

Herstellung ressourceneffizienter und klimaneutraler hochwertiger technischer Dämmstoff-Produkte – Posidonia-Dämmstoff

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The currently relatively low share of organic fabrics in the market of insulating materials is expected to increase in the coming years due to the fabrics' environmental benefits. Seaweed (Posidonia), that is found in the coastal areas of the Mediterranean Sea, could be used as raw material with excellent environmental rating due to its production not involving any agricultural or silvicultural processes that compete with food production. Besides being suitable for thermal and acoustic insulation, seaweed is almost inflammable without requiring additional chemical treatment. These unique properties, however, cannot presently be utilized for lack of suitable techniques for manufacturing products from seaweed fabrics. This project has been dedicated to investigating different applications in civil engineering and the automobile industry. In civil engineering, seaweed fabrics, under certain conditions, can be used as insulating bulk fills. To make up for the material's low flowability, the respective blowing machines, however, must be modified. Better properties can be achieved by mixing the seaweed fabrics with other materials e.g., with shavings. For the automobile industry, thermoset bonded outer parts and mats can be molded from seaweed fabrics mixed with mainly fluid binders. To evaluate the respective products' market opportunities, various scenarios have been developed and analyzed for the entire process.