

The
Pennsylvania
State
University

Better Use of Aluminum

By:

Arafat Hossain, Connor
Pechko Patt Thornton,
Perry

Goal:

Propose a plan
that will
increase the use
of Aluminum
and reduce the
recycling
system on
campus.



Team 4
Production

Mission Statement:

This team will create a

coffee cup that meets all the

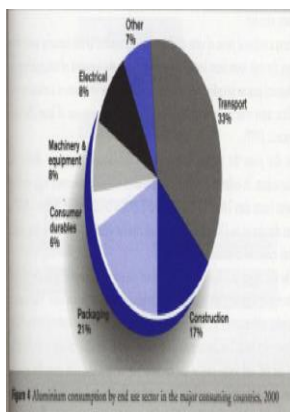
criteria that is desired by

customers and reduce the

recycling system, while

remaining cost effective.

The Use
of Aluminum



Edesign 100

Alcoa Project

Features:

Aluminum interior to retain heat, prevent corrosion and it is easy to clean. Pocket of foam between the aluminum and the plastic exterior for heat retention. Handle for gripping the cup and not getting burned. The lid can seal to prevent spills and retain heat. The lid is treaded for extra security. The lid is operated by moving the part in the center to open and close the mouth.



Design Features:

The Coffee cup that was designed, offers many features that will offer a safe and enjoyable coffee drinking experience. The three layers design features a series of aluminum, Styrofoam, and plastic shells, each with its own specific contribution to the performance of the product.



System Features:

Reusable cups may be rented for a deposit. They may then be returned to any store for a refund. The store will offer a discount to those who use the cups rented or owned. The size of the cup will allow most sizes to be poured in. If a smaller size is requested the cup will not be filled completely. This system works well for people who enjoy sitting in store with their coffee or those who frequent coffee shops.

Solution

- Reusable cup
- Cost ~ \$3 + manufacturing cost so ~ \$5/cup
- R value ~ 1.4

Conclusion:

The reusable coffee cup is a great way to reduce the amount of waste that is produced from everyday coffee drinking. On top of that the system that our team is implementing with the reusable cup will further reduce waste and promote sustainability. Our team estimates the cost of each reusable cup to be five dollars, this is a very cheap way to accomplish our goal.