

## **Allsteel committed to protecting environment**

*By Melissa Regennitter of the Muscatine Journal*

MUSCATINE, Iowa Pollutants are not always evidenced by billowing clouds of factory emissions or runoff into streams.

Sometimes, the worst pollution is invisible.

A local company is determined to reduce the ecological impact of its products by looking at solutions to environmental problems that aren't as easily seen with the naked eye.

In the 1980s, Allsteel began integrating environmental management into manufacturing. Pollution prevention practices are now a part of virtually every aspect of operations at Allsteel, which is now an operating company within the parent corporation, HNI Corp., Muscatine's largest employer.

Scott Lesnet is the corporate environmental and safety manager for HNI. He's been an Allsteel employee since 1973. His main project is helping the company constantly meet and surpass environmental standards for every product.



Lesnet said it's easier to fix things that you can see. Visible signs of pollution are noticed most by the public, but are not necessarily the most harmful.

"It's what you don't see that matters."

At Allsteel, "Everyone is involved in pollution and waste reduction," Lesnet said. "From the board of directors and the engineers to the workers in the factories who build our products each day."

Product developers and designers at Allsteel and HNI Corp. continually work to minimize long-term damage to the environment. Products are designed to be recyclable 20 years down the road when their useful life has run out.

Erin Dindinger is the safety and environmental manager at the Allsteel plant. She is on the shop floor 60 percent of the time, observing workers and their practices as well as equipment and its functions.

"There are 450 people thinking about how we are going to get to the next level," Dindinger said. "The workers are right there with us, making the right choices for the environment."

### **Allsteel practices**

The Life Cycle Assessment process focuses on the environmental impact of each component. They are tested in the following areas: energy consumption, renewable resource, recycled content, solid waste generation, air quality and water quality.

Lean manufacturing is a philosophy adopted by Allsteel that focuses on waste reduction. The theory is that any material or physical labor that fails to add value to a product is a waste and must be eliminated.

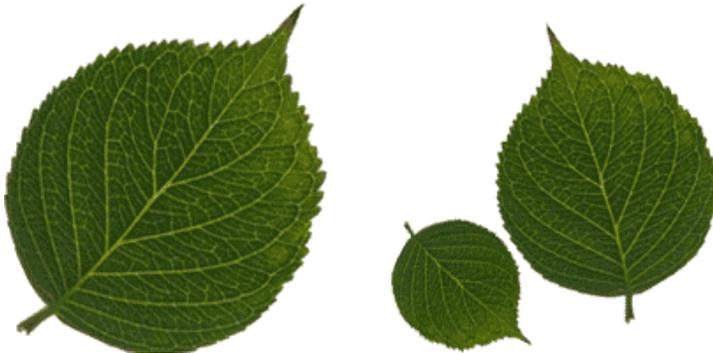
Every member of Allsteel is vital to putting the theory into action. According to Lesnet, the

success of the company's waste reduction and continual product improvement is the result of good people making responsible choices for the right reasons.

"A painter on the line must consciously choose to turn off his paint gun when it's not in use instead of letting toxic emissions flow. Our members are taught how important each tiny decision is," Lesnet said.

Allsteel also incorporates the Rapid Continuous Improvement (RCI) approach. According to Lesnet, all furniture produced has room to improve as an environmentally friendly product. Work

places have a check list of opportunities in subtle changes in the manufacturing process where employees can make a difference in product proficiency.



The RCI method was introduced in post-World War II Japan. A failing economy led to changes in the Japanese manufacturing process.

Allsteel adopted several of these process practices:

- Each goal that is met should be continually viewed and analyzed as an area that will always have room for improvement.
- Human resources are the most important asset of an enterprise.
- Reduce tasks not contributing to the added value of a product, such as overproduction and warehousing.
- Quality control and maintenance of facilities reduces waste.
- Raw materials and parts arrive on the production chain just as they are required. Over- or under-ordering is wasteful.
- Improvements of the product quality must be gradual and are not necessarily the result of radical changes.
- Use only the material, energy and person-power needed to produce a particular part or product, and no more.

### **Utilizing waste**

Allsteel is using a process of their own creation that utilizes wood waste to mold chair seats and backs. It's called Compression Molding and has replaced the use of new plywood by mixing wood chips with adhesive and applying heat to the molds to make it firm.

Nearly 5,000 tons of recycled demolition and construction-site wood picked up from other facilities in the area are used annually.

The company worked with the Iowa Department of Natural Resources in a collaborative effort. The Compression Molding project earned HON Industries (parent company's name prior to HNI Corp.) the 2002 national Murray J. Fox Recycling Innovation Award.

In the past, Allsteel used adhesives that were solvent-based and contained volatile organic compounds. Those have been eliminated and replaced with hot-melt or water-based adhesives to reduce ecological impact.

Much of the painting that coats the steel products has been replaced by solvent-free powder coating. Over spray from the powder-coating process in the powder that doesn't hit the product and lands on surfaces in the spray booth is collected and reused. When feasible, overspray from wet paint lines is re-tinted and reused as well.

On the laminate lines, wood finishes have been replaced with substances that also have a lower content of organic compounds.

Bulk packaging reduces a substantial amount of unnecessary waste compared to individual packaging. Also, time and manpower is saved.



Whenever it is practical, workers are required to use an unpowered cart rather than a forklift to reduce emissions.

Machinery is designed or made smaller to use the least amount of electricity as possible. Allsteel uses only as much manpower as needed. Machinery is designed to assist workers, requiring less strain and stress.

### **Recycle, recycle, recycle**

Source separation maximizes the opportunity for each recyclable waste item to actually be recycled. At work stations and throughout the plants, steel, fabric, trash, landfill and aluminum have their own bins.

Not only are many products made of recycled materials, almost everything, down to the tubes holding rolls of fabric, is recycled. The tubes are sent back to vendors and fabric is reapplied to eliminate the cardboard waste.

Returnable totes and pallets hold product that is shipped to Allsteel and HON. They are emptied and returned to the vendor to be used again.

“There is even a cart for the glass vendor,” Lesnet said. “Any time there is a long-term product of high volume, we will create a means for reducing or recycling waste.”

In 2004, Allsteel also won U.S. General Service Administration's Evergreen and USEPA Pollution Prevention awards. The company is currently creating more environmentally friendly products and processes that may be announced later this year.

Designers and engineers continue to work on ways to eliminate problem materials such as fiberglass, which contain formaldehyde, and certain fire retardants that contain toxins.

More information

[www.ciras.iastate.edu/bioindustry/hon.asp](http://www.ciras.iastate.edu/bioindustry/hon.asp)