RecyClass

c/o 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, 15 September 2022
Reviewed: Brussels, 28 December 2023

DISCLAIMER

RecyClass recognition applies only to Constantia Flexibles 'EcoLam SR Tube' technology reported in Annex I. The recyclability assessment therefore does not refer to the testing of a specific packaging using this tube. Any specific packaging using this tube 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 HDPE containers, and that it is sorted in the HDPE rigid 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 HDPE Technical Committee was requested to carry out an assessment of the technology *'EcoLam SR Tube'* by Constantia Flexibles to verify its impact on the quality of recycled HDPE containers.

The technology is a laminated tube using the technology of EcoLamHighPlus, provided without a cap. The EVOH barrier concentration is less than 0.6 % of the total weight of the packaging. The packaging does not contain any laminating adhesive. The tube is metallised and has an optical density of 2.8. The packaging has been tested unprinted.

According to the results that were obtained from the laboratory test done by the Institut für Kunststofftechnologie und -recycling (IKTR), carried out as per the Recyclability Evaluation Protocol for HDPE containers[1], the 'EcoLam SR Tube' technology is fully compatible with coloured HDPE recycling. Additionally, the sortability of the packaging has been tested by CIRCPACK following the RecyClass Sorting Protocol[2]. The results showed that 74 % of the tubes were successfully sorted in the HDPE rigid stream.

Based on these results, RecyClass acknowledges that Constantia Flexibles 'EcoLam SR Tube' will have no negative impact on the current European HDPE coloured containers recycling and provided that the packaging is designed under the following conditions:

a) The tube is made of PE;

[1] RecyClass Testing Methods

[2] Sorting Evaluation Protocol for Plastic Packaging

b) The maximum EVOH concentration is below 0.6% respect to the tube total weight;

c) EVOH is compatibilized with LDPE tie layers grafted with maleic anhydride, with an EVOH: tie layer ratio lower than 1:1;

d) The density of the packaging is lower than 1 g/cm^3;

e) There is not laminating adhesive in the structure;

f) The metallised layer has an optical density of 2.8, or less;

g) Any additional component or feature of the packaging must be compliant with the corresponding RecyClass Design for Recycling Guidelines[3].

RecyClass concludes that Constantia Flexibles 'EcoLam SR Tube' as per current market conditions and knowledge, is fully compatible with the existing European industrial recycling processes for coloured HDPE containers. Indeed, the recycled plastic generated after the recycling process was successfully tested in high-value application such as HDPE bottles up to 25 % concentration[4].

In regard to RecyClass Recyclability Certification, the present full compatibility with coloured HDPE containers recycling approval delivered to Constantia Flexibles 'EcoLam SR Tube' technology, means that a packaging containing this technology, as mentioned in the aforementioned conditions will not be penalised with a Recyclability Class downgrade. Nevertheless, due to the sorting efficiency of 74% obtained by means of the RecyClass Sorting Protocol, a one class deduction will be applied during the certification. Presence of printing inks and variations of the size of the tube may impact the sorting efficiency during the certification and therefore affect the final Recyclability Class. Moreover, the amount of recyclable PE will impact the final Recyclability Class obtained during Recyclability Certification[5]. Also, it should be noteworthy that the presence of additional packaging features could impact the certification process.

[3] Design for Recycling Guidelines - RecyClass

[4] RecyClass Recyclability Evaluation Protocol for HDPE Containers

[5] RecyClass Recyclability Certification

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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 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

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

Annex I

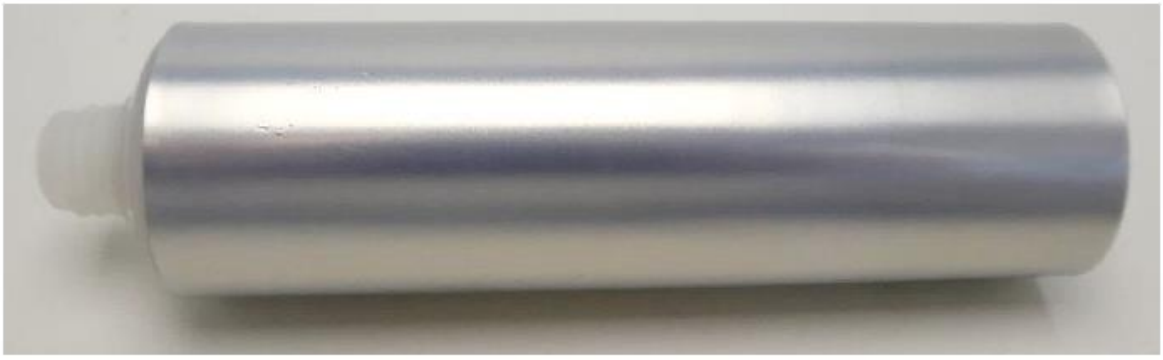

Figure 1: Constantia Flexibles 'EcoLam SR Tube'.

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