

What is a Materials Recovery Facility?

A materials recovery facility (MRF) is a specialized plant that receives, separates and prepares recyclable materials for sale to end-user manufacturers. It is important that the materials which come out of the MRF are clean, properly sorted and relatively free of impurities.

How It Works

Step 1: It All Starts with YOU!

You begin by preparing your recyclables (e.g., you rinse bottles and cans, flatten cardboard) and place them in the residential recycling bin at the curb.

Step 2: Materials are Collected and Delivered to a MRF

Recycling crews drive through your neighborhood and collect the materials. They transport the materials to a MRF where they are weighed and offloaded onto the floor.

Step 3: Recyclables are Put on Conveyor Belts

Commingled materials (i.e., steel cans, aluminum cans, plastic bottles, cardboard and mixed paper) are put onto conveyors that are used to transport the material streams inside the MRF.

Step 4: Materials are Sorted

The conveyors go past semi-automated sorting lines. In this process, workers remove debris and sort the materials by type. In addition to hand sorting, materials undergo both simple and complex automated processes. For example, disc screens separate fiber from containers and 2-D from 3-D materials. While an overhead magnet is used to remove steel cans from other recyclables.

Step 5: Recyclables are Prepared for Transport

Once recyclables have gone through all the necessary sorting processes, they are prepared for transport. Some materials (i.e., plastics, metal cans, paper, cardboard) are compressed into large dense cubes or bales. They can then be sold to intermediate processors and manufacturers for use in making new products.

Step 6: Recyclables are Manufactured into New Products

Often, the materials are remanufactured into their original form. For example, aluminum cans are shred into small chips, melted, rolled, and cut into new cans. In some cases, however, the new product bears no resemblance to the original item. For example, plastic bottles can be used to make clothing.

Step 7: Recyclables are Sold

Following production, packaging and shipping, the new products are placed on store shelves where they are sold to consumers.

As you can see, you play an important role in the beginning as well as the end of the recycling process