

Link the system

By linking disciplines, materials, cycles and designs

Link the system

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Project Information (EN)

The construction industry is a major contributor to high CO₂ emissions and a significant demand for resource-intensive raw materials. However, there is potential to develop more sustainable building materials. This project investigated the potential of geopolymers as a sustainable alternative to cement. Geopolymers emit 4 times less CO₂ than cement and can be made from industrial waste materials. With this understanding, the idea of producing geopolymers from broken bricks was developed, with the aim of using local waste resources - in the sense of "urban mining". In collaboration with the TU Darmstadt, a material research strategy was developed, which led to positive results. This strategy was then applied to create modular interlocking building blocks as a tangible form of the new material. The system demonstrates potential opportunities for developing more sustainable designs of products and materials.

Image List

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