

Electrochemical Properties of Stainless Steels

To minimize the risk of failure due to corrosive attack it is a must to know the electrochemical properties of the used materials.

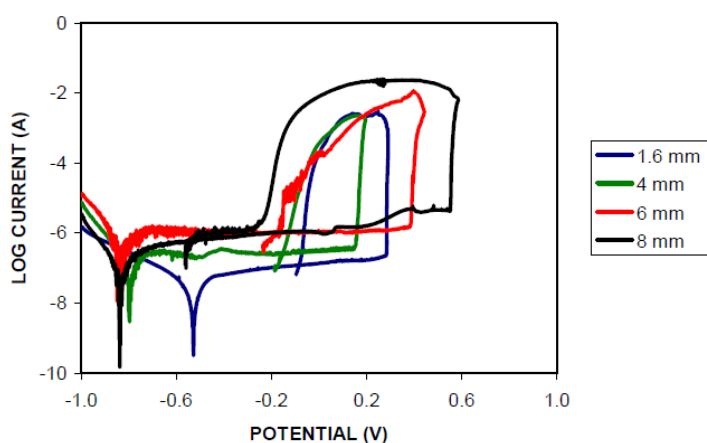
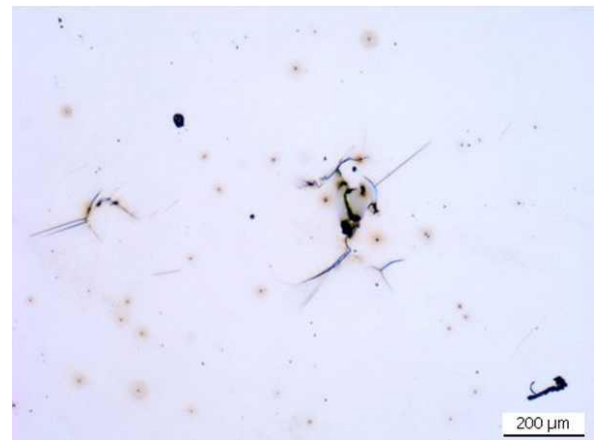
The aim of this investigation is the determination of characteristic electrochemical values of different stainless steels used in mechanical engineering and automotive applications. Standardized potentiodynamic polarization tests will be performed on solution annealed samples.

The main emphasis is on the determination of passive film stability, the resulting corrosion mechanisms and the repassivation behavior after passive film breakdown.

After sample fracture the surface and microstructure will be investigated by means of light microscopy and hardness measurements.

The task is structured into the following consecutive tasks:

- Attending the test rigs and run the tests
- Analyzing the recorded data with Excel
- Microstructural and hardness investigation
- Documentation and presentation of the data



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All the necessary data and experimental methods will be provided.

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