

Welcome to the Rumpke Recycling & Resource Center

North America's largest and most
technologically advanced recycling center.



Rumpke Recycling

- Rumpke purchased its first recycling center in 1989 in Circleville, Ohio.
- Rumpke opened Rumpke Recycling Cincinnati in 1991 and Rumpke Recycling Columbus in 1993.
- Today we have 14 recycling facilities including Dayton Glass Processing.
- Annually, Rumpke recycles more than a billion pounds of material.



What Makes Something Recyclable

- For material to be processed by Rumpke, we must consider two factors:
 - Can it safely move through the MRF?
 - Do we have end users for that material?
- If we cannot answer yes to both of those questions, we cannot process the material.



PLEASE RECYCLE THE FOLLOWING ITEMS:

PAPER



Cardboard should fit inside cart.

PLASTICS

Bottles, jugs, tubs and cups



Reattach lid. Yogurt and fruit cups OK.

METAL CANS & CUPS



Non-hazardous, non-flammable material only.

GLASS BOTTLES & JARS



Any color.

CARTONS



Remove caps and straws.

Paper Recycling

Cardboard is crushing it!

New domestic papermill capacity

Domtar - Kingsport, Tn

Pratt - Henderson, Ky

Graphic - Kalamazoo

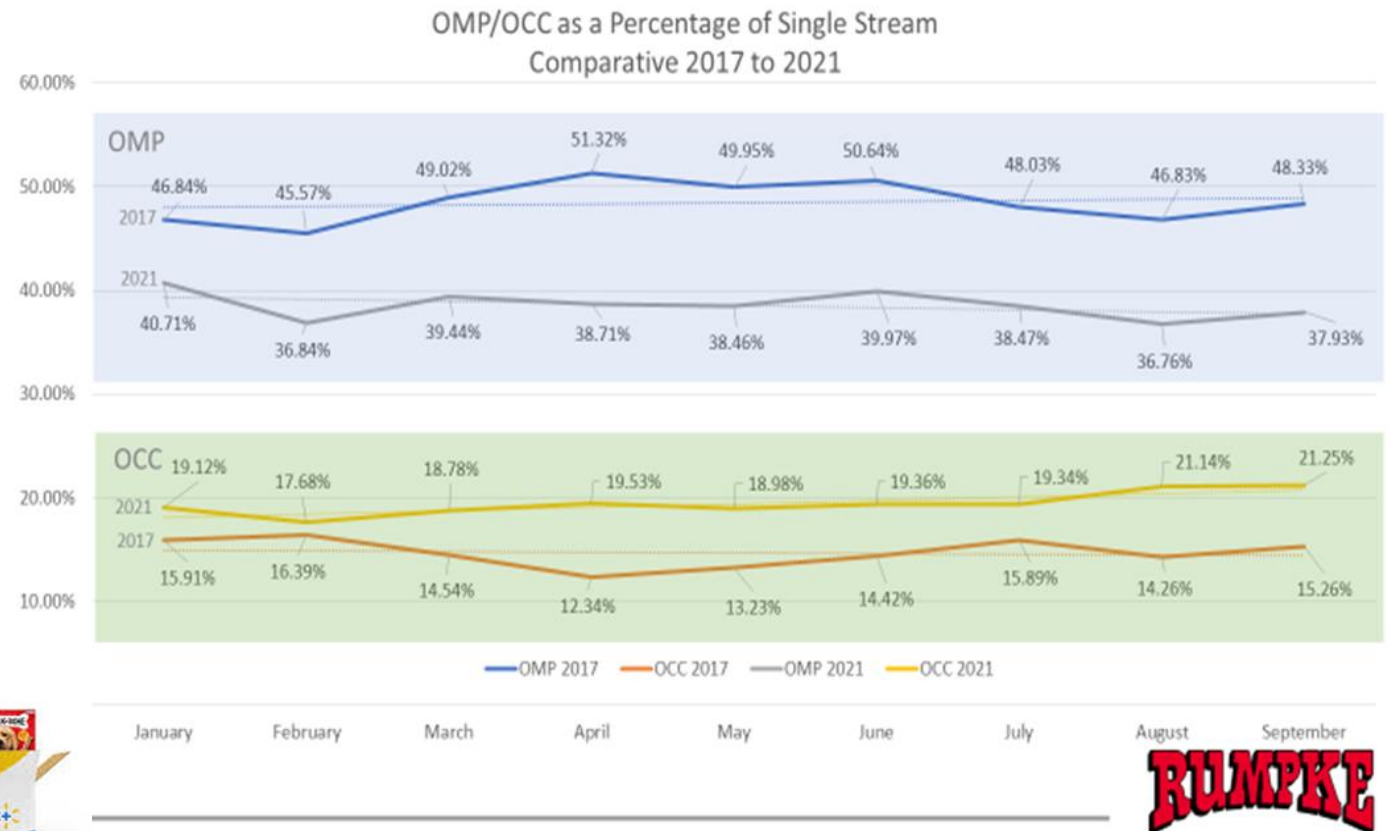
ACN - Biron, WI

Box orders remain High

We like goods delivered to our doorstep.

E-commerce has exploded and Covid accelerated it.

Midwest enjoys the highest fiber pricing in the US



Expansion of Plastic Recycling

What's going on in the plastic markets today?

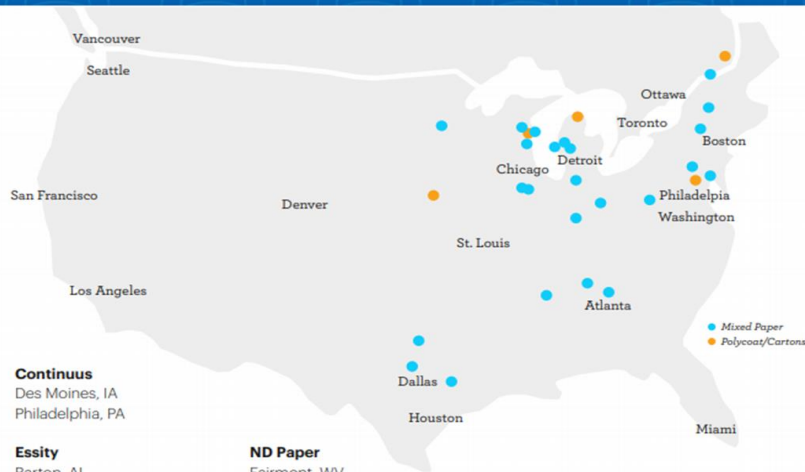
Recycled plastic commodities are historically high in demand.

- Demand for PCR remains high. New end markets are opening up allowing us to go deeper into the waste stream.
- Polypropylene recycling technology has successfully emerged
- PET Production is expanding.
- What about pyrolysis? What is it and will it be successful?
- Extended Producer responsibility is holding producers responsible for the collection and recycling of specific volumes of plastic that they produce and place into the market.

Expansion of Plastic Recycling -- CUPS

Rumpke now accepts Paper, Plastic & Aluminum cups

We Want Your Paper Cups!



Continuus
Des Moines, IA
Philadelphia, PA

Essity
Barton, AL
Menasha, WI
Middletown, OH
South Glens Falls, NY

Georgia-Pacific
Green Bay, WI
Muskogee, OK

Graphic Packaging International
Battle Creek, MI
East Angus, QC
Middletown, OH
Kalamazoo, MI

Great Lakes Tissue
Cheboygan, MI

Green Bay Packaging
Green Bay, WI

ND Paper
Fairmont, WV

Pratt
Conyers, GA
Shreveport, LA
Staten Island, NY
Valparaiso, IN
Wapakoneta, OH

Sustana
Levis, QC
DePere, WI

WestRock
Aurora, IL
Battle Creek, MI
Chattanooga, TN
Dallas, TX
Eaton, IN
Missisquoi, VT
St. Paul, MN
Stroudsburg, PA

THE MIXED PAPER MILLS ON THIS LIST REPRESENT:



of the U.S./Canadian mixed paper demand (% by quantity consumed)



of the U.S./Canadian mills consuming mixed paper (% by mill count)















Examples of new material that customers can recycle include paper beverage cups from fast-food restaurants (Starbucks, McDonalds, etc.), plastic souvenir cups and Ball brand aluminum cups. Additional guidelines include:

- Plastic lids should be reattached to plastic cups for recycling.
- Plastic lids from paper cups should be removed and discarded.
- Straws and stoppers are not accepted.
- Colored Solo brand cups are not accepted. These cups are made from polystyrene. Rumpke currently does not have a secure, long-term end user for this material.
- Ceramic and glass cups are not accepted.
- K-cups are not accepted.



Expansion of Plastic Recycling

Plastic Identification

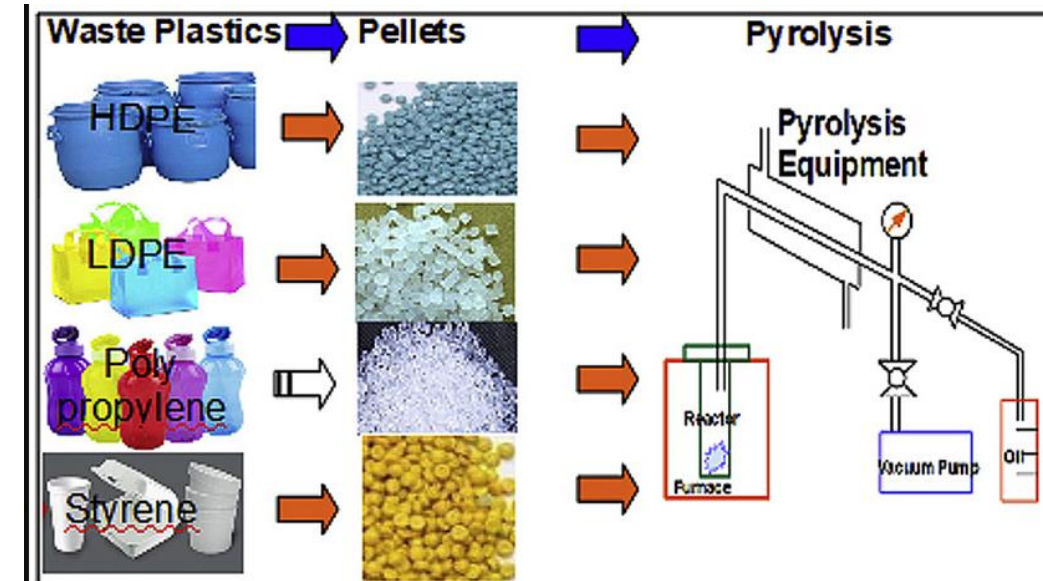
 PETE	 HDPE	 PVC	 LDPE	 PP	 PS	 OTHER
Polyethylene Terephthalate	High-Density Polyethylene	Polyvinyl Chloride	Low-Density Polyethylene	Polypropylene	Polystyrene	Other
Common products: soda & water bottles; cups, jars, trays, clamshells	Common products: milk jugs, detergent & shampoo bottles, flower pots, grocery bags	Common products: cleaning supply jugs, pool liners, twine, sheeting, automotive product bottles, sheeting	Common products: bread bags, paper towels & tissue overwrap, squeeze bottles, trash bags, six-pack rings	Common products: yogurt tubs, cups, juice bottles, straws, hangers, sand & shipping bags	Common products: to-go containers & flatware, hot cups, razors, CD cases, shipping cushion, cartons, trays	Common types & products: polycarbonate, nylon, ABS, acrylic, PLA; bottles, safety glasses, CDs, headlight lenses
Recycled products: clothing, carpet, clamshells, soda & water bottles	Recycled products: detergent bottles, flower pots, crates, pipe, decking	Recycled products: pipe, wall siding, binders, carpet backing, flooring	Recycled products: trash bags, plastic lumber, furniture, shipping envelopes, compost bins	Recycled products: paint cans, speed bumps, auto parts, food containers, hangers, plant pots, razor handles	Recycled products: picture frames, crown molding, rulers, flower pots, hangers, toys, tape dispensers	Recycled products: electronic housings, auto parts,
						

- Chasing arrows Identify the type of Resin that the plastic is made from.
- Segregation of Color/Clear PET/Thermoforms.
- Paper tube recycling.
- PS recycling - markets to emerge
- Food service packaging
- Hefty - Renew program - hard to recycle plastics.
- Small format plastics that end up in glass stream.
- MRF is designed to capture all material allowing nothing to go unsorted.

Expansion of Plastic Recycling

Chemical Recycling -- Pyrolysis

- Pyrolysis is a common technique used to convert plastic waste into energy, in the form of solid, liquid and gaseous fuels. Pyrolysis is the thermal degradation of plastic waste at different temperatures (300-900°C), in the absence of oxygen, to produce liquid oil.
- In pyrolysis, waste plastic is heated in a low-oxygen environment and, instead of burning, breaks down into a mix of simpler hydrocarbons. Tweaking the reaction conditions—such as temperature, pressure, or use of a catalyst—allows operators to get various product mixtures.



Recycling Program

What can go in the recycling cart!

Recycle These

PAPER



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DON'T RECYCLE

- Plastic bags
- Hazardous material such as batteries
- Tanglers such as clothing, dog leashes & garden hoses
- Scrap metal, including pots & pans

Visit www.rumpke.com to learn more about our recycling program. Visit your local Solid Waste District to find where you can dispose of hazardous material.

NOT Accepted for Recycling

DID YOU KNOW THAT RECYCLING THE RIGHT ITEMS INCREASES THE BENEFITS OF RECYCLING FOR YOU?

The fewer unacceptable items we get, the more we can focus on recycling. That means investing in state of the art recycling facilities and making recycling easier and more accessible for customers like you.

IMPORTANT ITEMS TO AVOID

- Cassette & VHS tapes
- Pressurized tanks
- Clothing & sheets
- Hoses & chains
- Plastic bags
- Hangers



UNACCEPTABLE PLASTIC ITEMS

- Plastic items without a bottle neck
- Plastic tubs, trays & cups
- Plastic toys & bills
- Plastic buckets
- Plastic wrap

UNACCEPTABLE PAPER ITEMS

- Toilet paper, paper towels & contaminated items
- Photos, photo paper or specially-treated paper
- Laminated paper (thick or waterproof coverings)
- Paper plates & cups
- Tissues

UNACCEPTABLE GLASS ITEMS

- Ceramic & porcelain
- Drinking glasses
- Window glass
- Light bulbs
- Dishware

UNACCEPTABLE METAL ITEMS

- Needles, sharps & medical equipment
- Metal pots, pans & pipes
- Metal wire

OTHER UNACCEPTABLE ITEMS

- Anything touched by gas or oil (even if empty or clean)
- Hazardous or flammable material
- Paint cans (spray & liquid)
- Wood & yard waste
- Rubber hoses
- Rope & string
- Electronics
- Styrofoam
- Car parts
- Batteries

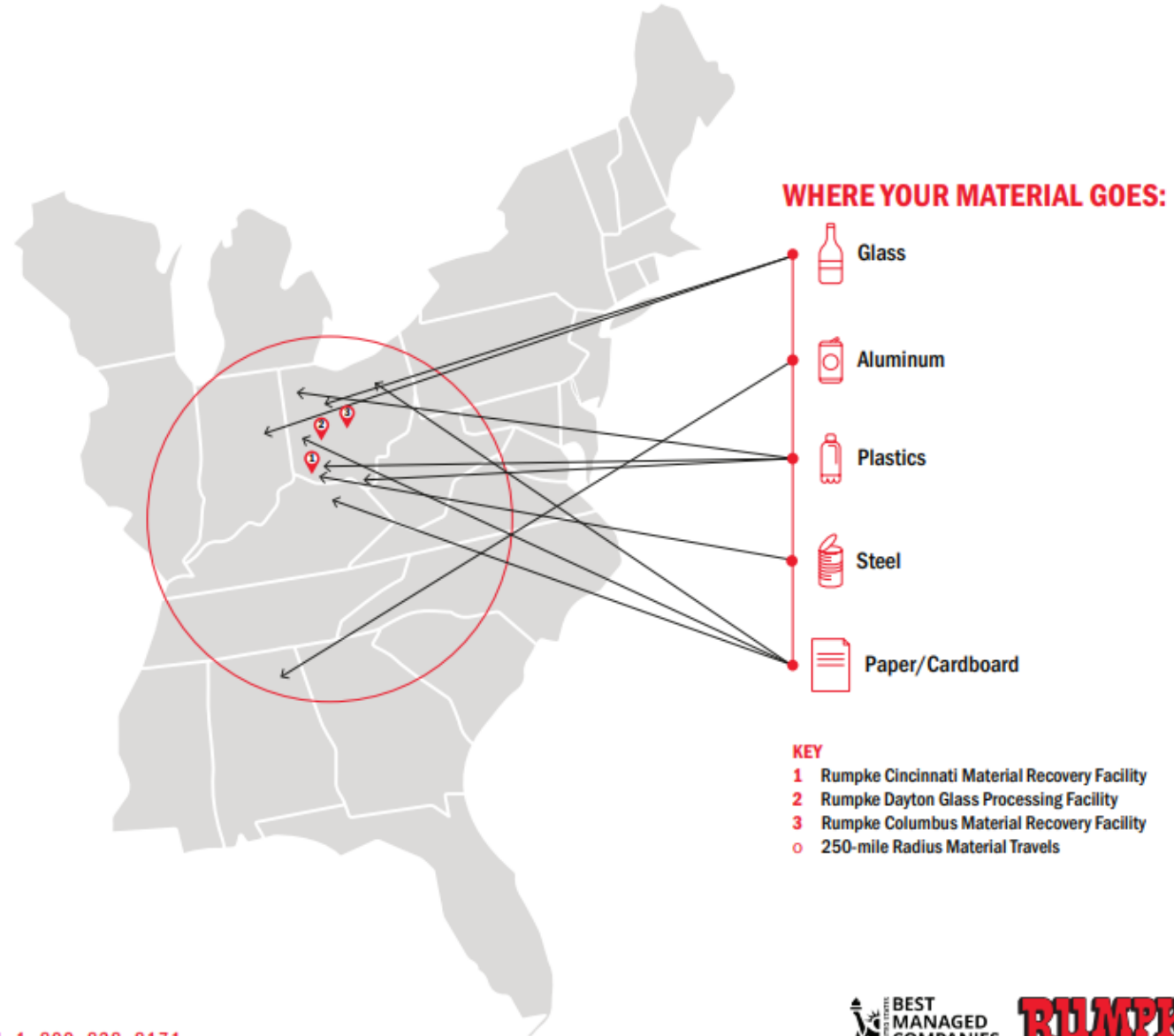


- Tools used to communicate what can go in the bin.
- Notice we don't use any numbers, but pictures to describe items.
- Audits done at drop off centers across the region as well as cart tagging programs to reduce contamination.

Recycling—IT ALL GOES BACK TO YOU

When you recycle with Rumpke, your efforts will help to save energy and valuable natural resources, create local jobs and create new and useful products.

Rumpke works with manufacturers within a 250-mile radius of our facilities to supply recyclables for their manufacturing process. In fact, 80% of materials go to Ohio companies. Your glass bottles are going to Ohio and Indiana companies to make fiberglass insulation or new glass bottles and jars. Your steel cans go to Ohio steel mills to become new steel applications. Many of your plastics go to Ohio companies to be made into new plastic containers and drainage pipe. And paper products go to Midwest paper mills where they get converted into new cardboard boxes destined to hit your doorstep again. So every time you toss your bottles, cans, cups and cardboard into your recycling container—you can be confident that your efforts are making a difference for your community.

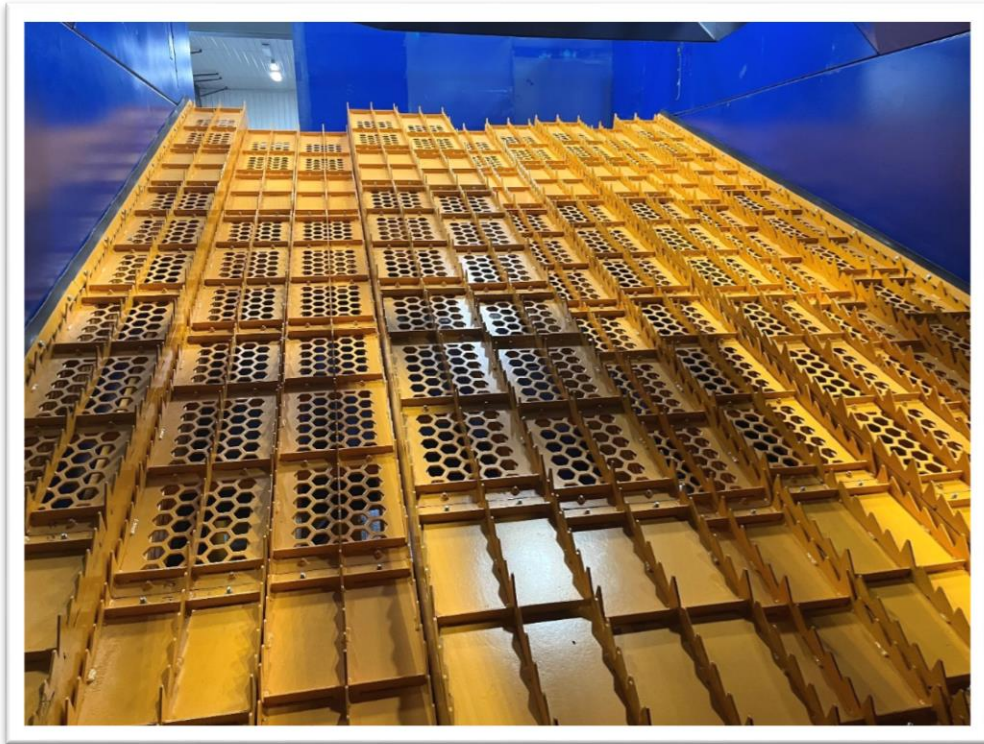


www.rumpke.com | 1-800-828-8171



New Recycling Center-New Innovation

More space and more technology.



- Total square footage is 226,000 square feet.
- The tour platform is 150 feet long. It is 45 feet high.
- The facility ceilings are 65 feet high.
- The Center will boast a 32,500 square foot main tipping floor. It is the largest in the country, the next closest in size is only 26,000 square feet.
- Processing will occur at a rate of 60 tons per hour.
- Recovery rates are expected to be 98%.
- The plant features four ballistic separators.

New Recycling Center-New Innovation

AI Powered Optical Scanners



- The new facility boasts 19 optical scanners.
- The scanners replace initial hand sorting as material is fed into the plant from the tipping floor.
- Some optics employed later in the process assist with quality control.
- The Rumpke Recycling & Resource Center will process 250,000 residential tons annually and another 8,000 commercial tons annually.

Rumpke Recycling Resource Center



OSU

RESEARCH & CAREER DEVELOPMENT



RUMPKE

MATERIAL RECOVERY FACILITY



COSi

STEM & ENVIRONMENTAL EDUCATION

Rumpke Recycling & Resource Center



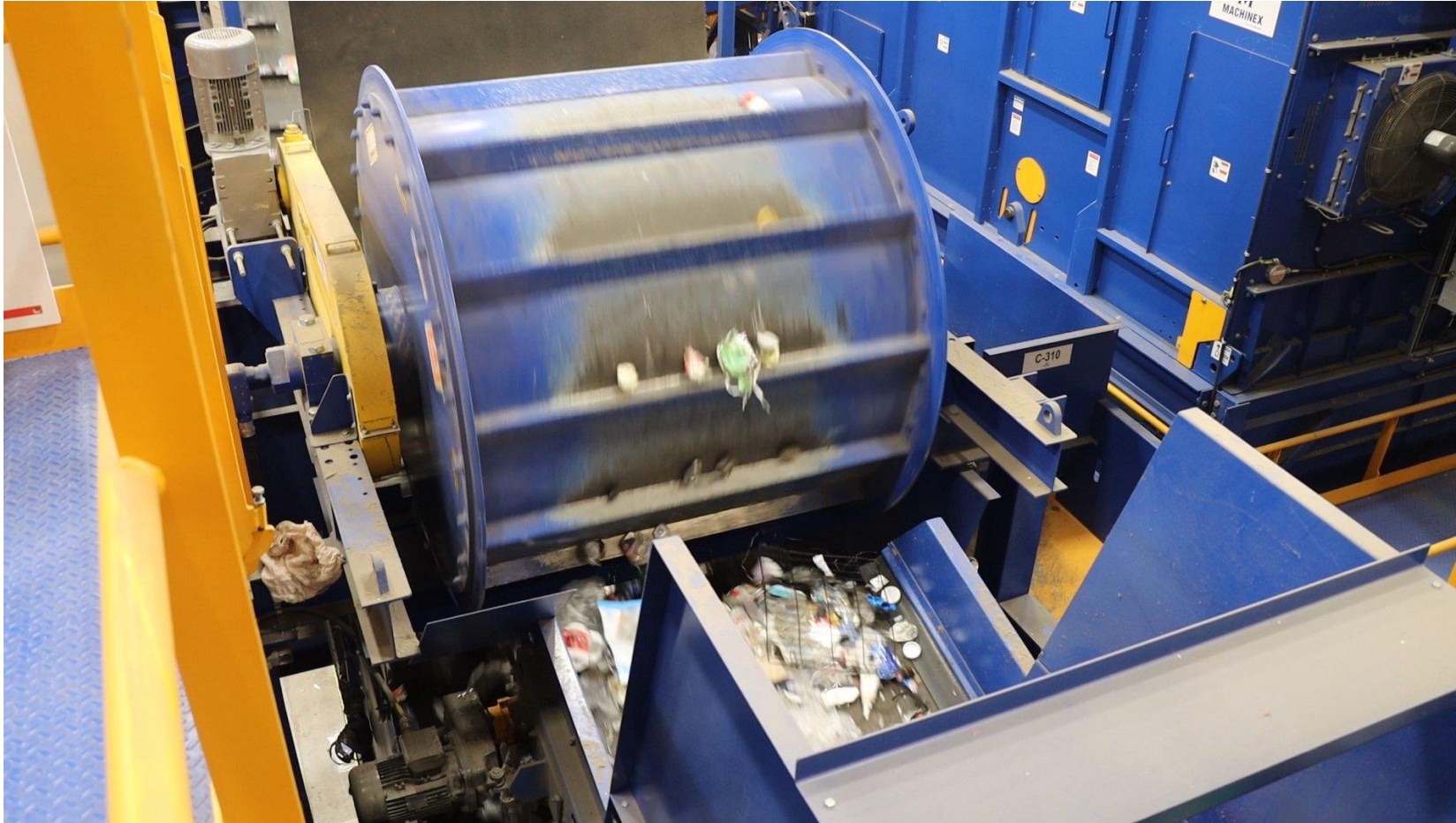
Rumpke Recycling & Resource Center



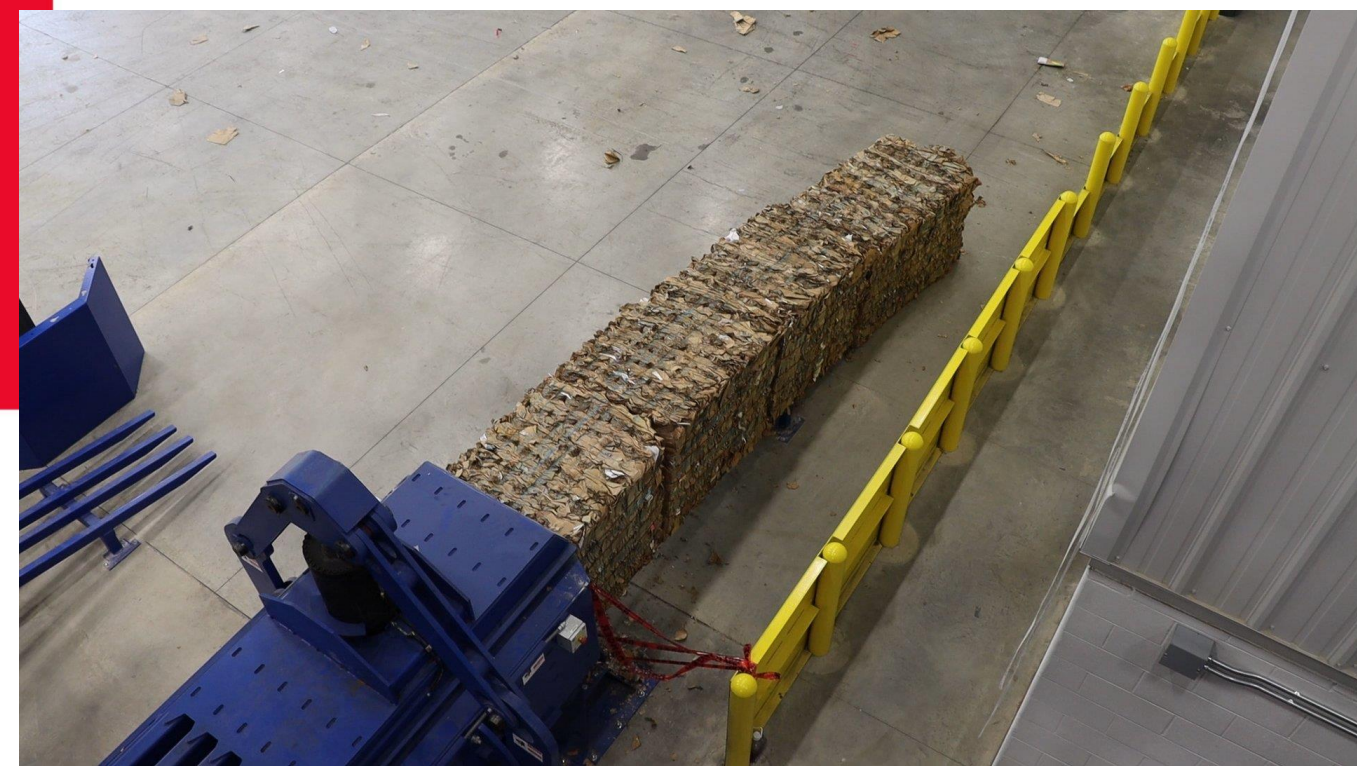
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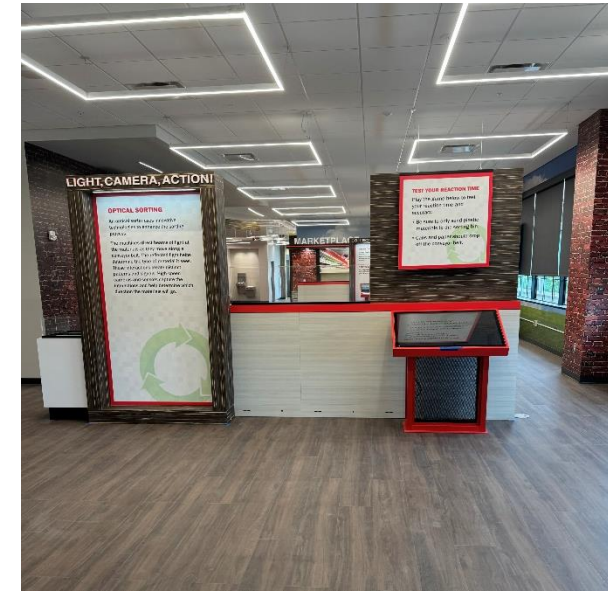
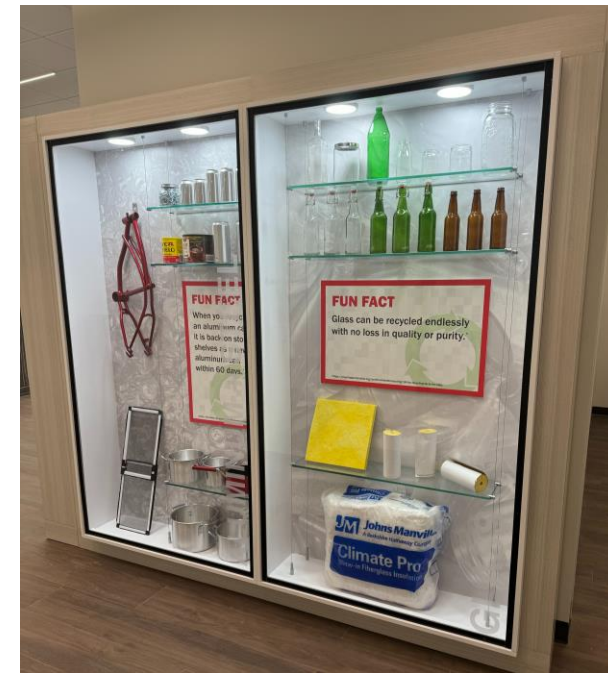
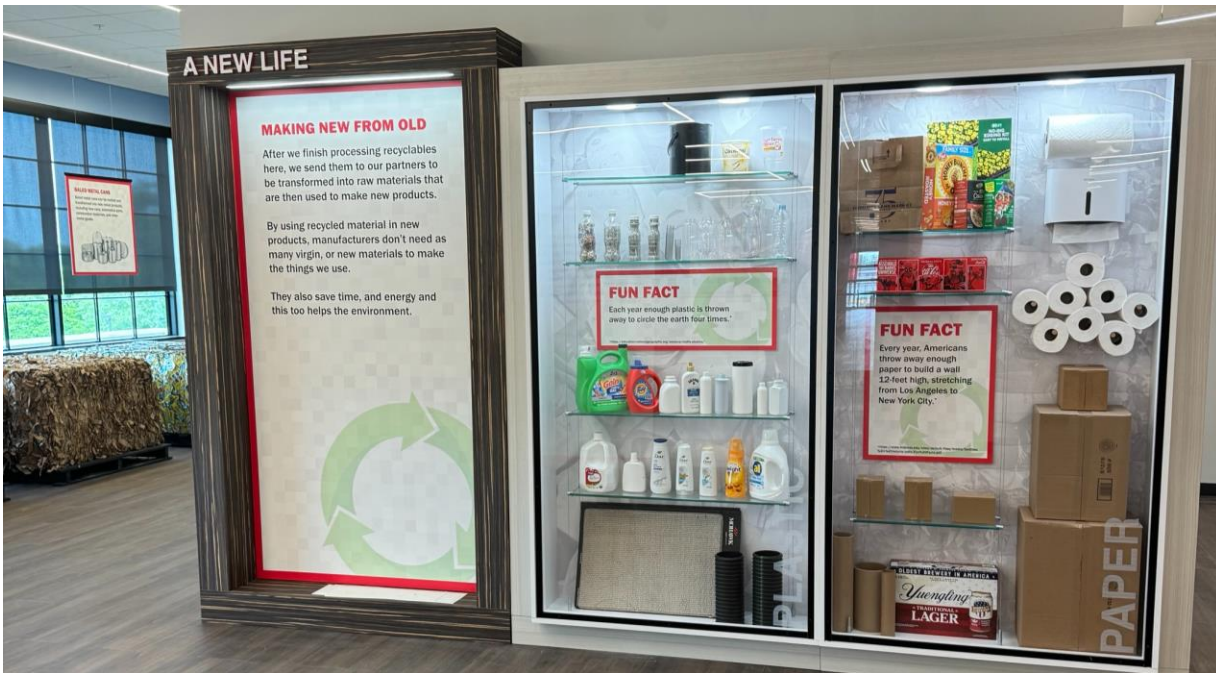


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THANK YOU!

