

The RecyClass Polystyrene Technical Committee (PS TC) investigated different type of lids on recycling of PS pots. The test campaign was made on three samples, as illustrated in Annex 1. Tests were carried out following the procedures described in the RecyClass Sorting Evaluation Protocol for Plastic Packaging and the Recyclability Evaluation Protocol for PS containers¹.

The samples consisted in white, direct printed PS yogurt pots with aluminium (Al) and Polyethylene Terephthalate (PET) lidding tested for their sorting and floatation behaviour and coloured PS yogurt pots with metallized PET/paper lidding tested for the floating behaviour. For the white printed pots, the samples were exclusively produced for these trials, hence the pots were clean and not been used before. Lids were fully sealed on the pots and were opened before testing, to simulate a real case scenario, as shown in Figure 1. With respect to the PS coloured pots, they were received from a recycling facility, being samples as typically found in a recycler's PS waste stream bales.

The tests were performed at Circpack for the sorting and at Critt Polymères for the floatation, being both RecyClass recognized testing facilities.

Regarding the sorting behaviour, both the PET and Al lidded PS pot packaging were sorted equally well (78 and 76% respectively) into the PS stream. No significant difference was observed between the two variations. PET lidded pots showed a greater removal rate of lids (63%) than the Al lidded pots (1%), an effect that could be related to the sealing process parameters of the lids. The Al lidding did not cause the packaging to be sorted into the Al waste stream.

Concerning the floatation behaviour, PS white pots with Al lids showed a better behaviour than the ones with PET lids. In the first case, approximately 94% of the Al lids were removed after passing through the grinding, washing and floatation steps. For the second case, the separation was rather inefficient since only approximately 27% of the PET lids were separated. In regard to the metallized PET/paper lids, the separation was not efficient, presenting a considerable presence of lids parts in the final PS fraction.

The outcome of this test campaign was that Al lids may be the best option among the ones tested when it comes to lids materials. PET and metallized PET/Paper lids are considered detrimental for PS

¹ [Recyclability Evaluation Protocol for PS containers](#)

recycling. With this information, Natural and white PS and coloured PS Guidelines will be updated as follows:

- **Limited compatible** with PS: Al lidding if removable.
- **Low compatible** with PS: PET and PET/Paper lids.

About RecyClass

RecyClass is a non-profit, cross-industry initiative advancing recyclability, bringing transparency to the origin of plastic waste and establishing a harmonized approach toward recycled plastic calculation & traceability in Europe. RecyClass develops Recyclability Evaluation Protocols and scientific testing methods for innovative plastic packaging materials which serve as the base for the Design for Recycling Guidelines and the RecyClass Online Tool. RecyClass established Recyclability Certifications for plastic packaging, Recycling Process Certification and Recycled Plastics Traceability Certification for plastic products.

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Annex I



Figure 1. PS pots with Al (left) and PET (right) lidding.