

# Anodic and Cathodic Polarization of 1018 Mild Steel and 304 Stainless Steel

MSE 130: Experimental Materials Science and Design

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## 1 Abstract

## 2 Introduction

## 3 Experimental Procedure

Scan	Soln	Rate	Dir	$A_H$ (V)	$A_{Fe}$ (V)	$j_{corr}$ (A/mm <sup>2</sup> )	$\Delta\phi_{corr}$ (V)
0	H <sub>2</sub> SO <sub>4</sub>	1 mV/sec	Asc	8.778e-02	8.903e-02	1.784e-06	-4.794e-01
			Des	9.588e-02	8.833e-02	1.888e-06	-4.843e-01
2	H <sub>2</sub> SO <sub>4</sub>	10 mV/sec	Asc	8.341e-02	8.519e-02	1.663e-06	-4.730e-01
			Des	5.730e-02	8.076e-02	3.096e-06	-4.842e-01
4	HCl	1 mV/sec	Asc	7.706e-02	8.553e-02	1.277e-06	-5.022e-01
			Des	9.978e-02	8.326e-02	1.765e-06	-5.090e-01
6	HCl	10 mV/sec	Asc	7.490e-02	9.225e-02	1.469e-06	-4.806e-01
			Des	1.035e-01	8.415e-02	2.140e-06	-5.097e-01

## 4 Results

## 5 Discussion

## 6 Conclusions

## 7 Acknowledgments

## 8 Appendices