Insulation using popcorn?

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A research group at the University of Göttingen has long been researching manufacturing processes for products made of popcorn that are sustainable and efficient. The University has now agreed a license agreement with the Bachl Group for the commercial use of the process and the products for building insulation. Credit: Karl Bachl GmbH & Co. KG

Building insulation has become an increasingly important topic in recent

years. Good exterior insulation reduces heating costs, which means lower CO_2 emissions. Nowadays, sustainable natural insulation materials are already available for the interiors of buildings. But what does sustainability really mean? It means the material should be environmentally friendly and made from renewable raw materials, it must have good thermal insulation and fire protection, and it must be easy to recycle at the end of its useful life. A research group at the University of Göttingen has long been researching manufacturing processes for products made of popcorn that are sustainable and efficient. The University has now agreed a license agreement with the Bachl Group for the commercial use of the process and the products for building insulation.

The market is dominated by conventional insulation materials made of plastics or mineral fiber with about 90% of the market share. In fact, plastics derived from petroleum are used for exterior insulation. Could plastic exterior insulation also be replaced by sustainable materials? A research group at the Faculty of Forest Sciences and Forest Ecology – *Chemie und Verfahrenstechnik von Verbundwerkstoffen* (chemistry and process engineering of composite materials) – at the University of Göttingen has now succeeded in developing a novel process. Based on its many years of experience in the field of renewable raw materials, the group has managed to develop a process by which insulation boards made of "granulated" popcorn can be produced that have excellent thermal insulation properties and good protection against fire. The great advantage of this granular material is that it is a plant-based, environmentally friendly and a sustainable alternative to the products derived from petroleum currently used in the industry.

"This new process, based on that of the plastics industry, enables the cost-effective production of insulation boards at an industrial scale," explains the head of the research group, Professor Alireza Kharazipour. "Especially in the field of insulation in construction, this ensures that

natural insulation materials are no longer just niche products." In addition, the new popcorn products have water-repellent properties, which opens up even more opportunities for practical applications and extends their useful life.

Michael Küblbeck, group Managing Director of the exclusive divisional licensing partner Bachl, adds: "We are delighted to be launching such an innovative insulation product using popcorn onto the market together with the University of Göttingen. For us, this is another important milestone in our strategic development towards becoming an integrated, multi-material insulation supplier. Popcorn insulation complements our quality range perfectly and means we can respond even more precisely to the different requirements of the market and our customers."

The license agreement between the University and Bachl was brokered by MBM ScienceBridge GmbH, a wholly owned subsidiary of the University of Göttingen Public Law Foundation. The agency acts for a total of nine universities and scientific institutions in Lower Saxony: It examines scientific inventions for the possibility of a patent application and for economic potential. It then takes care of worldwide marketing and negotiates, supervises and monitors licensing agreements. The current portfolio includes projects from the fields of bio-medicine, medical technology, metrology, chemistry, physics, forestry and agricultural sciences.

Provided by University of Göttingen