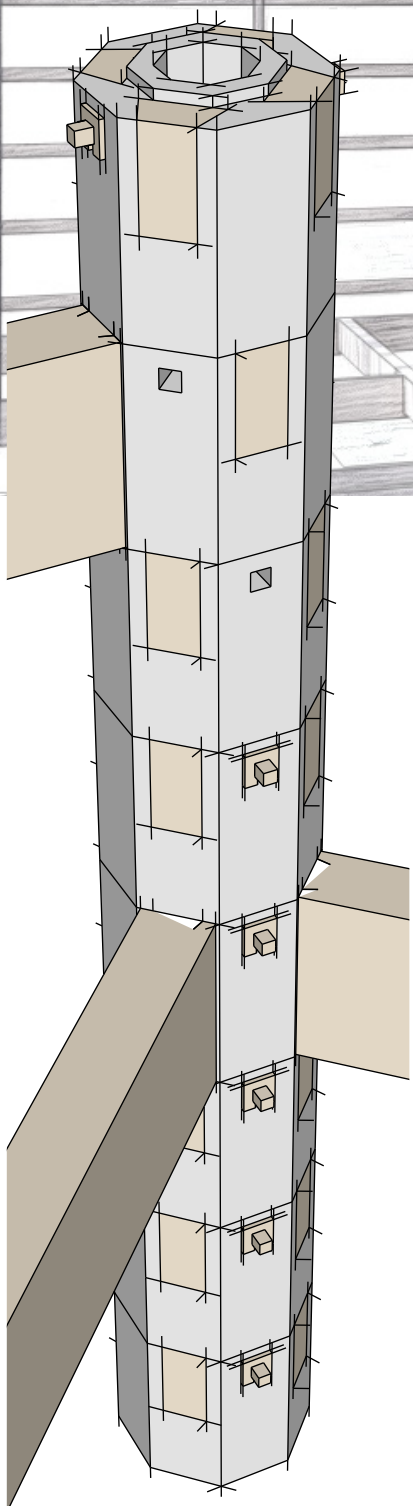


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STACK 'N LOCK! | The Reusable Column

In today's society the need for temporary, sustainable and modular buildings is increasing. Concrete may not seem the obvious material for this challenge.

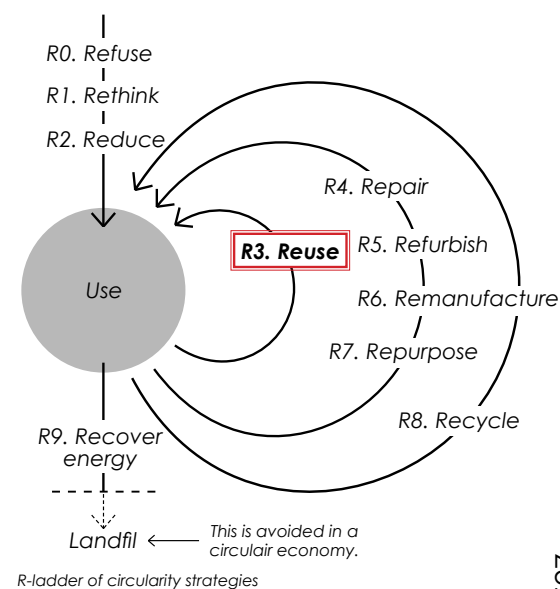
However, sustainable concrete structures are defined by the way concrete is utilized. Traditional on-site concrete pouring methods result in demolition of the material when the building goes out of use, what, of course, is a super unsustainable process.

Therefore we decided to design an element that can be reused after the building it's applied in goes out of use. The result we came up with are multiple concrete elements that can be stacked on top of each other forming a reusable column that will last as long as the lifespan of concrete.

Goal of the product

For creating the 'STACK 'N LOCK' column' we had the following goals in mind:

- Smart usage of the **materials properties**:
 - Concrete: Vertical compressive forces
 - Wood: Light weight horizontal spans
- Creating an element that has the **lifespan of concrete** itself.
- Designing an **Reusable** element using the R3 Reuse strategy.
- Designing a **Modular** element
- Creating **Screwless** connections



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The 45° Configuration



STACK 'N LOCK! element



The Standard Configuration

45° Configuration

Within the design of the concrete element, there is the possibility to rotate the following element on top with 45°.

This gives the opportunity to attach beams diagonally to the column as well.

Filling pieces

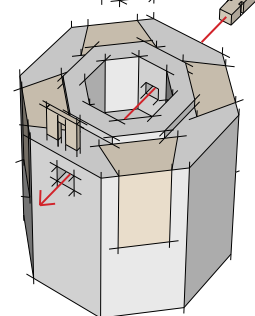
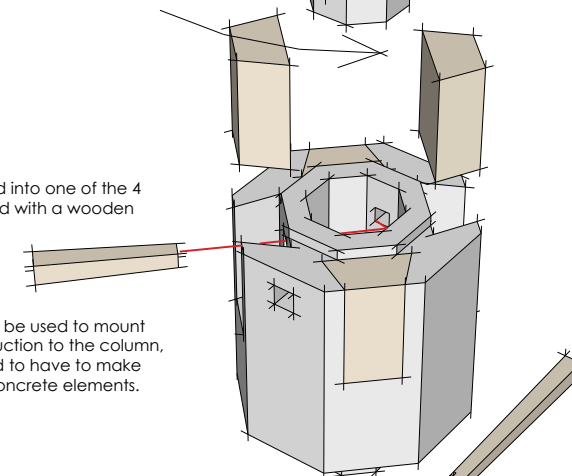
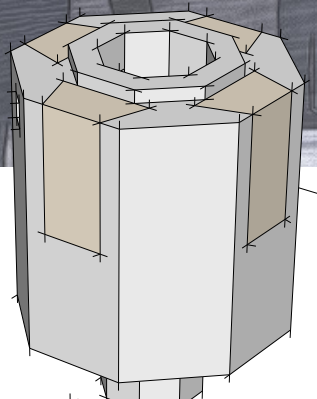
When a beam is not slid into one of the 4 slots, this slot will be filled with a wooden filling piece.

These filling pieces can be used to mount an additional subconstruction to the column, so that there is no need to have to make holes in the reusable concrete elements.

Stacking and Locking

When the concrete elements are stacked on top of each other, they can be locked to each other with a wooden pin.

Hereby the column is resistant against vertical forces (wind).



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