RecyClass

Plastics Recyclers Europe
Avenue de Broqueville 12
1150 Brussels, Brussels

Phone: +32 2 786 39 08
info@recyclass.eu
www.recyclass.eu

Constantia Flexibles

RECYCLASS TECHNOLOGY APPROVAL

Brussels, 25 October 2024

DISCLAIMER

RecyClass recognition applies only to Constantia Flexibles 'PERPETUA and EcoVer' technology reported in Annex I. The recyclability assessment therefore does not refer to the testing of a specific artwork or size of this packaging. Any changes in the formulation of this packaging, not falling under the scope of this approval letter, would need to be tested individually to demonstrate that the system of resin, adjuvants, label, closure, and printing conforms to the RecyClass Recyclability Evaluation Protocol for PP films, and that it is sorted in the PP flexible stream at the state-of-art sorting plants in Europe.
Publication of results of testing of this technology MUST clearly include all the conditions listed in the approval letter. Partial reporting of the conditions is forbidden.
Additionally, any change in the formulation of the technology must be communicated to the Technical Committee which will reassess the approval of the technology.

The RecyClass PO films Technical Committee was requested to carry out an assessment of the technology 'PERPETUA and EcoVer' by Constantia Flexibles to verify its impact on the quality of recycled PP flexible packaging.

The technology is a PP-based multilayer laminated film with barrier properties conferred by the presence of EVOH and metallisation. The EVOH represents about 2.1% of the total weight of the film. The two PP layers are laminated with a solvent-based aromatic polyurethane lamination adhesive. The tests were performed with 5% of laminating adhesive. The film is metallized and contains direct printing on its entire surface. The optical density of the metallized layer is about 3, while the inks and varnishes combined represents about 1.1% of the total weight of the film.

According to the results that were obtained from the laboratory tests done by Aimplas, carried out as per the Recyclability Evaluation Protocol for PP films (version 2.0)[1], the 'PERPETUA and EcoVer' technology is limited compatible with coloured PP flexibles recycling.

Based on these results, RecyClass acknowledges that Constantia Flexibles 'PERPETUA and EcoVer' will have a limited impact on the current European coloured PP flexibles recycling and provided that this packaging is designed under the following conditions [2]:

a) The pouch main body is made of PP;

[1] RecyClass Recyclability Evaluation Protocol for PP films

[2] **PP films designed under conditions other than those indicated need to be tested to assess their compliance with RecyClass Recyclability Evaluation Protocol for PP films.**

b) The density of the PP film is below 0.97 g/cm[3];
c) The solvent-based aromatic laminating adhesive is PU-based, and represents 5.0 wt% of the total weight of the packaging, or less;
d) The PP metallised layer has an optical density of 3.0, or less;
e) The EVOH represents 2.1 wt% of the total weight of the packaging, or less;
f) The inks and varnishes are PU/NC-based and represents 1.1 wt% of the total weight of the packaging, or less;
g) Any additional component or features (inks, adhesives, …) of the packaging must be compliant with the corresponding RecyClass Design for Recycling Guidelines[3].

RecyClass concludes that Constantia Flexibles 'PERPETUA and EcoVer' as per current market conditions and knowledge, is limited compatible with the existing European industrial recycling processes for coloured PP flexibles. Indeed, the recycled plastic generated after the recycling process was successfully used in high quality applications such as PP cast films up to a concentration of 25 % innovation[4].

In regard to RecyClass Recyclability Certification, the present limited compatibility with PP flexibles recycling delivered to 'PERPETUA and EcoVer' technology, means that a packaging based on PP film containing this technology, as mentioned in the aforementioned conditions, will be penalised with one recyclability class downgrade. Nevertheless, the amount of recyclable PP will impact the final recyclability class obtained during Recyclability Certification and should be kept above 90 % in the final packaging to maximise chances to get a Recyclability Certificate with a class C[5]. Also, it is noteworthy that the presence of additional packaging features, like inks or barrier material, could additionally impact the certification process.

Similar executions of 'PERPETUA and EcoVer' technology with the only modification of artworks and/or modification of the packaging size would not have to be tested again as long as the proportion of the components, including inks, barrier, adhesives, remains the same.

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

[3] Design for Recycling Guidelines of RecyClass

[4] **Technology tested according to the RecyClass** Recyclability Evaluation Protocol for PP films

[5] RecyClass Recyclability Certification

c/o Plastics Recyclers Europe
Avenue de Broqueville 12
1150 Brussels, Brussels

Phone : +32 2 786 39 08
info@recyclass.eu
www.recyclass.eu

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.

RecyClass – Plastic Future is Circular

Follow the latest news on RecyClass channels: LinkedIn | Twitter | YouTube

Contact : Jean-Emile.Potaufeux@plasticsrecyclers.eu, www.recyclass.eu

Annex I

Figure 1. 'PERPETUA and EcoVer' by Constantia Flexibles.