

Masterthesis

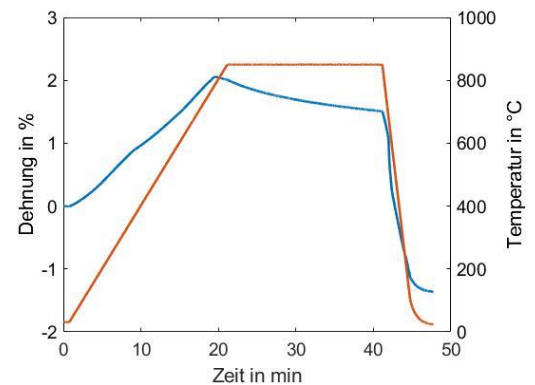
Characterization of dislocation induced sintering kinetics of pm steels

Project Description

The powder-metallurgical process chain offers the precise and economical production of complex components made of iron-based materials. To numerically predict the effect of the sintering process on the macro- as well as on the microscale, it is necessary to understand and to quantify diffusion processes that already occur during heating. Depending on the characteristics of the powder, dislocation pipe diffusion can induce a significant shrinkage during heating.

Your Tasks

- Experimental investigations by means of dilatometry
- Description of sintering kinetics based on SEM images
- Quantification of dislocation density based on EBSD data (possibly also TEM)

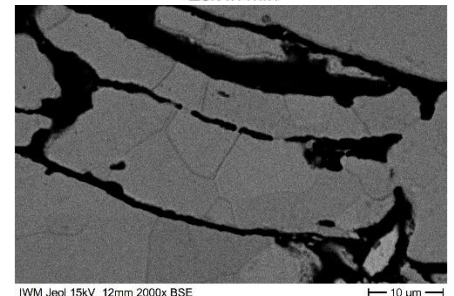


Your profile

- Ability to work autonomously
- Basic knowledge of powder metallurgy
- Basic knowledge of Matlab

What we offer

- a comprehensive introduction into the topic and support during your work
- a pleasant work atmosphere
- you will be supported to finish your thesis in a timely manner



Contact

Oliver Schenk, M. Sc.
Augustinerbach 4, Room 107
52062 Aachen
Tel.: +49 241 80 95324
o.schenk@iwm.rwth-aachen.de
www.iwm.rwth-aachen.de