

DIFFERENT TYPES OF PLASTICS AND THEIR CLASSIFICATION

The Society of the Plastics Industry (SPI) established a classification system in 1988 to allow consumers and recyclers to identify different types of plastic. Manufacturers place an **SPI** code, or number, on each plastic product, usually moulded into the bottom. This guide provides a basic outline of the different plastic types associated with each code number.



Polyethylene Terephthalate sometimes absorbs odours and flavours from foods and drinks that are stored in them. Items made from this plastic are **commonly recycled**. PET(E) plastic is used to make many common household items like beverage bottles, medicine jars, rope, clothing and carpet fibre.



High-Density Polyethylene products are very safe and are not known to transmit any chemicals into foods or drinks. HDPE products are **commonly recycled**. Items made from this plastic include containers for milk, motor oil, shampoos and conditioners, soap bottles, detergents, and bleaches. It is **NEVER** safe to reuse an HDPE bottle as a food or drink container if it didn't originally contain food or drink.



Polyvinyl Chloride is **sometimes recycled**. PVC is used for all kinds of pipes and tiles, but is most commonly found in plumbing pipes. This kind of plastic should not come in contact with food items as it can be harmful if ingested.



Low-Density Polyethylene is **sometimes recycled**. It is a very healthy plastic that tends to be both durable and flexible. Items such as cling-film, sandwich bags, squeezable bottles, and plastic grocery bags are made from LDPE.



Polypropylene is **occasionally recycled**. PP is strong and can usually withstand higher temperatures. It is used to make lunch boxes, margarine containers, yogurt pots, syrup bottles, prescription bottles. Plastic bottle caps are often made from PP.



Polystyrene is **commonly recycled**, but is difficult to do. Items such as disposable coffee cups, plastic food boxes, plastic cutlery and packing foam are made from PS.



Code 7 is used to designate miscellaneous types of plastic not defined by the other six codes. **Polycarbonate** and **Poly lactide** are included in this category. These types of plastics are **difficult to recycle**. Polycarbonate (PC) is used in baby bottles, compact discs, and medical storage containers.

Plastic Type	General Properties	Common Household Uses
 PETE Polyethylene Terephthalate	Good gas & moisture barrier properties High heat resistance Clear Hard Tough Microwave transparency Solvent resistant	Mineral Water, fizzy drink and beer bottles Pre-prepared food trays and roasting bags Boil in the bag food pouches Soft drink and water bottles Fibre for clothing and carpets Strapping Some shampoo and mouthwash bottles
 HDPE High Density Polyethylene	Excellent moisture barrier properties Excellent chemical resistance Hard to semi-flexible and strong Soft waxy surface Permeable to gas HDPE films crinkle to the touch Pigmented bottles stress resistant	Detergent, bleach and fabric conditioner bottles Snack food boxes and cereal box liners Milk and non-carbonated drinks bottles Toys, buckets, rigid pipes, crates, plant pots Plastic wood, garden furniture Wheeled refuse bins, compost containers
 V Polyvinyl Chloride	Excellent transparency Hard, rigid (flexible when plasticised) Good chemical resistance Long term stability Good weathering ability Stable electrical properties Low gas permeability	Credit cards Carpet backing and other floor covering Window and door frames, guttering Pipes and fittings, wire and cable sheathing Synthetic leather products
 LDPE Low Density Polyethylene	Tough and flexible Waxy surface Soft – scratches easily Good transparency Low melting point Stable electrical properties Good moisture barrier properties	Films, fertiliser bags, refuse sacks Packaging films, bubble wrap Flexible bottles Irrigation pipes Thick shopping bags (clothes and produce) Wire and cable applications Some bottle tops
 PP Polypropylene	Excellent chemical resistance High melting point Hard, but flexible Waxy surface Translucent Strong	Most bottle tops Ketchup and syrup bottles Yoghurt and some margarine containers Potato crisp bags, biscuit wrappers Crates, plant pots, drinking straws Hinged lunch boxes, refrigerated containers Fabric/ carpet fibres, heavy duty bags/tarpaulins
 PS Polystyrene	Clear to opaque Glassy surface Rigid or foamed Hard Brittle High clarity Affected by fats and solvents	Yoghurt containers, egg boxes Fast food trays Video cases Vending cups and disposable cutlery Seed trays Coat hangers Low cost brittle toys
 OTHER	There are other polymers that have a wide range of uses, particularly in engineering sectors. They are identified with the number 7 and OTHER (or a triangle with numbers from 7 to 19).	Nylon (PA) Acrylonitrile butadiene styrene (ABS) Polycarbonate (PC) Layered or multi-material mixed polymers