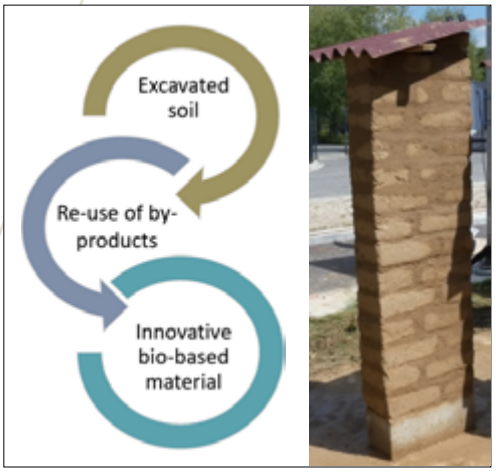
ENHANCED RAW EARTH MATERIAL FOR COMPRESSED EARTH BLOCKS CONSTRUCTION

Mechanical reinforcement and improved water resistance of clays, from excavated soil, with biopolymers for compressed earth blocks production

ERGANEO
L'AVENIR EST FAIT D'AUDACE

PRESENTATION

Reducing the environmental footprint of building materials is a major challenge in the construction industry. This innovative process makes it possible to reinforce a wide range of excavated soils by making them suitable for raw earth construction. Compressed earth blocks possessing enhanced mechanical properties and water resistance are fabricated with addition of biopolymers. These clay materials, 100% geo-based and bio-based, are an ideal solution for building the city of tomorrow.



Raw earth - Bio-based material - Biopolymer
Eco-construction - Compressed Earth Blocks

APPLICATIONS

- Compressed earth blocks for eco-construction
- Rehabilitation of raw earth heritage
- Soil stabilization
- Load-bearing wall
- Thermal inertia wall
- Internal partition wall (acoustic performance and comfort)

DEVELOPMENT PHASE

- ☑ Development in progress to improve the fabrication process, optimize the formulations and validate the material in a representative environment (TRL3 -> TRL4)

COMPETITIVE ADVANTAGES

- High mechanical strength (> 5 MPa compression strength)
- Improved water resistance
- 100% geo-based and bio-based building material
- Valorisation of a wide range of excavated soils
- Valorisation of industrial by-products, source of biopolymers
- Minimal environmental footprint
- Moisture regulation in buildings for better comfort

INTELLECTUAL PROPERTY

Patent application filed

CONTACT

+33 (0)1 44 23 21 50
industriels@erganeo.com
Ref. project : 684

PUBLICATIONS

Tourtelot Julia, Bourgès Ann, Keita Emmanuel, *Influence of Biopolymers on the Mechanical Behavior of Earth-Based Building Materials*, Progress in Materials Science, 2021.