

The Green Space: Trash Degradation Exposed

This article previously appeared in the MMTTC e-manufactLine newsletter, and is used with permission
Reprinted in the April 2010 Chamber Business News



Nearly 70% of your trash can be recycled, yet the majority of discarded waste continues to be hauled away to landfills each year. While you may believe that the material you throw away will quickly decompose in the landfill, there are many factors that affect the decomposition rate of various materials, including oxygen levels, temperature, and the presence of water. Water is a natural aid for decomposition, but many landfills are hermetically sealed with plastic to keep water out.

Therefore, much of this waste can take several years to decompose (if it ever does decompose), which results in the increasing need for the creation of new landfills—costing up to \$10 million each to build, according to the U.S. Environmental Protection Agency. A viable solution is to decrease the amount of waste that actually makes it to the landfill in the first place.



Source: www.sxc.hu

How Long Do You Think It Takes?

If you think that your waste quickly decomposes after it is hauled off to the dump, you may be surprised to find out just how long it might take 10 common items to decompose in a landfill.

Newspaper—2 to 4 Weeks

If you have ever picked up a sopping wet newspaper from the driveway after a rain storm, you may have guessed that newspapers decompose rather quickly when wet. Due to the fact that measures are taken in the majority of landfills to reduce the presence of water, decomposition time is substantially increased.

Cardboard—2 Months

While two months may not seem like a long time, there are several ways to prolong the lifecycle of cardboard, rather than simply throwing it away. Get the most out of your cardboard by reusing boxes for storage or moving projects. Cardboard can be composted and corrugated cardboard (moving boxes) can be recycled.

Cotton Fabric—5 Months

Rather than throwing away cotton items, donate gently used clothing, towels, or sheets to charity. Cotton fabrics can also make a great addition to your compost pile.

Cigarette Butt—2 to 5 Years

At first glance, it may appear that cigarettes would decompose rather quickly. The composition of a cigarette is actually very complex—containing almost 600 ingredients. One of these

ingredients, cellulose acetate (a plastic), is found in 95% of cigarette filters and is difficult to decompose.

Wooden Furniture—13 Years

Yes, wood is natural and biodegradable, but under the conditions created in landfills, wood takes longer to decompose—13 years for a standard wooden chair. Painted wood increases the decomposition time, and can cause additional harm to the environment due to the added chemicals. Proper disposal of wood can also be beneficial to your bottom line, as it is typically much more costly to send wood products to landfills rather than processing facilities. Businesses can typically expect to pay approximately one-third less for processing than the landfill disposal fee, and some states offer free processing programs for clean wood.

Tin Can—80 to 100 Years

These days, tin cans are actually made of several materials, including iron ore and tin, which are non-renewable resources. Cans are usually tin-plated steel with the rest being made of mostly aluminum. It takes millions of years for these materials to naturally form, so simply throwing them away is definitely a waste. Unlike 100% aluminum beverage cans, the recycling process for tin cans is a little complex, so they are not always accepted by recycling companies.

Plastic Grocery Bag—500 to 1,000 Years

While some new plastic bags are designed to photo-degrade, due to landfill conditions (being buried under tons of other trash and dirt), most plastic bags are not exposed to sunlight that would aid in the decomposition process. Typically, plastic grocery bags are made from high-density polyethylene, or HDPE (#2 plastic) or low-density polyethylene, or LDPE (#4 plastic). Both materials are derived from refined petroleum, which takes a while to decompose, but can be recycled. To reduce plastic bag waste, try using reusable fabric shopping bags or see if your grocer has a bag recycling program.

Aluminum Can—200 to 500 Years

Rather than throwing cans away, just to have them sit in the landfill for hundreds of years, why not recycle them for a much quicker turn around? It only takes six weeks to make a new can from a recycled can.

Plastic Bottle—450 Years

Plastic bottles contain polyethylene terephthalate (PET), which is made of petroleum. This material is extremely difficult to break down, especially in an environment such as a landfill. According to the Beverage Marketing Corp, the average American consumed 1.6 gallons of bottled water in 1976, which increased to 28.3 gallons in 2006. Use reusable beverage containers to cut down on waste.

Styrofoam Cup—Never

While some scientists have argued that the material can decompose in a landfill in 1 million years, the majority agree that the number is simply unknown. Styrofoam®, also known as expanded polystyrene (EPS), probably never decomposes.

Studies have shown that polystyrene makes up approximately 1% of the weight in landfills. Due to the light weight of the material, it can be determined that the material makes up a large portion of landfill waste. For a simple solution, use reusable drinking cups.

Take Action

Now that you have learned the decomposition rate for commonly used items, you can take the necessary steps to reduce your negative environmental impact by purchasing recycled goods, and recycling them after use. Considering the rate of decomposition prior to purchase is also one of the best ways to reduce waste.

www.mmtc.org