

Appendix B: Glossary

ABS (Acrylonitrile-Butadiene-Styrene) A family of thermoplastics based on these three compounds. ABS resins are rigid, hard, tough, and not brittle. This family of plastics is used to produce durable goods products such as appliances and automotive parts.

Acrylic A family of resins formed from methacrylic acid and known for their optical clarity. Widely used in lighting fixtures because they are slow burning or may be made self extinguishing.

Blow-Molding A method of fabrication in which a parison is forced into the shape of a mold cavity by interval gas pressure.

Coextrusion The process of extruding two or more materials through a single die so that the material bonds together at the mating surface.

Copolymer Typically a polymer of two chemically distinct monomers.

EPM/EPDM (Ethylene Propylene Rubbers) A group of elastomers (rubber-like material) obtained by copolymerization of ethylene and propylene for EPM and a third monomer (diene) for EPDM. Their properties are similar to those of rubber.

EVA (Ethylene-Vinyl Acetate Copolymer) Copolymers of major amounts of ethylene with minor amounts of vinyl acetate, that retain many of the properties of polyethylene but have considerably increased flexibility, elongation and impact resistance. EVA is used as an adhesive for bonding base cups to PET beverage bottles and labels to bottles. EVA is a form of LDPE

Future Value Lump sum cash value at the end of a given time period

Gaylord A container for holding waste plastic, plastic flake or plastic pellets. Often times a gaylord is a cardboard box measuring 34"x43"x38".

HDPE (High Density Polyethylene) Polyethylene plastic having a density typically between 0.940 and 0.960 g/cm³. While LDPE chains are branched and linked in a random fashion, HDPE chains are linked in longer chains and have fewer side branches. The result is a more rigid material with greater strength, hardness, chemical resistance and a higher melting point than LDPE.

Industrial Scrap Plastic material originating from a variety of in-plant operations and which may consist of a single material or a blend of a known composition.

LDPE (Low Density Polyethylene) Polyethylene plastic having a density typically between 0.910 and 0.925 g/cm³. The ethylene molecules are linked in random fashion, with the main chains of the polymer having long and short side branches. The branches prevent the formation of a closely knit pattern, which results in a soft, flexible and tough material.

LLDPE (Linear Low Density Polyethylene) LLDPE is manufactured at much lower pressures and temperatures than LDPE. LLDPE has long molecular chains without the long chain side branches of LDPE, but with the short chain side branches.

Mixed Plastic A mixture of plastics, the components of which may have widely differing properties.

Monomer A compound which typically contains carbon and is of a low molecular weight (compared to the molecular weight of plastics), which can react to form a polymer by combination with itself or with other similar compounds.

Nylon A generic name for a family of resins which have a recurring amide groups (-CO-NH-) as an integral part of the main polymer chain. Nylons are identified by denoting the number of carbon atoms in the polymer chains of each of the constituent compounds which formed the resin. For example, nylon 6,6 refer to the number of carbon atoms in each of the two compounds used to form it.

Participation Rate The ratio of residences which set out recyclables at least once in a 4 week period to the total number of residences on the collection area.

PBT (Polybutylene Terephthalate) Similar to PET, but formed using butanediol rather than ethylene glycol (as with PET). PET and PBT are the two thermoplastic polyesters that have the greatest use.

PET (Polyethylene Terephthalate) A saturated thermoplastic polyester formed by condensing ethylene glycol and terephthalic acid. It is extremely wear and chemical resistant and dimensionally stable. It also has a low gas permeability in comparison to HDPE, LDPE, PP and PVC, which is why it is used so extensively for carbonated beverage bottles.

Phenolics A family of thermosetting resins made by reacting a phenol with an aldehyde. Phenolics are known for good mechanical properties and high resistance to temperature.

Polyesters A family of resins also known as alkyds. The main polymer backbone is formed through the condensation of polyfunctional alcohols and acids. Polyesters can be saturated (elements or compounds cannot be added to the main backbone) or unsaturated. One of the most important polyester is PET, a saturated polyester.

PP (Polypropylene) A thermoplastic resin made by polymerizing propylene with suitable catalysts. Its density of approximately 0.90 g/cm^3 is among the lowest of all plastics.

Present Value Lump sum cash value at the beginning of a given time period

Primary Recycling The processing of waste into a product with characteristics similar to those of the original product.

PS (Polystyrene) Polymers of styrene (vinyl benzene). PS is somewhat brittle and is often copolymerized or blended with other materials to obtain desired properties. HIPS (high impact PS) is made by adding rubber or butadiene copolymers. Commonly known PS foams are produced by incorporating a blowing agent during the polymerization process or injecting a volatile liquid into molten PS in an extruder.

PUR (Polyurethanes) A large family of resins based on the reaction of isocyanate with compounds containing a hydroxyl group. PUR can be made into foam or resin, rigid or flexible, thermoset or thermoplastic.

PVC (Polyvinyl Chloride) PVC is produced by polymerization of vinyl chloride monomer with peroxide catalysts. The pure polymer is hard and brittle, but becomes soft and flexible with the addition of plasticizers.

Recycled Plastic Plastic products or parts of a product that have been reground for sale or use to a second party, or plastics composed of post-consumer material or recovered material only (which may or may not have been processed).

Regrind Plastic Plastic products or parts of a product that have been reclaimed by shredding and granulating for use (primarily intended as an in-house term).

Resin A term which is generally used to designate a polymer, a basic material for plastic products. It is somewhat synonymously used with "plastic," but "Resin" (and polymer) most often denotes a polymerized material, while "plastic" refers to a resin which also includes additives such as plasticizers, fire retardants, fillers or other compounds.

Secondary Recycling The processing of waste into materials which have characteristics less demanding than those of the original plastic product.

Setout A setout is defined as a residence or a dwelling "setting out" its recycling container for collection. Setout rate is the ratio of residences which set out recyclables each collection period (such as weekly).

Thermoplastic Plastic that can be repeatedly softened by heating and hardened by cooling through a temperature range characteristic of the plastic, and that in the softened state can be shaped by flow into articles by molding or extrusion.

Thermoset Plastic that, after having been cured by heat or other means, is substantially infusible and insoluble. Cross-linking between molecular chains of the polymer prevent thermosets from being melted and resolidified.