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Improved Masking Tape Removal

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Client: Cardinal Glass Corp., Greenfield, Iowa

Problem Statement

- Employees are using utility knives to hand cut masking tape from a butt-roll which is exposing employees to potential injuries.
- Current methods are inconsistent and putting employees safety at risk. Employee safety is always the highest priority and improving this process will help minimize potential injuries.

Scope

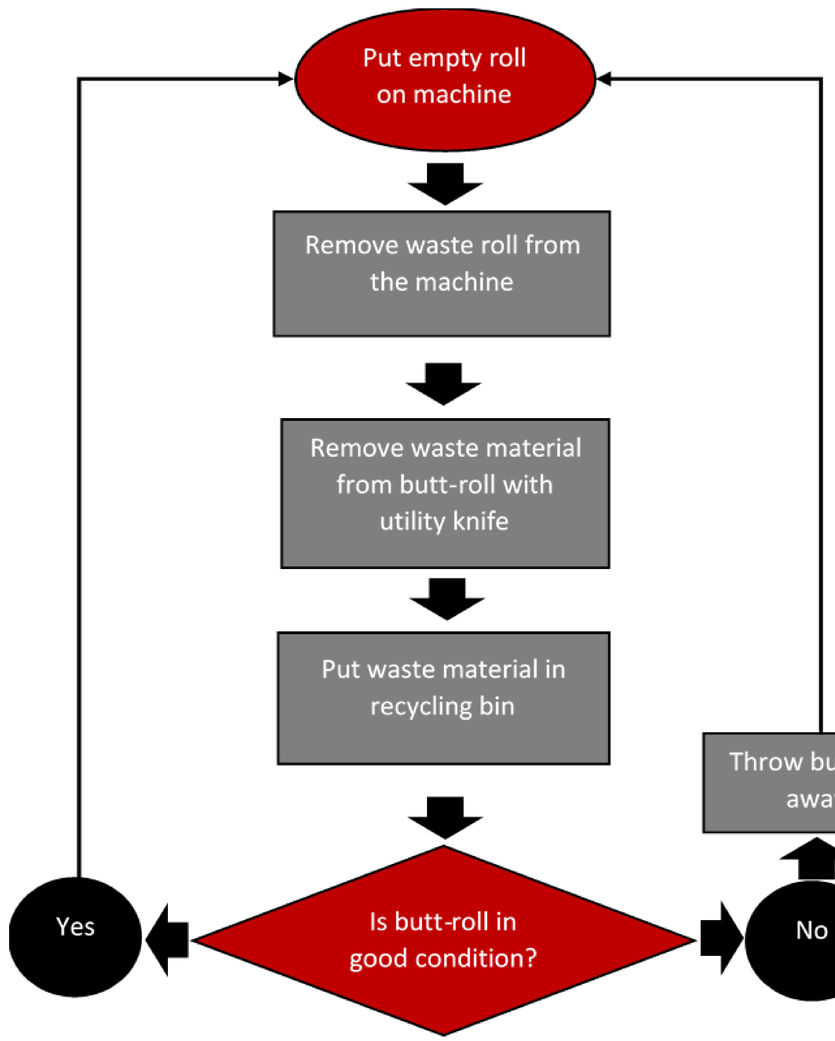
- Implement a system that removes the cutting hazard, improves safety, and reduces cost.

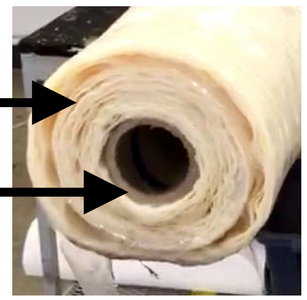
Objectives

- Reduce the potential for an injury by finding an alternative solution to manually cutting the masking tape from the butt-rolls.
- Create a prototype using Autodesk Inventor to eliminate the use of utility knives.

Constraints

- Butt-roll has to fit on machine regardless of solution.
- Must reduce cost and potential injury hazard.





Methods

- Create a preliminary hazard analysis to identify hazards and compare our proposed solutions.
- Use Autodesk programs to create models to visually showcase our proposed solutions.

Proposed Solutions

- Create a disposable alternative core that is able to be recycled along with the excess masking tape waste.
- Create a collapsible core that when retracted that would allow the masking tape to slide off.

Major Outcomes

- Risk analysis of current procedure.
- Create a cost analysis regarding potential injuries due to the utility knife.
- Alternative methods to eliminate the cutting process as a whole.

Benefit to Client

- Eliminate the potential for utility knife injuries.
- Increase productivity by reducing the time it takes employees to remove masking tape from the core.

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