Introduction

The virtual tensometer simulates the tensile testing of four metal test specimens: mild steel, aluminium, cast iron and copper. Each specimen is tested until failure and the results are automatically recorded as a load/extension graph.
The virtual tensometer is based on the Hounsfield tensometer that is commonly used in schools.

Hounsfield tensometer

Process

The following process outlines how to use the virtual tensometer.

1. Read instructions

The virtual tensometer has a built-in list of instructions that guide you through the process.

Built-in instructions
2. Select a test specimen

There are four metal test specimens to choose from: mild steel, aluminium, cast iron and copper. You will need to test all four specimens.

3. Place the specimen in the tensometer

Once you have selected a test specimen drag it into the grips on the virtual tensometer. When the specimen is released it will be held in the grips.

4. Start the tensile test

Click on the *Start* button to begin the tensile test.
5. Record results

The virtual tensometer will automatically record the load/extension graph for each test specimen.
Virtual excursion – Tensile testing

Load/extension graph for Aluminium

Load/extension graph for cast iron
6. Print results

Once the test specimen fails and the load/extension graph is complete a print icon will appear. Click on this to print the graph. You will need a print each graph for later use when performing stress, strain and Young’s modulus calculations.

![Print icon](image)

7. Repeat the test for each specimen

Make sure you test each specimen and print out the load/extension graph.