



scrap

RECLAIMING RESOURCES

BY GRETCHEN SALOIS

When trees change color and crisp temperatures bring about earlier evenings, many bow hunting enthusiasts gear up for deer hunting. They will set up trail cameras or prepare by scouting during the preseason. Then they wait. Often up high in tree stands, hunters sit from early morning until shortly after sundown. When a potential target approaches, a hunter takes a deep breath, takes aim at the heart, and exhales, releasing the arrow.

Scouting, planning and preparing includes purchasing equipment, and many hunters turn to Mathews Inc. for their archery needs. Since 1992, the company has produced bows and archery equipment, building a respected brand.

Mathews makes bows from Grade 6061 aluminum. It uses 49 CNC machines, and the rate at which each machine works varies, depending on the job at hand.

"In most instances, we only retain about 30 percent of the aluminum within the finished product," says Scott Jenkins, Mathews' machine shop manager. "For example, if you have 100 pounds of aluminum to start, you end up keeping only 30 pounds. The rest is recycled."

That volume of scrap quickly adds up.

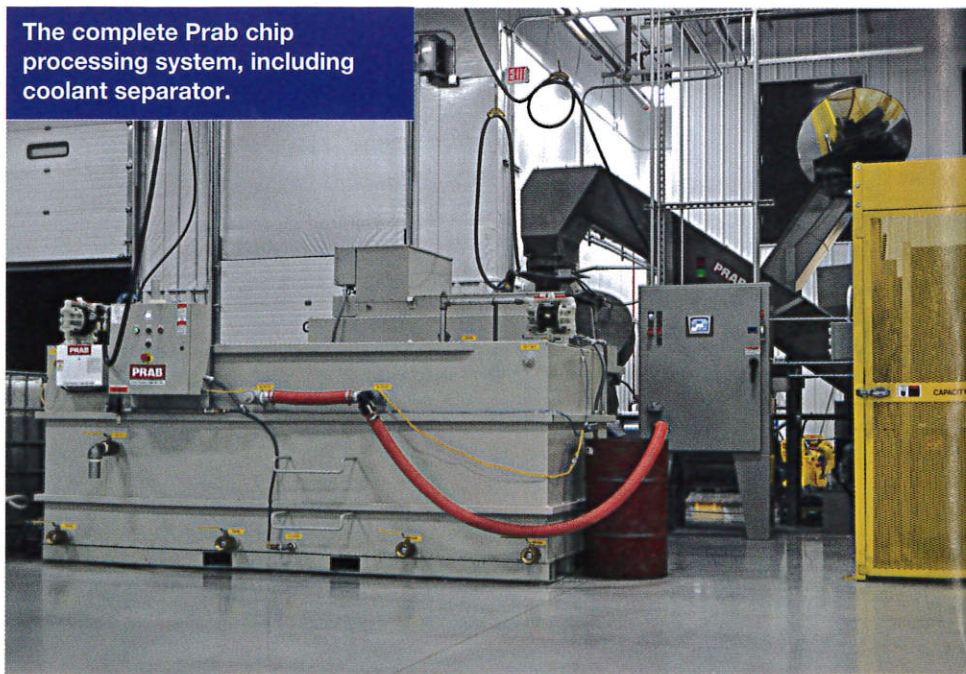
If handled correctly, a million pounds of scrap can be solvent

Jenkins finds it fascinating how much material must be removed to create a finished product. "Think of it this way: if you start with a 2-foot by 4-foot piece of aluminum, imagine making a hair comb no larger than 1/4-inch thick, 6 inches long and 1

inch wide—that gives you an idea about how much you're throwing away."

Cultivating coolant

Up until recently, the company relied on storing scrap in large plastic totes, which



The complete Prab chip processing system, including coolant separator.

would leak, "leaving a mess all over the shop floor, bringing all the hazards that come with that," Jenkins recalls. "So when we built our new facility, we needed to look at a new way to process our chips."

In addition, "when you're thinking about putting in a scrap system, it needs to have the right volume. We accumulate right around a million pounds of scrap a year and we needed a better way to combat messes and safety hazards while making the process more convenient."

Prab Inc. representative John Gulledge, president of Gull Material Handling Co., Barrington, Illinois, worked with both Jenkins at Mathews and with United Milwaukee Scrap LLC, Milwaukee, Wisconsin, to find a solution. United Milwaukee Scrap purchased the chip processing system installed at the Mathews facility based on a negotiated scrap rate. The joint effort has resulted in an increase in return on the aluminum used at Mathews, going from 15 percent moisture content before the chip processing system to less than 1 percent afterward.

The automated system starts with carts that are wheeled from each machine to the



Chips are temporarily stored in a metal tote before entering a central processing system.

central processing system. The cart is then locked into the hydraulic cart dumper. An operator uses a handheld control to empty the cart of coolant-soaked chips into the system's in-feed hopper.

The centrifuge mechanism is key in separating aluminum chips from coolant. "The centrifuge spins the chips and removes the fluid from them. The dry chips are air discharged via a pipe into an enclosed truck located outside that is filled automatically, eliminating manual handling," says Gulledge. "The collected dirty coolant is pumped to a Guardian filtration system 50 yards away that processes and cleans the coolant, removing any tramp oils

that could cause infestation problems, making the coolant rancid," he continues. "If the coolant is rancid, they can't reuse it; they have to get rid of it. So we pump coolant through the Prab system, remove it and deliver it back to their machines so they can reuse it."

The dry aluminum chips are moved overhead using air generated by the chip wringer and conveyed via pneumatic piping. They are blown into the back of a semitrailer provided by United Milwaukee Scrap. The end of the pipe has an engineered telescoping extension that functions to fill the trailer evenly from front to back.

An ultrasonic sensor detects the level of chips in the trailer. Once the chips reach a set height, the telescoping pipe section moves back to fill the next area of the hopper trailer, according to Prab.

"It's pretty easy. You open the door, put the metal tote in there, push the button and walk away," Jenkins says. "It dumps it after 30 minutes. We just got in the habit of dumping the tote."

Fluid removal crucial

Mathews works with aluminum but other companies can use the Prab system on many different materials. "Inconels, Hastalloys—often times there isn't just one type of metal [at a fab shop] but several," says Ron Chapman, Prab North America systems sales manager.

Some Prab customers require solutions that separate expensive oils or cutting fluids from metal chips and turnings. As a result, filtration becomes an important function within a chip processing system. "Since fluids are recovered by the processing system (chip processing or briquetting system), it makes further sense to recycle the captured fluid so it can be reused," Chapman says. "A Prab Filtration System, for example, can reduce new fluid purchases and waste fluid volumes by 50 to 90 percent, respectively."

Three methods are employed to recover the fluid from metal chips and turnings, according to Prab.



The Chip Wringer System, including where coolant enters a filtration process.

If you bought Steel Products from one or more Defendants between April 1, 2005 and December 31, 2007, you may be affected by a Class Action Settlement.

What is the Settlement about?

Eight steel manufacturers, ArcelorMittal S.A. and ArcelorMittal USA, LLC (together "ArcelorMittal"), Nucor Corporation, United States Steel Corporation, Gerdau Ameristeel Corporation, AK Steel Holding Corporation, Steel Dynamics, Inc., SSAB Swedish Steel Corporation and Commercial Metals Company (collectively, "Defendants") were sued by several businesses ("Plaintiffs") who allege that the Defendants conspired, in violation of the U.S. antitrust laws, to restrict their output and thereby raise or "fix" the prices for certain steel products sold for delivery in the United States between April 1, 2005 and December 31, 2007.

A settlement has been reached with ArcelorMittal, which has agreed to pay \$90 million into a Settlement Fund. This is in addition to \$15.9 million in settlements (pending court approval) that were achieved with Commercial Metals Company, AK Steel Holding Corporation, and Gerdau Ameristeel Corporation earlier this year. Proposed settlements in the case to date now total \$105.9 million.

ArcelorMittal denies the allegations. The litigation is continuing against the four non-settling Defendants.

Who is a Settlement Class Member?

You are a Settlement Class Member if you Purchased certain Steel Products directly from any of the Defendants or their subsidiaries or controlled affiliates at any time between April 1, 2005 and December 31, 2007 for delivery in the United States.

In general, "Steel Products" include carbon steel slabs, plates, sheet and coil products, galvanized and other coated sheet products; billets, blooms, rebar, merchant bar, beams and other structural shapes; and other steel products derived from raw carbon steel and sold by Defendants. The terms "Steel Products" and "Purchased" are more specifically defined in the full Notice and the Settlement Agreement.

Will I get a payment?

If you are a Settlement Class Member and do not opt out, you will be eligible to file a claim at a later date to receive money from the Settlement.

What are my rights?

If you are a Settlement Class Member and do not opt out, you will release certain legal rights against ArcelorMittal, as set forth in the full Notice and in the Settlement Agreement with ArcelorMittal. If you do not want to take part in the ArcelorMittal Settlement, you have the right to opt out. To opt out of the Settlement, you must do so by August 19, 2014. Settlement Class Members have the right to object to the Settlement. If you want to object, you must do so by August 19, 2014. Information on how to opt out or object to the Settlement is contained in the full Notice and at www.SteelAntitrustSettlement.com. You may speak to your own attorney at your expense for help.

When is the Approval Hearing?

A Final Approval Hearing to consider approval of the ArcelorMittal Settlement is scheduled to be held in Courtroom 2503, Everett McKinley Dirksen United States Courthouse, 219 South Dearborn Street, Chicago, IL 60604, on October 17, 2014, at 11:00 a.m. At that time, the Court will also consider Plaintiffs' Counsel's request for attorneys' fees and/or reimbursement of litigation expenses. You may appear at the hearing, but your attendance is not required. The date and location for this hearing may be changed on further Order of the Court.

This is a Summary, where can I get more information?

You can get complete settlement information, including a copy of the full Notice and the ArcelorMittal Settlement Agreement, by visiting www.SteelAntitrustSettlement.com.

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Shown: Hopper where aluminum chips are transported at Mathews Inc.



"The first is to simply let the material drain. This is certainly the cheapest option," says Chapman, "but it is inefficient, not environmentally friendly and very labor intensive."

"The second method is a Chip Wringer System, which uses centrifugal force to extract the fluid from the material.

"The third method is a Briquetter System, which squeezes the fluid out of the material turning it into a near solid 'hockey puck,' which is 75 to 90 percent solid." Pucks are easily remelted and generally demand a higher price for the seller, especially when it's scrapped aluminum.

Prab helps its customers determine between a Chip Wringer versus Briquetter System. "When we visit any customer's facility to perform a system audit and/or application review, our main goal is to listen to their current needs and issues," Chapman says.

Each method helps the customers to meet federal environmental and safety regulations, according to Chapman.

"The work environment will be safer, reducing accidents on slippery floors," he says. "Eliminating polluted turnings and chips from any operation helps customers comply with environmental rules and avoid costly clean-up fines that may occur when truckloads of scrap leak fluids and contaminate the ground."

For archery equipment maker Mathews Inc., the Prab Chip Wringer System was the perfect solution, whereby the dry aluminum chips were directly blown into the recycler's trailers. This solution worked best for United Milwaukee Scrap as well because its trucks easily transport the trailers of this valuable material to its various scrapyards.

"We buy aluminum in near net shape—but we essentially 'throw away' tons of aluminum," Mathews' Jenkins says. "By being able to reuse both scrap and coolant, we can buy less. The less you buy, the less you have to throw away." ■

Gull Material Handling Co., Barrington, Illinois, 847/550-0510, www.gullmaterialhandling.com.

Mathews Inc., Sparta, Wisconsin, 608/269-2728, www.mathewsinc.com.

Prab Inc., Kalamazoo, Michigan, 269/382-8200, www.prab.com.