Thermal insulation foam made of renewable raw materials

Innovative manufacturing process for voluminous insulating foam made of cellulose fibres

Status quo

Conventional mineral wool and plastic foams for thermal insulation are characterized by energy-intensive production and complicated recycling and disposal processes. Biodegradable thermal insulation materials made of cellulose fibres offer an alternative to this. Up to now, these materials are usually available as panels, mats, felt or loose fillings. In order to dry the components after foaming, they must be pressed. The production of more voluminous foams is therefore a difficult task.

Our technology: Innovative production process for fibre foam

Voluminous fibre insulation foams made of renewable raw materials now can be produced using special production processes. The foam is made of cellulose fibres, water and different additives and can be dried without applying pressure in a simple way.

Benefits

- Lower material, cost and energy consumption during production.
- More voluminous foams by omission of the production step pressing.
- Biodegradable and sustainable.

Current stage of development

Technology-Readiness-Level: Level 3. Proof of Concept is shown with two different production processes. Test specimens were made and measured.

Application possibilities

Thermal insulation material for sustainable construction. Can also be used as packaging material or for sound insulation purposes.

Intellectual property situation

The presented technology is protected by intellectual property rights.

Commercialization opportunities

We are looking for industry partners who are interested in using the technology. If there is any need for further development, a close cooperation between the industry partner and TU Darmstadt is possible.

Your contact partner

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