

Resealable Beverage Can

Mechanical Engineering
Mechanical Systems Engineering Design

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Abstract

This project aims to redesign the lid of a standard soda can in order to make it resealable. Consumers can choose to drink their canned beverage in multiple sittings, while resealing the can in between. The design process involves adding additional aluminum and rubber parts to the current soda can design. A layer of aluminum is added between the lid of the can and the tab used to open it. Once the lid of the can has been punctured, and when the consumer wants to reseal the can, the extra layer of aluminum will be rotated around to cover the open hole. The tab is also rotated to apply pressure over the top of the covering layer. A piece of customized rubber is attached to the underside of the covering layer to fill in and seal the hole.

Interest Survey



Design



Cost

Estimated Material Cost for Current Soda Can:

Cost of Aluminum for a 12 Oz Can = \$0.01575

Estimated Cost of Sugar/Can = \$0.005

Estimated Cost of Water, CO2, Food Coloring Agent, and Flavors/Can = \$0.0075

Current Cost of a Single Can = \$0.02825

Estimated Material Cost for Additional Parts:

Additional Aluminum Cost/Can = \$.001393

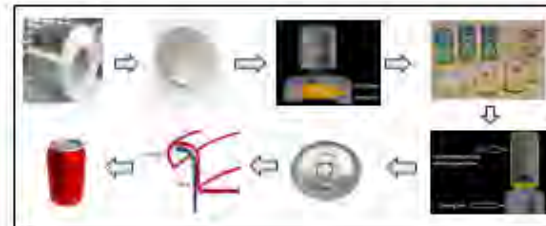
Rubber Seal Cost/Can = \$0.01938

Total Additional Cost: \$.02077

Total Cost of Resealable Can = \$0.04902

Manufacturing

Existing Process:



Added Process:



Conclusion

According to survey results, interest in a resealable can is high, especially for larger cans. This means that there is market potential for resealable beverage cans. The added material does increase the cost of manufacturing per can. However, over 70% of people surveyed said they'd be willing to pay an additional 5 cents or more per can. This design is easy to use, prevents spillage, and will help keep carbonated beverages from becoming flat. The design also does not significantly change the manufacturing process, meaning it can be incorporated into current manufacturing lines without extreme reconstruction.