COTREP
Comité Technique pour le Recyclage des Emballages Plastiques

Technical Notice – Detectability

Detectability of FAERCH / APET and MAPET II packaging at sorting centres

APPLICATION DESCRIPTION

GENERAL INFORMATION		
Applicant	FAERCH	
Application date	2020	
Brand - Item	APET and MAPET II	
Market	Food Industry	
DESCRIPTION OF PACKAGING		
Form	Tray	
Colour	Black	
Dimensions	232 x 147 x 50 mm	
MATERIALS		
Body	PET, 4% 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.	
PURPOSE OF THE APPLICATION		
To test the detectability of FAERCH's APET and MAPET II packaging 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, FAERCH's APET and MAPET II packaging is detectable by optical sorting in conditions representative of the technology used in French household packaging waste sorting centres. This packaging can therefore be detected as PET packaging with a satisfactory level of performance.
Although COTREP is issuing a positive opinion regarding the detectability of FAERCH's APET and MAPET II packaging, 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[1];**
- **using recycled materials/production scrap potentially containing carbon black;**
- **modifying the colorant solution and/or its proportions.**

[1] 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

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.

FAERCH's packaging is a black PET thermoformed tray using an alternative colorant solution to carbon black at a concentration of 4%. 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 FAERCH 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.

FAERCH 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[2]);
- 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:
    - meets the essential requirements of the Packaging and Packaging Waste Directive (94/62/EC).
    - 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, 16 December 2020

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