COmité Technique de Recyclage des Emballages Plastiques

GENERAL NOTICE
Technical Sheet

SUBJECT

Behaviour of the plastic seal in a multi-part cap in recycling PET bottles.

IMPACT SUMMARY TABLE

Recycling stage	Impact	Description	Consequences
Sorting of bottles	Ø		
Grinding	Ø	The caps are crushed with the bottle. The seal can come away from the shell.	
Washing	Ø		
Flake floating and separation	⚠	Separated seal: 1- A seal speck with density <1 floats and separates from the PET flow. 2- A seal speck with density >1 sinks and remains in the PET flow. --- Seal stuck to shell: Same rule, taking into account the density of the shell/seal assembly.	For seal specks with density > 1, risk of polluting PET flow.
Flake sorting (optional)	Ø	For 1 opaque or coloured seal speck ⇨ up to 100 ejected.	• Higher losses ➢ **Increase in waste to be processed**
Granulation (optional) and Recycling	⚠	Presence of seal particles with density >1, depending on type of material: ⇨ - Filters blocked - Channel blocked - Visual flaws - Holes, etc ….	• Process disputed: - more machine stoppages - greater losses • Quality effects ➢ **Increase in waste to be processed**

⚠ Caution Ø No impact ⧖ Under examination ➢ **Environmental consequences**

GENERAL OPINION

In the current state of equipment and techniques used and available in Europe, the presence of a plastic seal in the cap is likely to have an impact on PET bottle recycling.

If density is lower than 1, the seal will not have any impact on PET recycling.

If density is higher than 1, COTREP recommends studying the impact of the seal on the stream in question.

COTREP advises systematically analysing the density of the seal or the seal + cap assembly if the seal is glued to the shell.