

THERMOPLASTICS

Thermoplastics can be heated and shaped many times.

THERMOSET

Thermosets, once shaped can not be reheated and reshaped. Instead they will just burn.

Tools used for plastic



Coping Saw
(narrow blade)



Scroll Saw



Wet & dry sandpaper



Polisher/buffing machine

Joining plastics

The most effective way to join plastics together is to use a liquid cement called 'Tensol'. This works by using a capillary action, this means the liquid flows between the pieces and fuses them together.



How is plastic made?

Plastic is made from a combination of natural materials. The main one being **crude oil**. To extract crude oil, drilling needs to be done deep underground. This can have a **damaging effect on the environment**. It also uses a lot of energy and creates fumes and gases that are released in to the environment during **refining and production**.

Plastic Categories

1 PETE	2 HDPE	3 PVC	4 LDPE	5 PP	6 PS	7 OTHER
Polyethylene Terephthalate	High-Density Polyethylene	Polyvinyl Chloride	Low-Density Polyethylene	Polypropylene	Polystyrene	Other
Common products: soda & water bottles; cups, jugs, trays, clamshells	Common products: milk jugs, detergent & shampoo bottles, flower pots, grocery bags	Common products: cleaning supply jugs, pool liners, tubes, sheeting, automotive product bottles, sheeting	Common products: bread bags, paper towels & tissue overwrap, squeeze bottles, trash bags, six-pack rings	Common products: yogurt tubs, cups, juice bottles, straws, hangers, sand & shipping bags	Common products: to-go containers & hardware, hot cups, razors, CD cases, shipping cushion, cartons, trays	Common types & products: polycarbonate, nylon, ABS, acrylic, PLA; bottles, safety glasses, CDs, headlight lenses
Recycled products: clothing, carpet, clamshells, soda & water bottles	Recycled products: detergent bottles, flower pots, crates, pipe, decking	Recycled products: pipe, wall siding, binders, carpet backing, flooring	Recycled products: trash bags, plastic lumber, furniture, shipping envelopes, compost bins	Recycled products: paint cans, speed bumps, auto parts, hangers, plant pots, razor handles	Recycled products: picture frames, crown molding, rulers, flower pots, hangers, toys, tape dispensers	Recycled products: electronic housings, auto parts,

Plastics are put into different categories depending on their properties. This makes it easier to identify them when they need to be recycled or disposed of. Look out for the different symbols on different bottles/containers/packaging.

Plastic used in school

Acrylic



Advantages -

- Can be easily cut
- Supplied in large sheets
- Comes in a wide range of colours
- Can be heated to bend and curve
- Can be polished

Disadvantages -

- Can get scratched and damaged
- They are not strong and can break if dropped
- They can discolour with age
- Difficult to recycle

THERMOPLASTICS

casings for power tools, curtain rail fittings, kitchen equipment, packaging & toys.

THERMOSET

light switches, work surfaces, electrical insulation & door handles.