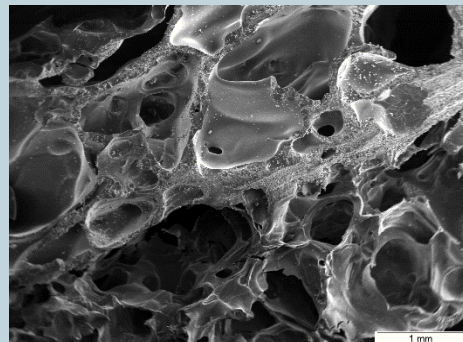
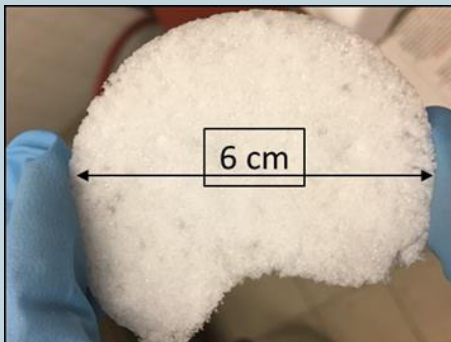


## Processing of particle-reinforced glass foam by microwave heating



Foam glass is an interesting insulating material, which can be used in buildings, road construction and industry. By reinforcing foam glass with particles, it is possible to combine the best properties of the respective materials and thus produce composites that have higher strength compared to pure foam glass. Microwave heating, which is known as a fast, clean and economical fabricating method, can be used for processing of composites.

### The main goal of this project is:

- to determine the microwave parameters leading to the maximum densification of different composites
- to investigate the differences in microstructure between pure glass foam and particle-reinforced glass foam
- to understand the reinforcing mechanism of the particle-glass composites

### The tasks in this project include:

- comprehensive literature review
- sample preparation
- microstructural characterization by light microscopy and SEM, perhaps  $\mu$ CT
- characterization of the fracture toughness and fracture strength by mechanical tests (compression test, bending test)

This project can be adapted to a bachelor or master thesis.

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