RecyClass™

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For immediate release

PRESS RELEASE

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PE flexible films recycling: new findings for functional barriers

EVOH properties tested

RecyClass carried out tests on the compatibility of the ethylene vinyl alcohol (EVOH) barrier in polyethlene (PE) film with the recycling process.

The tests were carried out in independent laboratories that run analyses on different samples, following the procedures of the RecyClass Recyclability Evaluation Protocol for PE films. The findings show that EVOH with a threshold of up to 5% of the total weight of the PE film has a minor impact on the recycled material. However, above this limit, an immediate impact on the extrusion process was observed. This results among others in increased yellowing of the material, a net increase of haze and gels & specks, as well as a frequent bubble breakage.

RecyClass design for recycling guidelines for PE films, as well as the RecyClass tool, will be updated on the basis of these new findings. Accordingly, an EVOH concentration below or equal to 5% by weight will be considered as having limited compatibility, and an EVOH concentration above 5% by weight will be treated as not compatible with recycling.

Consequently, within the RecyClass grading system (on the scale from A to F, which resembles the EU energy efficiency scale), EVOH with a threshold of up to 5% of the total weight of the PE film can be ranked maximally as class *B*[1]. This class implies that 'a package has some minor recyclability issues'.

Functional barriers are used in plastic packaging to protect the goods from any unfavourable external conditions including exposure to UV light, oxygen, vapour or odour. They help in keeping goods fresh and prolong their shelf life. Nevertheless, barriers can have a detrimental impact on the quality of recycled material at the end of life of a package.

[1] Under the condition that other components of a package are in accordance with the RecyClass guidelines: https://recyclass.eu/recyclass/design-for-recycling-guidelines/

Today, the industry is actively working on innovative packaging solutions that are not disruptive to the recycling processes. By evaluating the new packaging technologies and providing advice on design RecyClass helps the industry to ensure recyclability of products on the market.

Any interested parties can apply for an analysis of their process.

About

RecyClass is a comprehensive cross-industry initiative that works to advance plastic packaging recyclability within Europe. RecyClass assesses recyclability and provides specific recommendations on how to improve packaging design to fit current recycling technologies. Activities within RecyClass include the development of Recyclability Evaluation Protocols and testing of innovative materials. Findings are used to update the RecyClass Design for Recycling guidelines and the online free tool.

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