

## Research Competition

Identifier section:

Topic Title: Bag Testing

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Body section:

Company: Able Manufacturing

Objective: Determine how often bag test should be performed and what the criteria are for a pass/fail of the bag test.

Motivation: The Company was not knowing where material loss was coming from but suspected that material loss was coming from common cause variation from Resin/ glass ratios. They wanted to reduce variation and have a more consistent glass resin mixture that could be monitored at all times.

Thesis statement: A reduce in common cause variation of resin/ glass ratios will help the company reduce waste of materials. Eliminating bag testing will save the company money with time being performed on bag testing and material waste by bag testing.

Conceptual Argument: Our team looked to try to eliminate bag testing as much as possible if not all together to help the company save money on time and materials.

Methods/ summary: We used six sigma methodology to come up with a real time monitoring system that would give each operator in the scope of project a visual of how much resin/ glass was being sprayed out of nozzle in real time. The system was interactive and could be observed by anyone with a link to that monitoring system to see what resin glass mixture was being sprayed in real time and in previous hours and by which operator.

Conclusion: With implementation of this monitoring system we have reduced bag testing by 97% or once per month. This system if used correctly with operator compliance could potentially reduce waste in time and materials saving the company as much as \$228,000 dollars over the next year.

Poster will be presented at the competition on May 5<sup>th</sup> and will be available electronically by April 25<sup>th</sup>. Thank you for your consideration in this research competition

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