

CASE STUDY

Office of Waste Reduction Services
State of Michigan • Departments of Commerce and Natural Resources

Steelcase Incorporated - Grand Rapids
With employee involvement, a large company reduces waste

Waste Reduction Begins at the Source

Zero loads to the landfill? Sam Mancuso, Superintendent of Maintenance at Steelcase Inc., has set this ambitious goal for his department. Steelcase, a multinational manufacturer of office furniture, operates 12 manufacturing and support facilities containing 10,597,500 square feet of floor space in the Grand Rapids area. Size is clearly no deterrent to aggressive waste reduction practices at Steelcase.

Steelcase's strategy for manufacturing improvement is called World Class Manufacturing (WCM). This program creates a framework in which waste reduction becomes an underlying business principle. Employee involvement is an integral part of the WCM program, because without the participation of workers on all levels, efforts to reduce material, energy, and labor waste cannot succeed.

Machine Improvements

Employee Involvement Saves Money

The Machine Improvement Program is just one example of how WCM principles are implemented at Steelcase. Formal teams, blending both engineers and production workers, have been organized to improve production practices. Every machine operator is encouraged to assist these teams by making suggestions for improvements.

An example of an early machine improvement was the reprogramming of a conveyor and lift system to run just when needed rather than continuously. For an estimated investment of \$500, yearly savings from this improvement are \$4,033, and waste from packages damaged in the old system has been reduced approximately 30%.

Another project demonstrates the benefits of machine improvements. For an annual cost of \$181, a machine that cuts desk and table tops was modified to increase production efficiency and reduce waste. Before adjustment, mechanical switches occasionally failed to sense tops as they were delivered. Each 45 pound misaligned desk or table top had to be discarded. A system adjustment now saves Steelcase \$8,950 each year and reduces waste by 16.9 tons annually. With results like this, it is easy to understand why Steelcase has implemented more than a hundred employee-suggested machine improvements since 1986 and continues to encourage workers' involvement in the production process.

Packaging Source Reduction

Shipping chairs in reusable foam buns, rather than corrugated cartons, saves \$890,000 per year and reduces packaging requirements by 1200 tons annually.

Waste reduction is not confined to internal operations at Steelcase. As a furniture manufacturer, Steelcase ships many items in packaging materials that ultimately enter the waste stream. Packaging designed to meet requirements with fewer materials or to be reused reduces waste and saves money.

For example, Steelcase now ships many chairs without cartons. Reusable expanded polystyrene buns protect seat cushions and allow efficient stacking. This single design innovation saves the company \$890,000 per year, and reduces total packaging requirements by 1200 tons annually. Uncartoned shipments of binder bins, another furniture item, reduce packaging needs by an additional 70 tons each year.

Distributors are urged to order as many uncartoned items as practical. An enthusiastic response by Steelcase's retail network allows the company to ship 40% of its products uncartoned. As an additional benefit, more uncartoned furniture can be carried in each truck load, further reducing energy consumption, labor, and related costs per unit of product.

Scrap Tickets

You own what you make

Individual units within the company are encouraged to view waste reduction as a priority through the Waste Ownership concept. Waste Ownership makes plants responsible for their own waste. They are thus rewarded for developing production improvements that reduce waste and increase profitability.

An internal newsletter report in June 1990 describes how employees in the Panel Plant responded to the problem of waste in their operations. When normal reporting procedures flagged, a novel method was invented to help boost efficiency. A scrap ticket is now distributed with every job order. Operators are responsible for quantifying types of waste generated by their activities on the ticket and turning it in when the job is finished. Without a ticket, the job is not considered complete. Scrap reporting improved dramatically when a ticket was assigned to each job. The Panel Plant's waste reduction team can now target waste sources and plan reduction methods more efficiently.

Use It Again

Revest, a subsidiary of Steelcase, remanufactures furniture, reducing the amount of material discarded in landfills while providing useful goods to customers. Steelcase offers customers a buy-back program that makes furniture reuse even more attractive. Steelcase's long-standing practice of designing furniture to be durable and easily repaired complements the refurbishing done by Revest.

Finally, Recycling

In 1988, Steelcase undertook a partial study of the waste generated by two of its Grand Rapids area plants. Several loads of waste were weighed and analyzed to determine which materials could be reused, sold, given to the community, or recycled. Steelcase developed a system to identify materials best suited for each category of reduction. As a result of this program, Steelcase decided to recycle 3500 tons of corrugated cardboard annually rather than incinerate it, as was the previous practice. Fabric, foam, office paper, oil, and steel are being recycled or are targeted for future recycling. As Sam Mancuso wrote in a memo to the Director of Plant Facilities:

We have investigated many aspects of our company's waste stream and looked for alternatives to landfills. We feel recycling makes sense economically, environmentally, and socially.

With enthusiastic employee involvement and support of management at all levels, Steelcase demonstrates how a large manufacturer can significantly reduce waste. Increased efficiency and the productive use of labor previously required to gather and discard waste helps Steelcase profit from waste reduction.

Companies seeking a competitive edge should consider waste reduction. They may be surprised to discover the many dividends paid by this often overlooked aspect of business.

Developed by:
Solid Waste Research Group, School of Natural Resources, University of Michigan
Funded by:
1989/1990 Solid Waste Alternatives Program Grant,
Michigan Department of Natural Resources

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