

Design For Recycling

GUIDELINES for packaging

*Polymer resin can be either fossil- or bio-based, virgin or recycled.

**Decorative technologies must not hinder the recognition of the underlying PS-polymer. Features as size, print, mass colouration and/or barrier might require to perform a Sorting Evaluation Protocol.

Known misleading features are listed on the RecyClass Methodology and the following size indications can be considered to ensure the recognition of PS:

- Size of non-PS detectable surfaces on containers > 500 ml: < 70% coverage
- Size of non-PS detectable surfaces on containers < 500 ml: < 50% coverage

Material:

- PET-bottles
- PET-trays
- PP rigids
- PP flexibles
- PE rigids
- PE flexibles

PS

Coloured

- Paper & cardboard
- Beverage cartons
- Glass
- Steel
- Aluminium



	Class A-B	Class B-C	Non-recyclable	
	Full compatibility for reprocessing	Limited compatibility for reprocessing	Low (or no) compatibility for reprocessing	
Main Body	Main Material*	PS	PS foamed < 1 g/cm ³ ; Multilayers (e.g. PET, PETG, PVC, PLA, HDPE, PP)	
	Material composition	A when PS content is > 95%; B when PS content is > 90% and all packaging features are FULLY compatible with recycling	C when PS content is > 70% and all packaging features are FULLY compatible with recycling	D when PS content is > 50%; E when PS content is > 30%; F when PS content is < 30%
	Colours	Light colours	Dark colours (NIR detectable)	Non NIR detectable colours
	Size		Items compacted < 5 cm	Items compacted < 2 cm
	Product residues	A if the index is < 5%; B if the index is < 10%	C if the index is < 15%	D if the index is < 20%; E < if the index is 25%; F if the index is >
	Barrier		EVOH	PA; PVdC
Attachments	Additives	Additives that are unavoidable in processing (stabilizers, antioxidants, lubricants, nucleating agents, peroxides) and in formulation (SBS copolymer) with density remains between 1 and 1,07 g/cm ³	Mineral fillers (CaCO ₃ , talc) not increasing density > 1,07 g/cm ³	Additives increasing density > 1,07 g/cm ³ ; Bio/oxo/photodegradable additives
	Closure System	PS	Removable PP and/or PE, paper without fiberloss	PET; PETG; PVC; PLA; Paper with fiberloss; Any other material with density >1 g/cm ³ ; Non-detaching or welded closures; Aluminium; metal
	Liner, seals and valves	PS	PP; PE; EVA; TPE (non welded and with density <1 g/cm ³)	PET; PETG; PVC; PLA; Any other material with density >1 g/cm ³ ; Metal; metal foil; silicone
Decoration**	Lids	PS	Removable PP and/or PE; Removable aluminium lidding; Paper without fiberloss	PVC; Aluminium foil; paper with fiberloss; Multilayer PET/paper or PET/PS; Any other material with density >1 g/cm ³
	Inks	Non-bleeding inks compliant with EuPIA Exclusion Policy		Inks that bleed; Inks non compliant with EuPIA Exclusion Policy; PVC binders
	Label materials (PSL, wet-glue labels, wrap-around labels, IML)	Labels in PS	Labels in PP, PE (with density < 1 g/cm ³); Label in paper without fiberloss	Labels that hinder the recognition of the PS; PET; PETG; PVC; PLA; Paper with fiberloss; In-Mould-Labels; Metallised materials; Aluminium
	Adhesive for labels	Water soluble adhesive (@ less than 40°C); Water releasable adhesive (@ less than 40°C)		Non-water soluble adhesive (@ less than 40°C); Non-water releasable adhesive (@ less than 40°C)
	Sleeves	Sleeves in PS; Self-separable plastic and cardboard sleeves under mechanical pressure (sorting test mandatory)	Sleeves in PE, PO (with density < 1 g/cm ³); Cardboard sleeves without fiberloss (sorting test mandatory)	Sleeves that hinder the recognition of the PS; PET; PETG; PVC; PLA; Cardboard sleeves with fibreloss during recycling process; Metallised materials; Heavily inked sleeves; Aluminium
	Direct printing	Laser marked; Production or best-before date; Direct printing (inks + lacquer) representing < 1 wt% of the total packaging (except dark colours)	Any other direct printing	
Other components	PS	Removable PP and/or PE; paper without fiberloss	PET; PETG; PVC; PLA; metal; metal foil; any other material with density >1 g/cm ³	

PS is only being recycled in a limited number of countries