

by Tracy Vonder Brink
photos by Tom Uhlman

How to Recycle Everything

What happens to your recycling after you toss it in the bin? If you live in Ohio, Kentucky, Indiana, or West Virginia, it might go to a Rumpke Recycling center. We went to visit one to see how it works.

Now what?



Recycle it!



Recycling Pickup

Do you put all your recyclables in the same bin? That's called single-stream recycling. That's how Rumpke Recycling does it. They handle 1 billion pounds of mixed recyclables every year.

Curbside recycling bins are emptied into the trucks. When they're full, the trucks head to the Material Recovery Facility, or MRF.



Front loaders scoop the recycling onto conveyor belts to start the sorting trip.

Tip It Out

The trucks dump all the recyclables into huge piles on the tipping floor. This area is big enough to hold two days' worth of recyclables at a time, about 2.5 million pounds.



Move Along!

The conveyor belts move 55 tons of recyclables per hour through the MRF. The MRF is a bit like a huge factory filled with big machines. It's noisy and dusty, but it doesn't smell bad.



The Big Sort

What happens next is a lot like sorting Legos. As the pile of recycling moves along, one material at a time is pulled out. First cardboard. Then glass. Then paper. Then plastics. Each gets sorted and bundled together.

Machines do a lot of the sorting, but they aren't perfect. So people check after each machine.

Recycle Checkers

Workers stand next to the belts. They pull out anything that can't be recycled and toss it into bins to be taken to the landfill. Plastic bags go up vacuum chutes. It's important to only put recyclables into your bin. The wrong things can break the machines or start fires.



No clothing or shoes



No plastic bags



No batteries



No hoses & chains



Cardboard Bumper

The stream flows over rows of spinning metal discs. Light, flat cardboard bounces out over the top and onto another conveyor belt. Everything else drops between the discs and continues on.

Paper Shakers

Two more sorters separate paper. Recyclables hop up and down as spinning discs send paper flipping over the top. Plastic bottles bounce off the sides and land on different belts.



Look! There goes my bottle!



ask

Glass Breaker

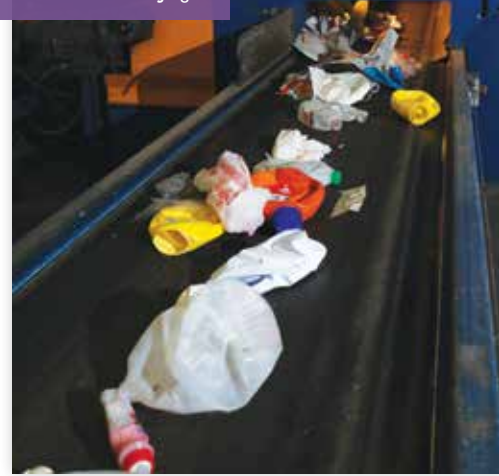
Heavy glass bottles get broken up in the paper sorters. The bits of glass fall onto a glass-catcher below. They'll be shipped to a glass processing facility in Dayton, Ohio.



Eye Spy Paper and Plastic

High-tech scanners use light to spot paper and plastic. Inside, infrared beams scan the stream. Infrared reflects differently from paper and each kind of plastic. Each machine looks for one material. When it finds some, a puff of air blows it off the belt.

There are six different optical scanners. This one is checking for HDPE, the kind of plastic used in milk jugs.



Aluminum Eddy

Another magnet creates a strong magnetic field called an eddy current. This makes aluminum cans jump off the belt. Non-metals continue on.



Steel Can Magnet

A rotating overhead magnet grabs steel cans as they pass underneath. The cans stick to the magnet and drop off on the other side as the drum spins.

Quick, tell it you're not a can!



Bottles in Bunkers

At the end of the line, streams of separated paper, plastics, steel cans, and aluminum fall into big bins called bunkers. When the bunker is full, the recyclables are pressed into bales.



Boxy Bales

The finished bales are stacked, ready to be taken away. One bale of aluminum cans can weigh 900 pounds (400 kg). Paper bales weigh up to a ton. The bales are loaded onto trucks or railroad cars. They're shipped to companies who turn the recyclables into something new.



Time for Something New!

Factories buy the metal, plastic, glass, paper, and cardboard to make new things. So another way to recycle is to buy things made from recycled material, like toilet paper made from recycled paper instead of trees. If recyclers can sell the stuff they reclaim, they will keep recycling.

Crushed glass and plastic are sometimes added to asphalt to make strong roads.



This park bench used to be plastic bottles.

Aluminum and steel can be melted down and made into new cans, over and over.



There's my bottle again but now it's all fuzzy!



Old plastic can be spun into yarn to make fleece and other clothing.

