

## SOURCES

Tours: Master Mark Plastics and Quality Checked Plastics, both in Paynesville, Minn. • Materials Recovery Facility (recycling sorting centers) tours: BFI Recyclery, Eureka Recycling and Waste Management's Recycle America Alliance, all in Minneapolis • Josie Dorsey, Metrodome cleaning services manager • SKS Bottle & Packaging Inc., a worldwide supplier of packaging and containers (www.sks-bottle.com) • Polymer Science Learning Center (www.pslc.wc) • National Association for Pet Container Resources (www.napcor.com)



Jerry Holt/Star Tribune

In northeast Minneapolis, trucks dump 60 to 70 loads of plastic a day at Eureka Recycling. About 95 percent of all plastic bottles are of PET or HDPE plastic and can be recycled.

## Know the numbers: They'll tell you which plastic is recyclable



**YES** Polyethylene terephthalate (PET): Pop bottles, water bottles, vinegar bottles, medicine containers, backing for photographic film. Processed into fiber for clothing, carpet and filling for jackets and sleeping bags. Also used in clam-shell containers for food and in some new soda bottles.



**YES** High-density polyethylene (HDPE): Containers for detergent, bleach, fabric softener, milk, shampoo and hair conditioner, motor oil. Newer bulletproof vests and some toys. Reappears in new HDPE containers, pipe, plastic lumber and lawn and garden products.



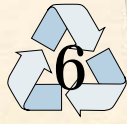
**NO** Polyvinyl chloride (V): Pipes, shower curtains, meat wraps, cooking oil bottles, baby bottle nipples, shrink wrap, clear medical tubing, vinyl dashboards and seat covers, coffee containers.



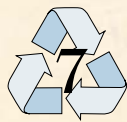
**YES** Low-density polyethylene (LDPE): Wrapping film, grocery bags, sandwich bags. Cub, Byerly's, Lunds, Wal-Mart and Kohl's stores collect these for recycling. Processed into plastic lumber.



**YES** Polypropylene (PP): Tupperware, syrup bottles, yogurt tubs, outdoor carpet. These can be recycled but aren't collected curbside.



**NO** Polystyrene (PS): Coffee cups, disposable cutlery and cups, bakery shells, meat trays, foam insulation, most packing peanuts and some automotive wheel covers. Mostly not recycled, although packing material can be reused.



**NO** Products labeled as "other" are made of any combination of other plastics and cannot be recycled.

# From reject to resource

Plastics recycling is mostly down-cycling for now. That means plastic is recycled once and then discarded, unlike glass and aluminum, which can be recycled repeatedly. Still, that's better than just a few years ago, when plastic wasn't recycled at all. Until very recently, there was no market for it. Manufacturers were content to use virgin material (petroleum) in their products. But as the price of a barrel of crude oil climbed — from less than \$15 in the 1960s to more than \$50 today — the hunt was on for a cheaper alternative. It made sense to collect old plastic to use in making new.

One of the hungriest plastics consumers is China — a country aggressively seeking resources to fuel its expanding economy.

"Two years ago, I couldn't give away this stuff [recycled plastic]. Now I can't process it fast enough," said Rick Kollmann of Quality Checked Plastics in Paynesville, Minn. His company grinds up plastic jugs and bottles to be used in making new plastic products. In Minnesota, used plastic jugs are coveted for making lumber and landscaping products such as lawn edging.

Every month Master Mark Plastics in Paynesville churns out 2 million linear feet of decking, a composite that's half sawdust (from woodworking shops), half plastic. That is enough for 4,166 typical suburban decks.

"We're keeping three million pounds of plastic out of the landfill every month," said Mark Reum, CEO at

Master Mark Plastic. The composite decking itself is not recyclable, but it is guaranteed for 10 years and can be expected to last for 25. And by then, there might be a way to recycle it, too, according to the Minnesota Office of Environmental Assistance.

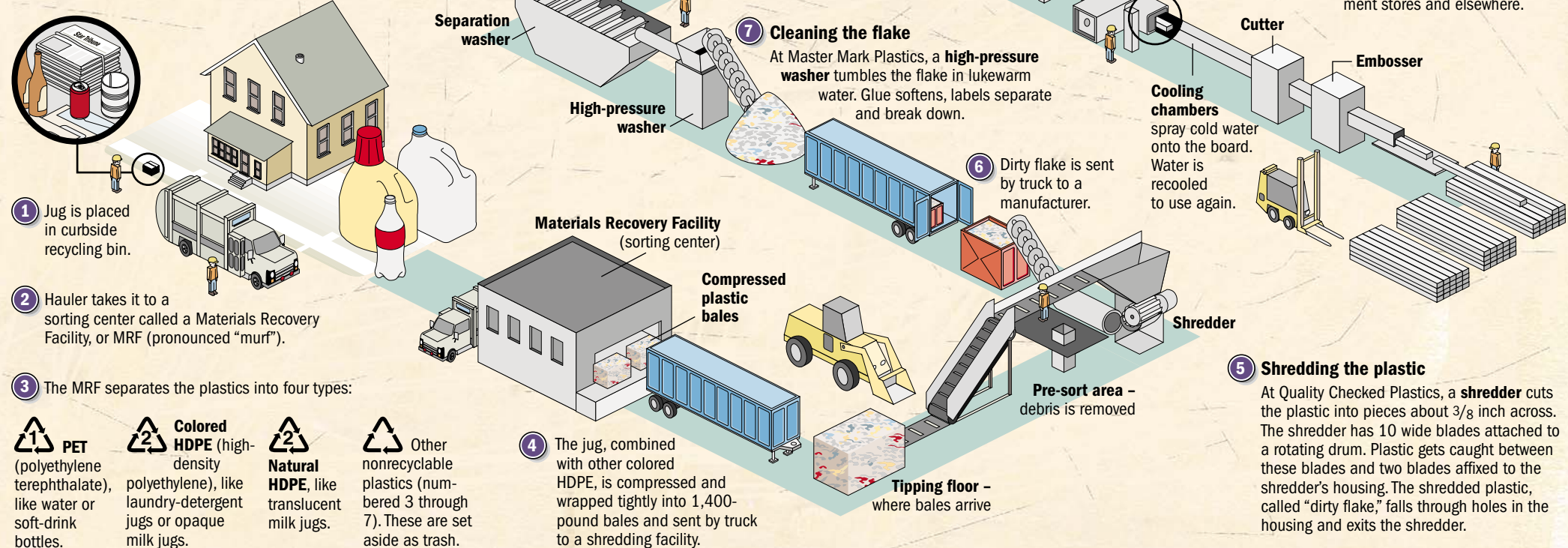
It takes just three hours to turn the chips or "flake" resulting from ground-up plastic jugs into boards. Add a couple of days to dry and the lumber, called Rhino Deck, is ready to ship. That means a plastic jug tossed into the recycling bin today could be back to you this summer as part of a new deck for your home.

But products made from recycled plastic in Minnesota go farther than your backyard. Reum's company also ships landscaping products to New Zealand, Taiwan and even the oil-rich Middle East.

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## How a laundry-detergent jug becomes lumber

Here's a step-by-step look at how a plastic laundry-detergent jug in your curbside recycling bin transforms into a length of plastic composite decking lumber at your local home improvement center. We follow the process through Master Mark Plastics and Quality Checked Plastics, both located in Paynesville, Minn.



Sources: Master Mark Plastics; Quality Checked Plastics; Eureka Recycling; BFI Recyclery; Waste Management Inc.

Graphic and research by Jane Friedmann, Mark Boswell/Star Tribune