CARBON LOOPING IN SAND LIME BRICKS

ENHANCED SAND LIME BRICK BY CO2 FIXING DURING CURING

STATUS QUO

Sand-lime bricks are manufactured by combining sand and hydrated lime in an autoclave, creating CSH phases. The main factor for the carbon footprint of sand-lime bricks is the production of lime. Producing one ton of quicklime inevitably releases 440 kg of CO2. In the state of the art it is known to cure cementitious materials by means of carbonation.

OUR TECHNOLOGY

The invention relates to a method for producing a carbonated sand-lime brick. The process is particularly suitable for storing or binding large amounts of CO2, so that the building material produced can be climate-neutral or even function as a CO2 sink.

Especially with carbon capture technology in the lime industry, a symbiotic relationship can be created from which both partners mutually benefit.

BENEFITS

- ▶ CO2-neutral building block
- ▶ Low CO2/m2 achievable
- ▶ Cost reduction due to carbon tax credits

APPLICATION POSSIBILITIES

The carbonated sand-lime bricks can be use as a reliable and environmental friendly construction material. Particularly suitable for:

- Residential buildings

COMMERCIALIZATION OPPORTUNITIES

There are various possibilities for cooperation between the industrial partner and TU Darmstadt: from an exchange with the know-how carriers of the technology up to a close cooperation in case of further development needs. The technology is protected by intellectual property rights and can be used by the industry partner after a sale or licensing agreement.

CURRENT STAGE OF DEVELOPMENT TECHNOLOGY READINESS LEVEL (TRL)

9	Product ready to launch
8	
7	Prototype
6	
5	
4	
3	Proof of Concept
2	
1	Idea

The technology development is at Level 3: First experimental proof of concept completed

YOUR CONTACT PARTNERS AT TU DARMSTADT

HIGHEST Innovations- & Gründungszentrum Technische Universität Darmstadt

IP- and Innovation Management
+49 6151 16-57203
innovation@tu-darmstadt.de

INSTITUT FÜR WERKSTOFFE IM BAUWESEN

Prof. Dr. ir. Eduardus Koenders
Institut für Werkstoffe im Bauwesen
+49 6151 16-22210
koenders@wib.tu-darmstadt.de