CORRUGATED RECYCLING PROCESS

Corrugated is a highly useful, cost-efficient, versatile packaging material that is used to ship just about every product under the sun, all around the world. But it doesn't stop there: corrugated is also the most recycled packaging material on earth, with a recovery rate of more than 91 percent in 2012.

Businesses, retailers and consumers at home collect and return their used corrugated containers to be recycled into new ones, doing their part in a continuous loop of renewal for this natural, sustainable packaging.

While almost everyone contributes to corrugated's recycling success by returning their old corrugated containers (also known as OCC), fewer people may know where those boxes go from the collection point, or how they are processed to create new corrugated material. This diagram shows corrugated's return journey behind the scenes and how it is recycled for reuse.



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rint, score, die cut, and fold them. The ide seam of the box (manufacturer's joint, i fastened by gluing, taping, or stitching.

e finished flat boxes are gathered into ndles and stacked, then shipped to the x customer's plant.

The combined, 3± layer board passes through curing sections in a continuou web, and then is scored, cut into prope size blanks (sheets), and stacked.

Starch adhesive is applied to the fluted medium, which is then sandwiched between two flat sheets of paper (linerboard).

New

Corrugated board is formed using three or more pieces of paper (containerboard). The outer surfaces are linerboard and the inner, fluted paper is called medium.

A sheet of paper which will become the corrugated "medium" is softened with steam, then fed through a machine called a "single facer". The medium passes between two huge metal rolls with teeth which give it wavy ridges or "flutes".

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Bales are transported to the paper mill

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Bales are broken open, and the OCC is put into a repulper (a huge tub that looks something like a blender) with water. They are agitated to form a slushy pulp (slurry) of fiber and water.

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Contaminants are removed:

6a. A big "ragger" chain or rope hangs down into the swirling tub of material. Some contaminants such as long pieces of rope, string or tape, plastic and metal bands will wrap around the ragger and can then be pulled out of the repulper.

6b. The remaining pulp slurry goes through different types of equipment such as towers where the metal falls to the bottom for removal, screens, cyclones, and even big tanks where the contaminants float to the top and can be scraped off. The cleaned pulp is then sent to the paper machine.



The highly diluted fiber solution is poured out on to a moving screen which allows water to drain away, forming a continuous fiber mat, which is pressed between rollers to remove more water.

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The wet, continuous fiber web is then wound through the dryer section where the top and bottom of the web alternately contact the heated surfaces of the drying cylinders, removing the remaining moisture from the paper.