Material Handling of Work in Process

Overview
Ultrasound probes that are assembled and tested at Sound Technology Inc., are scrapped due to cosmetic damages and defects during work in process (WIP). The cost to scrap a part is estimated to be $20,000, with is roughly $10,000 a month to rework.

Objectives
The objects of this project are to research materials and designs for a more protective bin, to test the designs, to recommend ultrasound protection, to create a prototype implementing constraints, and to perform a cost analysis.

Approach
- To gather customer feedback the group toured the facility and talked to Managers and Employees.
- The existing system was analysed to determine how the defects occur
- Common defects were researched based on STI’s documentation
- Researched different materials to determine the best choice for protection
- Performed testing on various foam, and protective materials.
- Created multiple design ideas using the chosen material
- Researched possible solutions based on similar product protection
- Compared the different designs, and solutions to determine the best fit
- Received employee feedback for the chosen solutions
- Created a Prototype design based off of the employee feedback at STI
- Modified the prototype various times based on employee feedback
- Performed cost analysis on each design researched for part protection

Outcomes
The group Recommended Sound Technology to implement the new bin design, and protective film solution to reduce defects in the current system:
- The recommended design will cost Sound Technology $2,700 to implement into the current system.
- The project reduced the number of defects during the assembly of Ultrasound probes.
- It is estimated that the recommended design will reduce 10% – 25% of the current defects.
- This will save Sound Technology between $9,364 and $27,364