

# Acme Corrugated Box Company

## Green Sustainability Program

Since we consider ourselves to be an environmentally responsible company, Acme is committed to improving the environment not only through sustainability measures, but in the way that we do business and help our customers do business.

### Conserving Energy and Water

For the past five years, we have had an effective and active Energy Committee. The Energy Committee meets regularly to concentrate on how to enhance the efficient use of energy. During this time, the committee has accomplished many things. Some of the things accomplished have been the increased efficiency in the boiler, a new compressed air system, and the reduction in the use of process water.

#### Energy Committee---Ongoing Projects

##### Lighting System:

Acme is currently in the final stages of awarding a quarter-million dollar contract to retrofit all of our plant lighting. We will be replacing our 400 Watt Metal-Halide lights with new T5HO fluorescent fixtures. These new T5 fixtures will only consume about 200 Watts each yielding the same amount of light we currently have. Thus, by simply replacing the fixtures, we will be saving approximately 50% on energy usage for plant lighting. In addition to the fixtures, we will be installing wireless (Radio-frequency) controls so that each light can be set to come on and off, during breaks and lunches, during non-production times, and weekends. The lights can even be controlled in such a way that it is possible for all the bulbs to be on or partially on. For example, when high lighting is not needed, and the fixture has four lamps, instead of having all four (4) on, two (2) can be on, which helps conserve energy. In addition to these controls, we will be installing a daylight harvesting system, so that when the building receives more natural sunlight through our windows and skylights, certain fixtures will be able to “dim” during these daytime hours. We fully expect a 60-70% reduction in the energy required to light our plant properly.

##### Acme's White Roof Coating Initiative:

This year (2009), Acme started a five (5) year plan to completely change the surface of our entire roof system. Acme will be resurfacing its entire roof system with a product called Arcryshield® A400 (National Coatings). This coating is EnergyStar certified, as well as UL790 Class A rated. Not only does this protect the roof structure from moisture and sunlight, it also coats the roof system in full bright white, significantly reducing surface temperatures at the roof. As measured by our first roof section, which was coated in July 2009, surface temperatures decreased by forty (40) degrees Fahrenheit versus the old roof system.

Recently, U.S. Energy Secretary Steven Chu was interviewed in this brief article: According to an article written by Alex Morales from Bloomberg Press titled, “Paint Roofs White to Fight Climate Change”, Chu states that the world should try to have “white roofs everywhere” to help fight climate

change. He cited research conducted by Arthur Rosenfeld (California Energy Commission) that if roofs were painted white, more of the sun's heat would reflect back to space and reduce the electricity used for air conditioning by as much as fifteen (15) percent. Additionally, Chu claims that if you have a flat-roofed building, make it white because it is the equivalent to reducing the carbon emissions due to all of the cars in the world by eleven (11) years.<sup>1</sup>

### “Save Energy Now” Plaque

Since 2004, Acme Corrugated Box has participated in two (2) separate Energy Savings Assessments sponsored by the United States Department of Energy (US DOE). In 2004, students and faculty from Lehigh University (Industrial Assessment Center (IAC) as characterized by the US DOE) came to our facility and made several recommendations for energy savings. Furthermore, in 2007, we were eligible for another assessment, and this time students and faculty from the University of Delaware (another Industrial Assessment Center as characterized by the US DOE) audited our facility for potential energy saving initiatives. We are proud to say, that because we completed a high percentage of the IAC's recommendations in 2007, the US DOE awarded us a “Save Energy Now”<sup>2</sup> Program Plaque for 2008, which proudly hangs in our reception area.

### Reducing Fuel and Vehicle Usage

It is no secret that vehicle usage causes an immense amount of air pollution because of the fumes that are released into our atmosphere. These fumes do not only pose a hazard to the environment, but they can be dangerous to human health as well. In an attempt to minimize this hazard, Acme currently has a cube utilization initiative in place, which is consistently monitored for possible ways to improve.

This initiative is aimed at reducing the number of trips our delivery vehicles make daily, enabling us to reduce fuel and vehicle usage. This reduction in fuel and vehicle usage is a cost-saving strategy; however, it also enables us to reduce our carbon footprint as a business, save on fuel cost, and move closer towards the conservation of our environment.

### Regulated Heavy Metals

The Toxics in Packaging Clearinghouse (TPCH) was formed in 1992 to promote the Model Toxics in Packaging Legislation (Originally drafted by the Source Reduction Council of CONEG in 1989). It was developed as an effort to reduce the amount of heavy metals in packaging and packaging components that are sold or distributed throughout the United States. The four heavy metals currently being targeted by TPCH for elimination or reduction are: lead (Pb), mercury (Hg), cadmium (Cd), and hexavalent chromium (CrVI).<sup>3</sup> Incidental presence concentration limits: 1) No intentional introduction of any amount of the four heavy metals is permitted and 2) The sum of incidental concentration levels introduced *shall not exceed* the allowable limits of 100\* parts per million by weight.<sup>4</sup>

The products that Acme currently manufactures are corrugated containers<sup>5</sup> (boxes). When manufacturing boxes, we add sub-materials to the paper we purchase which include, but are not limited to, glue, starch, and ink. With the knowledge that we have of our manufacturing process, we can state that Acme does not knowingly or intentionally add any of the regulated heavy metals. Since the above-noted sub-materials are not manufactured by Acme, but are used to manufacture the products sold by us, we requested the information about heavy metal contents from our suppliers.

Our suppliers have certified that the four heavy metals are not intentionally or knowingly added to the products that we purchase from them, and if present, they should not exceed the allowable limits set forth.

Since packaging makes up a vast part of the waste stream, TPC's goal is to limit the amount of heavy metals entering the municipal solid waste stream and, ultimately, landfills and incinerators. By following this regulation, we join the common goal, which is reducing, to the highest degree possible, the destructive presence these heavy metals have on our atmosphere.

### **Registration, Evaluation, and Authorization of Chemicals (REACH)**

The European Community entered this regulation into force. With this regulation, a list of Substances of Very High Concern was created, and identifies the fifteen chemicals to which there is an obligation for the producers to notify the end-user(s) when one of the identified substances is above the allowable limit of .01% by weight of the article.<sup>6</sup>

According to the information provided to us by our vendors and the knowledge and control that we have over our manufacturing process, none of these chemicals are introduced into Acme's products intentionally or knowingly. Our vendors have certified that 1) they do not intentionally add any of the chemicals under the scope of REACH to any of their products 2) are not aware of these chemicals being present, nor use them as an ingredient to manufacture their products 3) and do not intentionally or knowingly add these chemicals, but since they use recycled materials, any incidental levels that may enter without their knowledge should not exceed the allowable limits within REACH standards.

The aim of REACH is to improve the protection of human health and the environment through the better and earlier identification of the intrinsic properties of chemical substances. Acme is well aware of this regulation and the benefits that maybe attained for the environment by following the guidelines. Since we do not intentionally add any of these harmful substances to any of the products, it is our belief that we comply with this regulation and concur with its intent in the protection of our environment.

### **Sony Green Partner---Environmental Management System**

Sony sees global environmental conservation as one of the most critical issues for mankind in the 21<sup>st</sup> century. Sony, as a good corporate citizen, has therefore established the Sony Environmental Vision to form the basis for aggressive action to conserve the environment and create a sustainable society. Sony closely monitors and manages chemical substances used in its products at all stages of the manufacturing cycle, from the raw material and component stages right through to final shipment. Naturally, the cooperation of suppliers is essential in promoting activities. Any supplier who wants to start and continue doing business with Sony must qualify as a Green Partner.<sup>7</sup>

Before becoming a Green Partner, Acme had to exceed Sony's fundamental policy for supplier selection<sup>8</sup>. In order to fulfill the requirements under this policy, Acme had to prove that: 1) it has sound financial status 2) complies strictly with laws, regulations, and social standards 3) that it has an active environmental management program as part of its operations 4) and demonstrate that it has the advanced technology that is needed to contribute to Sony's products.

After satisfying all of the above requirements, Acme had to also meet the standards of the Sony Green Partner Program. The standards under this program are listed and detailed in Sony's "management regulations for the environment-related substances to be controlled, which are included in parts and materials," titled SS-00259 for General Use, Eighth Edition<sup>9</sup>.

The environment-related substances to be controlled are substances that, in Sony's judgment, have a considerable impact on the global environment and could also influence human health.<sup>10</sup> With this program, Sony's desire is to ban or phase out the use of the controlled substances in the process of design, manufacture, and distribution of products. Sony is dedicated to the manufacturing of environmental products that act in accordance with their standard SS-00259. In doing so, they are contributing towards attaining the common goal of protecting the global environment.

Since Acme successfully established an environmental management system, and has also met all of the requirements under the Sony Green Partner Program, Acme has been a proud supplier and a Green Partner to Sony since 2007. Acme has recently renewed its Green Partner certification with Sony and the renewal is valid until May, 31 2011. Before, during, and after renewals, Acme will continue looking for ways to develop new strategies that keep up and are current with time, technology, and with environmental sustainability.

### **Reducing Fiber Content in Packaging**

We have found that many new customers "over pack" because their packaging supplier has not done the work necessary to provide the correct packaging solution. We, on the other hand, make that analysis as a first step in our Customer Advocacy Program, which is unique in our industry. The Customer Advocate at our site manages our customer advocacy program. The Customer Advocate along with the Sales Representative for that customer will analyze the customer's process to check for over packaging. If that is the case, we then look into the possibility of reducing the fiber content in our customer's packaging.

If reducing fiber content is a possibility, and it does not compromise the customer's process, it creates a cost-savings opportunity for the customer, and by doing so, the life of the resources is extended.

### **Office Recycling Program**

Any and all papers in the office(s) (magazine, forms, etc) are recycled confidentially. We have eight (8) recycling boxes for office use. All of the recycling boxes are serviced once a month by an outside vendor who shreds (destroys) the collected office paper and then sends it to a paper mill for recycling. On average, we recycle 800 lbs a month, equaling 9600 lbs or more a year. With this recycling program, Acme eliminates the possibility of reusable material ending up in a landfill where it would become waste with no future use.

### **Pallet Return System**

A typical oak tree (80 feet high, 20 inches in diameter) will take an average of 40 to 50 years to "mature" because it only grows thirteen to twenty-four inches a year. An average oak tree will yield 18—48X40 stringer pallets. Wood pallets are reusable, repairable, recyclable, and made with renewable resource making the life cycle of pallets virtually unlimited if handled responsibly. If wood pallets are not collected and handled responsibly, they can become a storage nightmare, a fire

hazard, a safety hazard, and a waste stream problem. Wooden pallets comprise 93% of the entire world pallet market because they are rigid, durable, functional, safe, and cost effective.

Since pallets are made from derivative lumber that is both strong and durable, but has a low cosmetic value, the waste produced in making them, and the materials that can no longer be repaired, can be turned into useful, marketable products like playground mulch, animal bedding, and wood stove pellets, etc. If a pallet does end up in a landfill, it is biodegradable. In fact, less than 3% of the 700 million or more pallets manufactured and repaired ever end up in a landfill.

Acme recognizes and understands that pallets are a costly item, and with our pallet return system, Acme attempts to neutralize this cost. For participating customers, Acme guarantees to pickup any usable pallets (40x48, class A/B) at their facility. If for any reason, we cannot pick them up the same day we deliver to you, Acme will schedule a pickup that is convenient for you. In addition, the customer service department will work towards identifying the orders that do not need pallets, so that unnecessary costs are eliminated from the distribution of our products to you. Your cooperation and participation with this program will help us conserve resources and take redundant costs out of the supply chain.

### **Recyclability—Environmentally Friendly**

Since our products are corrugated boxes, they are naturally recyclable. On average, Acme recycles 421 tons a month, which equals approximately 5,050 tons a year. Recycling corrugated has many future uses and advantages. For example, when a box is recycled the fibers reclaimed can be used to make a “new” box. One of the many advantages is that there is less chance that it will end up as landfill. Because of their recyclability, corrugated boxes are an environmentally friendly product. Acme is proud of our industry’s ability to recycle. We are dedicated to conservation. Our purpose is not solely as a profit making enterprise that provides employment, but as a member of the community who cares about the future.

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