Building Material Technology/ Sustainable Building Materials

HOCHSCHULE ANHALT University of Applied Sciences



Earthen construction just like concrete

Earth – The Renaissance of a Building Material

Earthen materials are among the oldest building materials known to humankind and are particularly valued for their building physics properties. Due to its low carbon footprint and comparatively easy reusability, earth has seen increased application in recent years. However, conventional processing remains labour-intensive, time-consuming, and consequently costly.

Liquid Earth as a Decarbonisation Tool in the Construction Sector

The Building Material Technology/Sustainable Building Materials research group at Anhalt University of Applied Sciences is investigating the extent to which earth can be processed into a building material with a very soft to flowable consistency. The objective is to achieve concrete-like, economically efficient workability while maintaining its positive physical properties.

Research and Development

The investigations also focus on the challenges that arise when transferring liquid earth from a laboratory scale to actual construction practice. Material formulations and manufacturing processes are being analysed for their large-scale applicability and adapted accordingly. Further research priorities include measures to ensure consistent quality as well as strategies for the safe drying of monolithically produced liquid earth structures.

Outlook

The goal is the further development of the liquid earth concept into a site-ready material, which is obtained through the direct on-site processing of cohesive excavated soil and then used in the construction of non-load-bearing interior components.

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