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Recycled Mining Tires Used As Water Tanks

Giant Rubber Water Tanks of Lodge Grass, Mont., works with mines to reuse scrap tires to produce durable livestock watering systems. The company's goals are to provide an environmentally friendly tire disposal system and a cost-effective and indestructible livestock water trough.

While freezing temperatures, fighting bulls, and unexpected run-ins with equipment can take down standard water tanks, the absorbent rubber won't dent, so you pay for the trough once and can expect it to work as promised for years.

Company founder Gerald Mahoney grew frustrated in the 1980's with the lack of quality livestock water tanks available for his Wyoming ranch. Troughs broke down without notice, leading to expensive replacement costs. One day, a tour of a coal mine proved serendipitous when he noticed the large truck tires in operation there. He believed these tires could be used as virtually indestructible water troughs—all that was necessary was to remove the sidewall.

Mahoney acquired a tire from the mine and set to work finding a solution to remove the top. He developed a machine that could efficiently cut the tire into the trough design he envisioned. Mahoney began testing the tires on his property, assessing them for durability and freeze resistance. His neighbors noticed and began requesting their own. Word spread and Mahoney ran a part-time business under his ranch until 2002, at which point he transitioned the operations to full-time.

Today, Giant Rubber Water Tanks, Inc.

remains a family business that's grown to include 140 dealers across the United States and beyond. The company works directly with mines, tire disposal businesses, and tire manufacturers. All tires are shipped directly to customers. Then, a dealer travels onsite with mobile cutting units to cut the tire and transform it into working order right where it'll be used. Tanks range from 200 to 1,800 gallons or 6 to 13 ft. in diameter. They can be custom-cut to almost any height. The rubber tire's thickness and coloring act as natural protection against freezing, and a few low-tech improvements, like an insulated rim cover, can prevent freezing entirely.

The business's other facet is its recycling program. It takes minimal energy to deconstruct each tire and recycle it into new products, which has made the company highly desirable for scrap tire management. Giant Rubber Water Tanks considers itself to be the most cost-effective, efficient, and eco-friendly way to deal with scrap tire waste. On average, it recycles between 4,000 to 5,000 OTR tires annually from mining sites while also processing hundreds of tires brought by individuals and through contracts with recycling businesses. Each tire-cutting unit can bagel slice approximately 30 57-in. or 63-in. tires per day.

Contact the company directly for custom quotes on water tanks or guidance on recycling industrial tires.

Contact: FARM SHOW Followup, Giant Rubber Water Tanks, Lodge Grass, Mont. 59050 (ph 888-830-9504; ed.grwt@yahoo.com; www.giantrubberwatertanks.com).

Safer, More Precise Sandblasting Uses Less Sand

Jim Deardorff has been sandblasting metal for over 40 years and says more air and less pressure are better. Over that time, he developed a blasting system he refers to as Classic Blast (Vol. 26, No. 3). It's one he continues to refine with emphasis on safe, low-pressure, low-impact blasting.

"Sand is used for scouring a metal surface to improve rust and paint removal because it's cheap and readily available," says Deardorff. "However, there are health concerns when high pressure (100 to 120 psi) breaks the sand crystals into fine dust. It can be inhaled and may cause respiratory problems."

Deardorff still uses sand as one of his blasting mediums. The difference is he uses the Venturi effect to boost airflow without boosting pressure.

"I use a special double Venturi blast nozzle from Boride," says Deardorff. "It has air induction holes that mix compressor air with up to 40 percent atmospheric air as it leaves the nozzle. This reduces the sand to air mixture, which reduces dust."

Deardorff has also modified his 350-lb. Sandstorm sandblast pot to reduce sand use from 1,400 lbs. per hour to less than 200 lbs.

"I replaced the original air restrictor in the boot of the pot with a smaller one made by the company for smaller sandblast pots," says Deardorff. "I also installed a moisture separator in the line that feeds media to the pot. It's important to get all the moisture possible out of the media."

Deardorff uses a 100 mesh to screen his media versus the 40 to 60 mesh screens used for most industrial media. He installed a gate valve with a pressure gauge on air entering the blast pot.

"I can adjust the air for the project with the gate valve and use the primary shutoff when starting or stopping," he says. "I always record the pressure and the project for doing repeat projects."

Much of Deardorff's current work involves antique tractor and classic car parts. Recognizing that high pressure can damage these parts, he has reduced his blast pressure to 50 psi. It's still enough to remove rust and old paint, thanks in part to a special blend of walnut shells and aluminum oxide he developed.

"It works great at low pressure," says Deardorff. "With my system, I can recycle media up to 20 times."

While working with his father, Deardorff built an air wash media cleaner. Used media feeds into a drawer on an incline. As it falls



When customers question his low-pressure process, he shows them how precise it is with a pop can that has had the paint removed from half the can.

off the drawer, it passes through airflow that blows the contaminants up and out the top of the media cleaner. Reusable media falls to the bottom of the cleaner.

"With the media cleaner, I can add 50 lbs. a day to a batch of 800 to 1,000 lbs. of media and maintain media quality," says Deardorff.

Since 1992, his low-pressure blasting technique has allowed Deardorff to prepare more than 200,000 parts fabricated from 20-gauge (less than 1/16-in.) thick steel.

"My customer powder-coats the parts, but they have to be rust-free," says Deardorff. "Traditional high-pressure blasting would warp or distort the thin steel. My process removes rust without damage."

When customers question his low-pressure process, he shows them how precise it is with a pop can that has had the paint removed from half the can.

"It proves to them that I can blast antique tractor or car parts, or nearly anything else, without warping, pitting, or excessive roughness," says Deardorff.

Interested readers can contact Deardorff to receive a summary of his low-pressure, reusable media system.

Contact: FARM SHOW Followup, Jim Deardorff, Superior Coatings Co., 205 McCormick St., Chillicothe, Mo. 64601 (ph 660-646-6355; info@classicblast.com; www.classicblast.com).

TMIC is a one-stop shop for every type and size of produce-handling equipment.



Unique Produce Handling Equipment

Buy a piece or build a system of produce handling equipment from The Machine Install Company (TMIC). The British company specializes in root vegetable and

food processing. It makes modular elevators, conveyors, and roller tables in a wide array of widths and also makes the Reed Pumpkin Washer. The company makes and markets

Herbert Solutions brand produce handling equipment for the fresh-pack industry.

"We try to cover all the bases when providing a produce handling solution," says John Steward, TMIC.

The company is a one-stop shop for every type and size of produce-handling equipment. Products include box and bag filling, size grading, soil and top removal systems, intake and even-flow hoppers, wet reception hoppers, destoning equipment barrel washers, roller driers, roller inspection tables, and storage bunker solutions.

As with the modular elevators and conveyors, products are available to match the customer's needs. Grader modules and cleaning systems range in width from 900mm (3 ft.) to 2,400mm (7 ft. 10 in.). Barrel Washers come in five lengths to handle from 5 1/2 tons per hr. to 80. The Lift Roller Grader is available in widths of 1,200mm (47 in.) to 3,000mm (9 ft. 10 in.) and handles up to 50 tons per hour.

Steward spent his career installing equipment of all sizes, from single machines

to large production facilities. Since establishing TMIC in 2016, he has added equipment manufacturing. In 2018, he began building Herbert Solutions products under license after they closed down production. It was a well-established company in Europe with distributors in the U.S. and Canada.

"With our wealth of experience gathered through the years of being in so many factories, we've been able to develop a range of machinery that's popular with operators tasked to run them, but also efficient to own and run," says Steward.

Contact TMIC for product prices. Steward is interested in expanding product sales and service to Canada and the U.S. He encourages interested growers and produce handlers, as well as equipment distributors, to contact him for more information.

Contact: FARM SHOW Followup, The Machine Install Company Ltd., Unit 8 Anglia Way, Wisbech, Cambridgeshire, United Kingdom PE13 2TY (ph 44 1945 587 439; sales@tmicltd.co.uk; www.tmicltd.co.uk).