

Synthetic Fibres and Plastics

Some Common Synthetics Plastics and Their Uses

PLASTICS Material that can be shaped by applying heat and pressure. Plastic means easy to mould. Plastic is a polymeric substance that can be moulded when soft and then hardened to produce a durable article. It is made soft by applying heat and pressure before moulding.

Types of Plastics: - On the basis of their reaction to heat, all types of plastic can be classified into two groups.

- (i) Thermoplastics
- (ii) Thermosetting plastics

(i) **Thermoplastics :-** Those plastics which can be melted by heating and moulded into desired shapes and sizes, repeatedly are called thermoplastics. On heating these softens and on cooling they become hard. This cyclic process of heating, moulding & cooling is adopted to get desired shaped article. e.g Polythene, PVC, Nylon, Terylene and Polystyrene etc.

(ii) **Thermosetting Plastics :-** These are harder and stronger than thermoplastics and can retain their shape and size even at high temperature. These polymers once set in a given shape on heating, can not be resoftened or remelted on being reheated. eg. Bakelite, Melamine.

General Properties :-

- (i) Plastic can be recycled, reused, coloured, melted, rolled into sheets or made into wires.
- (ii) Plastic is non-reactive with moisture & air and insoluble in water. It is not corroded easily.
- (iii) Plastic is light in weight, strong & durable and moulded into different shapes and sizes.
- (iv) Plastics are poor conductor of heat and electricity, that's why electrical wire coverings, handles of screw drivers and frying pans are made of plastics.

Uses :

S.NO.	PLASTIC	USES
1	PET (Poly ethylene terephthalate)	Containers for microwave cooking, carbonated beverage bottles and other food containers.
2	HDPE (High Density Polyethylene)	For packaging strong and corrosive household and industrial chemicals like bleaches, acids and liquid detergents.
3	PVC (Poly Vinyl Chloride)	PVC pipes for sanitary fittings (such as water pipes)
4	LDPE (Low Density Polyethylene)	Polybags, grocery bags and packages of frozen foods and bread.
5	PP (Polypropylene)	Ketchup bottles, yoghurt containers, medicine bottles, automobile battery casings.
6	PS (Polystyrene)	Thermocol, a form of PS, is used for making disposable cups and packaging material for fragile items like computers and televisions.
7	Melamine (Thermosetting Plastics)	Floor tiles, kitchenware and fabrics which resists fire melamine plastic is coated on uniform of fireman.
8	Bakelite (Thermosetting Plastics)	Electrical switches and handles of various utensils.
9	(PTFE) Teflon	For making nonstick coating on cooking pans and other (Polytetra fluoro-ethylene) cookwares on which water and oil do not sticks.