

A sustainable and selective treatment process to recycle and glue waste wood into high performance structural materials - ReGluWood

Initiative: Zirkularität mit recycelten und biogenen Rohstoffen

Ausschreibung: Kooperationsprojekte

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Wood represents Earth's most valuable renewable and sustainable material with desirable functional properties and the potential to replace non-renewable and petroleum-based materials in lightweight structures and composites. The increase in wood production goes hand in hand with an increase in the volume of waste wood, which has not been integrated into a sufficient circular recycling loop yet. The ReGluWood project aims to close this loop by developing a biological process to recycle waste wood into high performance composite materials. A simple, flexible and fully bio-based process will be developed that, unlike the current state of the art, does not require the use of harmful chemicals. The key to success is the selective modification of the waste wood microstructure with fungal enzymes, combined with a radically new and bio-based binder (glue) formation process. This produces eco-efficient densified composites with outstanding technical properties without the need for additional harmful chemicals. This significantly expands the circularity of wood use and develops new applications for (waste) wood as a structural material to drive the societal transformation towards sustainability.

Projektbeteiligte

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