

ARL-/Master-/Bachelor-Thesis



TECHNISCHE
UNIVERSITÄT
DARMSTADT

Scope:

As per Thesis requirements

Requirements:

Student of Natural Sciences,
ideally Materials Science.

Department:

TU Darmstadt
Laboratory of Materials
Testing and Institute for
Materials Science(MPA/IfW)
Surface Technology

Contact:

Visheet Arya
MPA/IfW
S04|02 Room: 217
Tel.: 06151/16-25013
Mail: arya@mpa-ifw.tu-darmstadt.de

Start:

After discussion

Published:

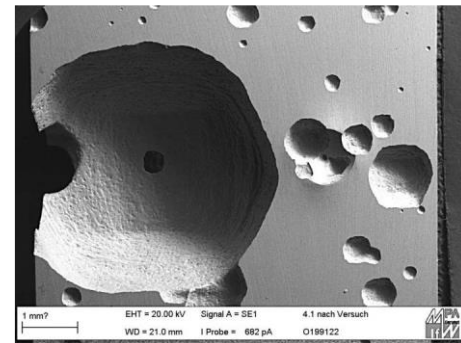
09.08.2019

Study of Alkoxide Corrosion in Automotive Metallic Materials in Ethanol Containing Biofuels

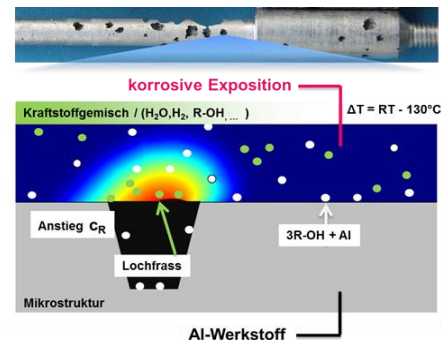
Within the framework of a student thesis, the corrosion behavior of automotive Aluminium materials in ethanol fuels is to be fundamentally investigated as a function of various influencing variables and their effects.

Work Frame:

- Performing a scientific literature review
- Evaluation of the decisive influencing variables on corrosion behavior
- Experimentation with variation of relevant influencing parameters
- Metallographic analysis
- Evaluation of electrochemical parameters and their interactions
- Imparting valuable inputs for creating an FEM model
- Written report, presentation



Typical pitting corrosion seen in pure Al in an alcohol medium



Schematic representation of dry corrosive attack.

Zentrum für Konstruktionswerkstoffe
Staatliche Materialprüfungsanstalt
Darmstadt
Fachgebiet und Institut für
Werkstoffkunde
Prof. Dr.-Ing. Matthias Oechsner
<http://www.mpa-ifw.tu-darmstadt.de>

