2. New foamed materials from wood biopolymers

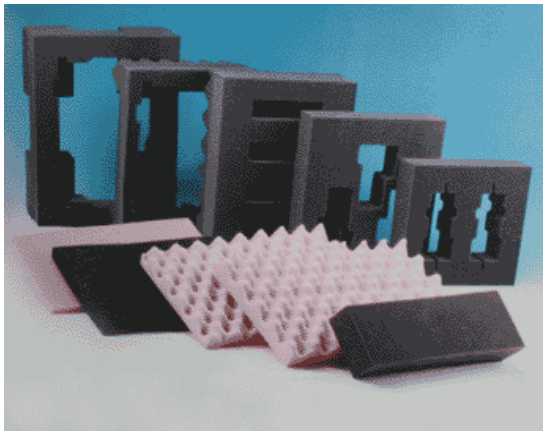
Hydrophobization and polymer characterization of hemicelluloses

PROJECT OUTLINE

Replace fossil-based raw materials with modified, renewable hemicelluloses, for producing advanced, tailored foamed materials. The goal for the SmartFoam-project is to produce foams with tailored functionality, primarily regarding flexibility, degree of hydrophobicity and adsorption capability, for applications within the health care and packaging sectors.

MASTER THESIS PROJECT

This aim of this project is to functionalize hemicelluloses and evaluate the affect this has on foamability and the type of foams that are produced. The hypothesis is that substituted hemicelluloses will produce a more "softer" foam. Hemicelluloses from Lyckeby will be used as the starting materials in this project. The hemicelluloses will be extracted. The substitution of the hemicelluloses is done according to a method developed by Akzo Nobel, where hydrophobic substituents and polyethylene glycol (PEG) will be substituted on to the polymer. Effectiveness of the reaction is determined with polymer characterization techniques. The produced foams from the unmodified hemicelluloses and the hydrophobized hemicelluloses will then be characterized with regard to foamability and softness of the foams.



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