

Do you remember when you could play outside for sense of balance and make new friends along the way. The Blocks are made from Geopolymer. A durable

hours? The mud on your face and knees, a sword in Boring playgrounds are partly responsible for the decline material which can keep its quality for decades, your hand made from a single stick and the smell of in children that engage in outside play. To encourage requiring only minimal maintenance and repairs. This trees and grass. For a lot of children this is not a reality children to play outside again I developed the GeoBam material is made from recycled sand, gravel and stone anymore as they prefer to stay inside. This is a Play Blocks, which is modular playground equipment with agricultural and industrial waste acting as the problem as playing outside increases a childs mental that focusses on circularity and sustainability, thus binder, creating a soft paste which can be moulded and physical health. They develop their muscles, contributing to a greener tomorrow for your children. into a desired shape. The Blocks will be produced with



innovation: **3D-printing**. new a This production method allows to create hollow objects, reducing the amount of material and creating a lightweight object.

The GeoBam Play Blocks focus on providing children with the play functions

> climbing and swinging & swaying, with a focus on risky play where children are challenged. This increases their physical and mental wellbeing.

However, what children need most of all is a place where they can play in their own way. As the Blocks are modular, they can be configurated into any possible play offering environment, children a playground that they want to explore!

Bamboo monkey bars, tumble bars and swingframes create additional playability. This lightweight material is a **renewable**

resource and the fastest growing woody plant, which sequesters more CO2 than trees. The Geopolymer and bamboo almost resemble a jungle, where boulders and rocks to climb on are alternated with logs and pillars to manouvre around or swing from. This playground therefore offers a natural environment where children can go on an adventure and explore nature!

The GeoBam Play Blocks will be offered through a **Product-service system** (PSS), where schools (9) and municipalities (5) can lease the Blocks. During this leasing period the GeoBam developer (4) provides maintenance and repairs on the Blocks and replaces bamboo if needed (8). Additionally, clients are able

to exchange Blocks or receive new ones to modify the playground to the developing and changing needs of its users. Municipalities are encouraged to exchange their Blocks within their squares (5), parks (8) and neighbourhoods (6) so that new playgrounds can be created without the need for new materials.

The PSS ensures a **closed-loop**

system where everything happens in the Netherlands. This reduces the overal transport of materials and parts. The ingredients to make Geopolymer are retreived from Dutch recycling plants (3) and processed here. This mixture is used in the 3D-printers



(7) to produce the Blocks, and are stored in a depot (1). Bamboo poles will be provided by Dutch bamboo farmers (2), and are domestically transported to schools (9), neighbourhoods (6) and city

squares (5) to be turned into exciting playgrounds which fit the needs of its users. After decades of reuse, the Geopolymer Blocks can be repurposed as planters, or efficiently recycled in the Netherlands (3).

CIRCULAR AND SUSTAINABLE PLAYGROUND EQUIPMENT CHAIR BRENT THOMASSEN COACH INTEGRATED PRODUCT DESIGN

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