

	PCR	Recyclable	Compostable/Bio-Plastics	High Performance films
Pros	<ul style="list-style-type: none"> • Uses fewer natural resources • Less energy to produce • 25% less greenhouse gases • Green focus .Reduces carbon footprint and supports a circular economy • Up to 40% post-consumer recycled (PCR) content in the PE sealant web • Up to 40% PCR in the PET print web • Sealant film is FDA food contact compliant • Available options • Standard spouts and reclose features • Standard barrier, high barrier, and metallized • Surface print or reverse print laminations. 	<ul style="list-style-type: none"> • Conservation of natural resources such as timber and minerals • Create jobs in recycling plants. • Reduces the amount of waste in landfills suggesting mean production. 	<ul style="list-style-type: none"> • They are eco-friendly since they are biodegradable. • Composting can be done at both commercial and household levels. • Have little pollution effect, it's instead a good source of soil fertility. • They reduce the use of synthetic fertilizers which could have negative environmental effect. • Made from plants which are renewable • Carbon footprint 75% lower than PET • There are a variety of zero waste end of life options • Reduces carbon footprint -plants absorb CO2 during growth. 	<ul style="list-style-type: none"> • Reduce waste through gauge reduction • Customized • Increased machine speeds • Increased productivity through less change over • Reduced unit cost
Cons	<ul style="list-style-type: none"> • More expensive than virgin • Black flakes • Color variations • No Windows 	<ul style="list-style-type: none"> • Requires a stringent certification plan which is often expensive. • No Curb side recycle stream • Consumer ignorance for recycling 	<ul style="list-style-type: none"> • No curbside recycle stream • Growing demand makes competition for food sources. • Reduced shelf life. • Higher cost 	<ul style="list-style-type: none"> • May loose stiffness
Recycle Steam	<ul style="list-style-type: none"> • They aren't recyclable when laminated 	<ul style="list-style-type: none"> • Available, after How2recycle certification, at local grocery store 	<ul style="list-style-type: none"> • Localized composting 	<ul style="list-style-type: none"> • Dependent on structure.
Availability	<ul style="list-style-type: none"> • The packages are highly available in the market. 	<ul style="list-style-type: none"> • Packaging is available in standard and high barrier materials. 	<ul style="list-style-type: none"> • The packages are highly available in the market. 	<ul style="list-style-type: none"> • Available for certain applications
Barrier	<ul style="list-style-type: none"> • Metalized • Coated 	<ul style="list-style-type: none"> • EVOH 	<ul style="list-style-type: none"> • Cellulose • Metallization (validation) 	<ul style="list-style-type: none"> • Very little difference
Film shelf life	<ul style="list-style-type: none"> • No Difference 	<ul style="list-style-type: none"> • Can be reduced shelf life depending on product 	<ul style="list-style-type: none"> • Reduced shelf life 	<ul style="list-style-type: none"> • Very little difference
Who is responsible for obtaining certifications?	<ul style="list-style-type: none"> • Brand Owners/ Material Suppliers 	<ul style="list-style-type: none"> • Brand Owners 	<ul style="list-style-type: none"> • Brand Owners 	<ul style="list-style-type: none"> • NA
Who are the certifying bodies?	<ul style="list-style-type: none"> • Environmental Product Declarations • Whole Building LCA • Life Cycle Assessment. • How2Recycle 	<ul style="list-style-type: none"> • Global recycling standards • The Association of Plastics Recyclers • How2Recycle 	<ul style="list-style-type: none"> • The Rainforest Alliance is an international • How2Recycle 	

Compostable--ASTM D6400 / ISO 17088 --contains 4 requirements

1. Disintegration --90% of 2cm lengths must pass through 2mm sieve after 12 weeks
2. Biodegradable-material will disintegrate into CO2, water vapor, and biomass (minerals)
3. Compost quality maintained -plant growth unaffected; heavy metal limits
4. Controlled Time and Environment -Must biodegrade within 12 weeks in aerobic environment at 58o C ±2o C (136o F ±4o F) •Does not mean products will degrade in a landfill or in the environment

Home Compostable --Denotes that a material will biodegrade in a backyard home environment. Tested at ambient temperature (20-30oC). No ASTM or ISO standard

Oxo-degradable-- •Includes additives to hasten degradation under certain conditions. •Concern -may only break down into tiny plastic particulates that can make their way into the environment and negatively affect animal and plant life
•Banned in France; avoided by Tesco (shopping chain) •Not supported by Ellen MacArthur Foundation