Product gas conditioning by use of concrete membranes

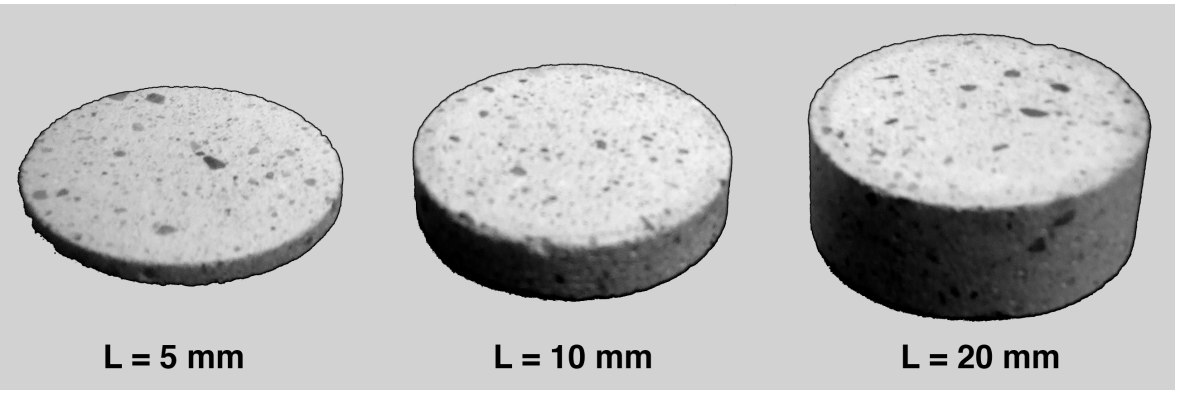
Project Manager: Univ.-Prof. Dr. rer. nat. Frank Behrendt
Contact: Dipl.-Ing. Maria Gaggl
Funded by: Agency of Renewable Resources (FNR)
Duration: 01.05.2007 - 30.04.2009

Motivation

Fuel cells provide a very efficient way of energy supply especially in the medium range of performance which is the most important for decentralised applications. The hydrogen needed can be extracted by product gas conditioning using Knudsen membranes.

Problem

The objective of the study is to increase the efficiency of biogenous fuel gases by modifying the chemical composition. Low-cost, porous concretes allow for accumulation and depletion of selected product gas components even when applied at high temperatures.



Solution

Mineral membranes made of porous concrete are designed and produced in cooperation with the chair of building materials and building material examination. These membranes shall guarantee a maximum discharge of hydrogen. The examination of the separation efficiency will be first done with test gas mixtures and later on with real gas from a biomass gasifier.

Contact: Maria Gaggl
Phone: +49 (30) 314 22959
Email: maria.gaggl@tu-berlin.de

Berlin University of Technology
Sekr. RDH 9, Fasanenstr. 89
10623 Berlin