

Master Thesis

Foam Concrete technology

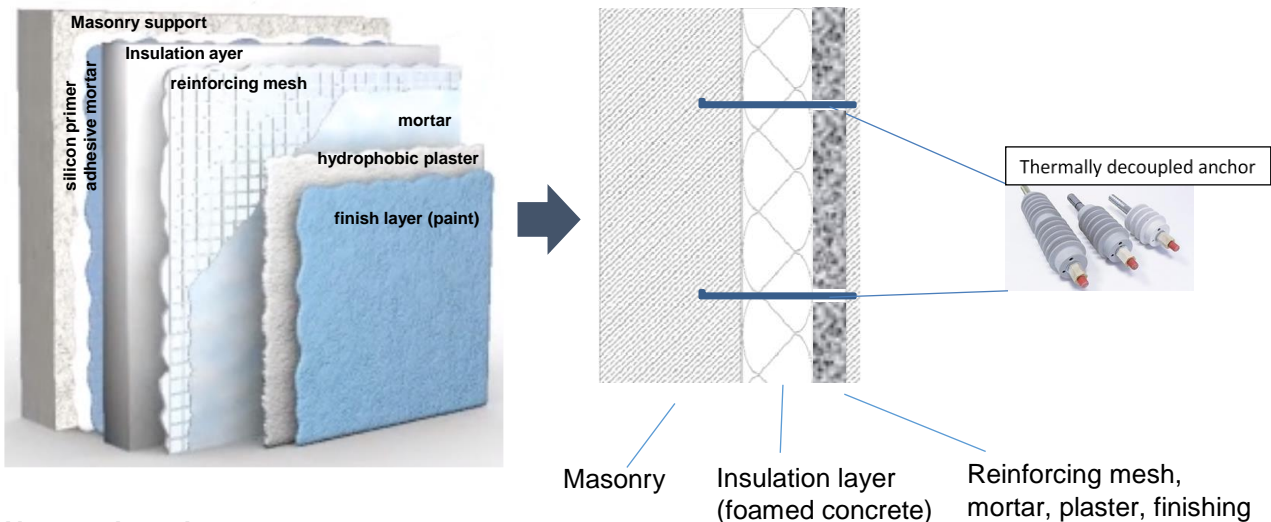


TECHNISCHE
UNIVERSITÄT
DARMSTADT

Title:

“Fastening concepts for an External Thermal Insulation Composite System made of foamed concrete”

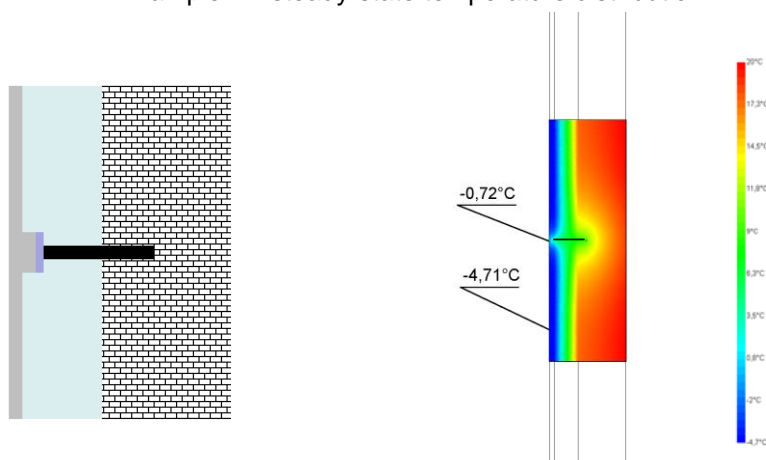
INSTITUT FÜR
WERKSTOFFE
IM BAUWESEN



New work-packages:

- Thermal design of **ETICS** made with cementitious foam
 - Determination of the steady-state thermal resistance and the steady-state temperature distribution over the component cross-section.
 - Development of a FEM model for the determination of the dynamic thermal resistance R_{dyn} and dynamic temperature evolution.
 - FEM model with **ABACUS 2D** and **3D**.
 - Parameter study (insulation thickness of the cementitious foam, thermal properties of the cementitious foam, anchor material, number of anchors, anchor arrangement).

Example 2D steady-state temperature distribution



- Comparison of different options
- Conclusions