

LabNotebook

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1 Introduction

This day our group did the Vickers and Rockwell hardness testing.

1.1 Goals

The goal was to find additional data about the properties of our samples.

2 Purpose

Finding hardness measurements may lead to insights about material properties.

3 Setup

The samples for hardness testing were the samples left over from the previous tension testing. Comparison measurements were done on a pre-prepared sample.

3.1 Materials

1018 Steel as received, 1018 Steel annealed, 6061 Al as received, 6061 Al annealed.

3.2 Tools

The Rockwell hardness tester and the Vickers hardness tester.

4 Procedure

4.1 Rockwell Hardness

After Prof. Wilson calibrated the machine, we measured the hardness in multiple locations of each sample, taking care to space them appropriately. Comparison was done on a stock piece of 6061 Al.

4.2 Vicars Hardness

Objectives were chosen. Starting with 10x magnification and 500g load, we indented the sample and then measured the hardness values. After the first measurement we changed to 1000g to generate bigger features to reduce error.

5 Results

All data can be seen in the LabData directory.

6 Observations

Some was harder, some was softer.