

## Technical Notice – Detectability

### Detectability of SCOT Alvéoles thermoformées APET Noires (thermoformed cavity trays) at sorting centres

APPLICATION DESCRIPTION	<b>GENERAL INFORMATION</b>		
	Applicant	Scot Thermoformage	
	Application date	2020	
	Brand - Item	Alvéoles thermoformées APET Noires (thermoformed cavity trays)	
	Market	Food Industry	
	<b>DESCRIPTION OF PACKAGING</b>		
	Form	Tray	
	Colour	Black	
	Dimensions	Tested thickness: 200µm	
	<b>MATERIALS</b>		
Body	PET, 2% black colorant Details of the colorant used are confidential. The exact reference of the colorant was provided to COTREP to enable it to issue this notice.		
<b>PURPOSE OF THE APPLICATION</b>			
To test the detectability of Alvéoles thermoformées APET Noires packaging (thermoformed cavity trays) at French sorting centres			

This notice relates only to the detectability of the packaging. It does not relate to its sortability or recyclability.



**Sorting centre**  
Detectability: Ability of packaging to be recognised by optical sorting systems  
Sortability: Ability of packaging to be channelled to the correct stream



**Regeneration**  
 Ability of packaging waste to be converted into ready-to-use flakes or granulate



**Use of recycled material**  
 Ability of flakes or granulate to be converted into new products

### TECHNICAL CONCLUSIONS

Given the evidence provided to COTREP, and in view of the results presented in the test reports from optical sorting (O.S.) equipment manufacturers, Scot Thermoformage's tested *Alvéoles thermoformées APET Noires* (thermoformed cavity trays) of 200µm thickness are detectable by optical sorting in conditions representative of the technology used in French household packaging waste sorting centres. Consequently, all Scot Thermoformage *Alvéoles thermoformées APET Noires* (thermoformed cavity trays) with a thickness > 200µm can therefore be detected as PET packaging with a satisfactory level of performance.

Although COTREP is issuing a positive opinion regarding the detectability of Scot Thermoformage's *Alvéoles thermoformées APET Noires* (thermoformed cavity trays), this opinion provides no indication of its sortability or recyclability. Moreover, COTREP reserves the right to review its opinion if the company modifies the packaging composition, e.g. by:

- modifying the resin<sup>1</sup>;
- using recycled materials/production scrap potentially containing carbon black;
- modifying the colorant solution and/or its proportions.

<sup>1</sup> The term "resin" is understood to mean the type of polymer used, i.e. "PP", "PET" or "HDPE". The notice remains valid if the supplier of the type of polymer tested changes.

## FIND OUT MORE

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The extension of sorting guidelines to all plastic packaging has led to the modernisation of sorting centres in France. In particular, centres are automating their processes and acquiring optical separators using near infrared technology.

This step in the sorting process is critical to separating plastic packaging. It enables packaging to be sorted by resin and colour.

At this step in the sorting process, undetectable packaging is rejected by sorting centres and sent for energy recovery.

Carbon black pigment, which is currently widely used for dark-coloured packaging, absorbs infrared light emitted by the optical sorting equipment and returns no signal. Consequently, the packaging is not detected and therefore neither sorted nor recycled.

Scot Thermoformage's packaging comprises a range of black PET trays using an alternative colorant solution to carbon black at a concentration of 2%. Details of the colorant used are confidential. The exact reference of the colorant was provided to COTREP to enable it to issue this notice. The results of static and dynamic tests performed on the premises of two O.S. manufacturers (PELLENC SA and TOMRA) according to the COTREP procedure were positive. The Scot Thermoformage PET trays were detected as PET packaging with the same level of performance (quality, capture rate) as other rigid PET household packaging waste.

The conclusions set out in this notice are based on a set of commitments undertaken by each of the parties indicated below.

Scot Thermoformage undertook to:

- use the sorting procedure provided by COTREP ("COTREP optical sorting test procedure for assessing the detectability of dark packaging at optical sorting stages" - version of January 2019<sup>2</sup>);
- perform tests on the premises of two O.S. manufacturers representative of existing sorting facilities in France;
- submit test reports to COTREP for its analysis and opinion;
- use a colorant solution that:
  - o meets the essential requirements of the Packaging and Packaging Waste Directive (94/62/EC).
  - o does not alter the density of the packaging: the density of packaging mainly consisting of PP or PE must be < 1 and > 1 for packaging mainly consisting of PET or PS.

The O.S. manufacturers made an undertaking to COTREP to:

- follow the procedure in its entirety;
- perform tests using technologies and machine settings representative of those used in current sorting centres and under normal operating conditions.

Paris, 26/06/2020

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<sup>2</sup> Available from the COTREP website: <https://www.cotrep.fr/content/uploads/sites/3/2019/02/tri-p1-emballages-sombres-v01-2019.pdf>