Metzeler

CASE SUMMARY 11

METZELER AUTOMOTIVE PROFILE SYSTEMS

Keokuk, Iowa
Lee County
Intern: Karl Niggemeyer
Major: Chemical Engineering
School: The University of Iowa

The Company

Metzeler is an international company with five plants throughout the United States. Metzeler totaled over 900 million dollars in sales last year and supplies different parts worldwide to more than 50 brands of cars. The Keokuk site produces rubber stripping for automotive seals.

Project Background

Metzeler has an Environmental Management System (EMS) in place in the plant and is ISO 14000 certified. Metzeler was recycling cardboard, some cured rubber, office paper, steel, copper and aluminum scrap metal. Uncured rubber was landfilled. The company has a large compressed air system that was in need of maintenance improvements. Finally, Metzeler unknowingly wasted electricity.

Incentives to Change

Metzeler is an ISO 14000 certified company, thus striving for continual improvement in reducing solid, liquid and gaseous waste, as well as reducing electrical usage.

Results

1. **Uncured rubber**

Metzeler has many extrusion lines in the plant and every start-up and shutdown can generate 30 pounds of uncured rubber for each line. A combined total of 1,000 pounds from two major rubbers can be generated daily, depending upon the production lines in operation, the type of rubber, and the number of restarts. A manufacturing facility that can use the scrap as fuel in their cement kiln was identified, with possible savings of $25.50 per ton in landfill disposal fees.
STATUS: *Recommended*

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2. **Cardboard**

All the extrusion lines use a wire of some type. Each roll of wire has a cardboard spindle in the middle and many rolls also contain a piece of cardboard as covering for shipping. At least one spindle, weighing about seven pounds, is generated for each line run. Large boxes were set up near the lines to collect the cardboard for recycling, diverting 21,900 pounds of cardboard a year from the landfill, saving $585 annually, and earning $547 from the recycler.
STATUS: *Implemented*

3. **Five-gallon buckets**

Many of the extrusion lines apply a water-based coating on some of the parts. Nearly 3,000 waste buckets per year are generated from this process and recycling the empty buckets will divert nearly 9,000 pounds of plastic from the landfill per year, saving $240.
STATUS: *Implemented*

4. **Metal**

Steel and aluminum bands, used on some of the extrusion lines and by the maintenance and prototyping shops, are now collected in bins. An estimated 9,400 pounds of scrap steel and aluminum and 1,800 pounds of copper will be saved yearly. Metzeler should receive approximately $4,440 per year in revenue from these materials if the metals are adequately segregated.
STATUS: *Implemented*

5. **Air leaks**

All of the extrusion lines use compressed air in the manufacturing process. By means of an ultrasonic leak detector, loose connections and holes in the compressed air lines were identified. Repairing the leaks and holes will save the company an estimated $19,000 a year.
STATUS: *In progress*

6. **Electricity**

Electricity is used in some manner by all machines in the plant. Through a note system initiated for the upstairs finishing machines, the company could save at least $20,000 and 464,000 kWh a year. If workers on the extrusion lines are informed that the line will not be in operation following the end of their shift, all the unnecessary equipment could be shut down, resulting in savings of $74,726 and 1,702,282 kWh a year.
STATUS: *Recommended*

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