

IS PLASTIC THE PROBLEM, OR RECYCLING

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To tell someone the use of plastic and polymeric materials in everyday life today, would be like having to be reminded that breathing is necessary in order to stay alive. The use of plastic is seen in all aspects of human life, and seldom does one across situations where plastic has no purpose. Being a material that is used so heavily in construction, production, manufacturing and so many different avenues of human activity, it is a commodity that has been produced in enormous quantities in the last few decades. Obviously, with this kind of production of any commodity, it would be imperative to think to what end this plastic is being reused, or even recycled. From the advent of the 1990s, more and more technologies are being developed that look towards the recycling of waste and excess plastic.

Here are some of the problems that we face concerning plastic:

The production of plastic has been growing at an alarming rate for quite a few decades now. The year 2009 saw a production of at least a hundred and forty billion pounds of plastic, which means in this year alone, so much more plastic was added to all the plastic that has ever been in use on the planet.

To make things worse, plastic is created out of fossil fuels, which are typically non-renewable sources of fuel. While these fossil fuel reserves are relatively few, the constant production of plastic is depleting fossil fuels at a faster rate.

Here are some ways that we can undertake programs through which the recycling of plastic.

One of the main things that we need to do to make sure that the recycling process of plastic is smoother is know the different kinds of plastic that are available in the market. These include different variations like Polyethylene terephthalate (PETE or PET), High density polyethylene (HDPE), Polyvinyl chloride (PVC or vinyl), Low density polyethylene (LDPE), Polypropylene (PP), and Polystyrene (PS). Each of these plastics has different domestic as well as industrial uses, depending on their chemical properties. Hence, even while recycling, each of them has their own limitations and differences.

Choosing a type of plastic that is easily recyclable is one of the best ways to make their recycling easy. It would be best if you use plastic that has already been recycled from another process. When recycled plastic is used, you are making sure that the wastage of time, energy and resources is at a minimal.

If there is one thing that comes with the recycling and reusing of plastic, it is the reduction of the use of plastic. When you decide to reduce your plastic usage, automatically the need to recycle it decreases too.

Think before you throw.

- Instead of throwing away old toys, containers and plastic bags give them to people who can use them such as scrap stores, play resource centres and charity shops.
- Use plastic carrier bags again as bags or to store things in, as a last resort use them as bin liners.
- Use yoghurt pots, margarine tubs and other plastic food trays to plant seedlings.
- If you buy products in plastic bottles try to buy them from a shop where you can get the bottle refilled.
- Plastic containers with lids can make good storage boxes.
- As well as reducing our plastic waste we should also try to buy products that are made from recycled plastic. Try to buy products that are in containers that contain recycled plastic.

The difference between a polymer and a plastic

The term “plastics” is used to describe a wide variety of resins or polymers with different characteristics and uses. Polymers are long chains of molecules, a group of many units, taking its name from the Greek “poly” (meaning “many”) and “meros” (meaning “parts” or “units”).

The term “polymer” is often used as a synonym for plastic, but many other types of molecules — biological and inorganic — are also polymeric. While all plastics are polymers, not all polymers are plastic. Polymers are rarely useful in themselves and are most often modified or compounded with additives (including colours) to form useful materials. The compounded product is generally termed a plastic. Most people have little contact with "polymers" because most articles that they come across are actually modified and coloured and therefore are actually plastics. Polymers can be classified in many ways, based on how they are developed and perform. For this discussion of recycling, an understanding of two basic types of polymers is helpful:

Thermoplastic polymers can be heated and formed, then heated and formed again and again. The shape of the polymer molecules are generally linear or slightly branched. This means that the molecules can flow under pressure when heated above their melting point.

Thermoset polymers undergo a chemical change when they are heated, creating a three-dimensional network. After they are heated and formed, these molecules cannot be re-heated and re-formed.

Comparing these types, thermoplastics are much easier to adapt to recycling

Recycling Plastic

- The process of recycling plastic allows manufacturers to produce similar or completely different products from the original.

- In recent times, the process of recycling household plastics has become much easier with the introduction of residential recycling bins in many areas of a large range of countries.
- The main problem associated with recycling plastics is that in many cases, products which cannot be recycled are been produced from the recycled plastics.
- Although recycling any product for a different use is slightly better than producing plastic products from the raw materials, it means the product will only be recycled once.
- Plastics are one of the most difficult substances to recycle, and before the recycling process can begin, all of the plastic materials have to be sorted according to a "Resin Identification Code" (see below).
- Sorting plastics can be an expensive and time consuming task, however this is vital for the recycling process.
- There are roughly 50 different main groups of plastics, each containing many different varieties. The coding system was introduced to make the sorting of recyclable products easier and more universal.
- Recycling is not only good for the environment through the energy saving involved, but also for the creation of jobs. It is said that recycling around 10,000 tons can produce as many as six times the amount of jobs as sending the products to landfill.

Conclusion

When glass, paper and cans are recycled, they become similar products which can be used and recycled over and over again. With plastics recycling, however, there is usually only a single re-use.

Recycling of plastics that used to end up only at city landfills or incinerators is increasing around the world. As with any technological trend, the engineering profession plays an important role. Discarded plastic products and packaging make up a growing portion of Municipal Solid Waste(MSW).

Currently only about 3.5% of all plastics generated is recycled compared to 34% of paper, 22% of glass and 30% of metals. At this time, plastics recycling only minimally reduces the amount of virgin resources used to make plastics. Recycling papers, glass and metal, materials that are easily recycled more than once, saves far more energy and resources than are saved with plastics recycling.