

Titan Tire

CASE
SUMMARY

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TITAN TIRE CORPORATION

Des Moines, Iowa
Polk County

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The Company

Titan Tire Corporation, a division of Titan International, Inc., has grown to become the third largest manufacturer of off-highway tires and the only one dedicated to the off-highway customer. Titan serves a variety of markets including agricultural, construction, industrial, military, all-terrain and specialty customers. Titan's facilities are capable of producing tires from a four-inch wheel diameter to 54 inches.

Project Background

The Des Moines Titan plant is ISO 9001 certified and is committed to the success of this program. Production is under constant supervision and analysis to determine amounts of scrap and waste produced. Goals are put in place on a monthly basis to reduce the amounts of wasted raw product and unusable finished product.

Incentives to Change

Through continuous monitoring, Titan has observed areas for improvement. Although recycling practices have been adopted in the past, currently there is minimal recycling and Titan desires to follow environmentally sound procedures. Titan recognizes that source reduction is always the best alternative and is willing to take these steps.



Results

1. Carbon black

Titan has experienced many issues with carbon black, used in large quantities in the mixing area. Ideas were submitted to introduce fugitive carbon black into the mixing batch and reduce the carbon black gathered through the dust collectors. By managing this waste, Titan would see a possible reduction of 250 tons from the landfill and reduce raw material costs.

2. Plastic, paper and cardboard recycling

In partnership with a local recycling company, Titan will be able to recycle all of these commodities. The company will provide containers and transportation. In addition to reducing the amount sent to the landfill by 1,500 tons and reducing landfill fees, Titan will receive credits for the materials.

3. Bead scrap recycling

The bead scrap is composed of high-carbon steel coated with rubber. A local recycler has agreed to take the material at no cost to Titan. This would eliminate 126 tons from the landfill and save landfill costs.

4. Pallet program

A program was implemented to ensure that quality incoming pallets will be used in Titan’s shipping department if they are of the correct size. Titan benefits from reduced landfill costs and reduced purchase costs for shipping pallets. It is estimated that 150 tons of pallets could be diverted from the landfill for reuse.

5. Waste management

Average load sizes of waste going to the landfill were less than half of the rated capacity. The hauling company was contacted to optimize the hauling schedule. Titan benefits from reduced hauling fees and frees up capital for other projects.

6. Cameron Slitter reusable rings

Reusable plastic rings could eliminate the need to purchase cardboard rings for a one-time use. Due to the constant use of the rings, the higher cost of the plastic rings produces a very short payback period.

7. Millroom lighting

A lighting survey conducted in the millroom indicated lighting levels were excessive in some areas and too dim in other areas. By switching to more economical fixtures in key areas, Titan could save \$3,890 per year. Lighting levels in other manufacturing areas are also greater than needed. For every fixture that Titan could shut off, savings of \$180 a year would be realized.

8. Compressed air and steam detection and tagging education

An internal energy audit showed that Titan was losing over half of its compressed air production to leaks in the system. An employee education poster was created to educate employees on the cost of air and steam leaks. Tagging procedures were introduced to ensure that leaks could be appropriately fixed.

9. Compressed air blowers

Rubber is cooled by a liquid mixture, which is blown off using compressed air. Compressed air is typically eight times more expensive than similar electric driven machines. Titan could switch to electric blowers and be able to conserve electricity.

Project Summary Table

Waste Reduction Option	Waste	Raw Material	Energy	Annual Cost Savings	Status
Carbon black		250 ton/year		\$136,500	Recommended
Recycling	530 ton/year			\$108,500	Implemented
Bead scrap recycling	126 ton/year			\$7,250	In progress
Pallets	228 ton/year			\$39,000	In progress
Waste management				\$33,000	Implemented
Cameron Slitter				\$15,000	In progress
Lighting			77,800 kW/year	\$3,890	Recommended
Compressed air/steam			3,000,000 kW/year	\$150,000	Implemented/in progress
Compressed air blowers			440,000 kW/year	\$22,000	Recommended
Totals	884 ton/year	250 ton/year	3,517,800 kW/year	\$515,140	