

TECH 4398

## **Appendix I: Senior Design Project Abstract**

### ***Analyzing Braille Molds for Dimensional Accuracy and Tolerances***

#### **Product Description: Analyzing Braille Molds for Dimensional Accuracy and Tolerances**

When making Braille molds, there is attention to detail needed. These types of molds require specific details and dimensions to serve its purpose correctly.

#### **Abstract:**

It is easy to have braille map molds to come out wrong. The positive (top mold) and negative (bottom mold) can easily not match up if not made to the correct dimensions. It is important to analyze these design aspects because someone who is blind must be able to read it. The molds must meet certain standards set by the Braille Authority of North America. The goal of the research is to see if 3D printed molds of a floorplan meet standards and if embossing paper can withstand a force applied to create a map. Another goal of the project is to calculate and determine the tolerances of certain characteristics on the molds. The variance, averages, standard deviation, and differences were also calculated during the dimensional analysis. It is believed the measurements that were out of tolerance are still usable with braille paper. The type of paper used and thickness of the mold will also be taken into consideration for the best options possible. We will collaborate with another group working on a press for the molds to see if our 3D printed molds match up to their expectations for their press. Using the Keyence VR5000 to scan various molds, dimensional analysis will be performed to analyze if the printed 3D molds meet expected braille standards and tolerances.

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