RecyClass™

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Procter & Gamble

RECYCLASS TECHNOLOGY APPROVAL

Brussels, 16 November 2020
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DISCLAIMER

RecyClass recognition applies only to Procter & Gamble 'Toothpaste tube with self-assembled shoulder' technology reported in Annex I. The recyclability assessment therefore does not refer to the testing of a specific packaging using this technology. Any specific packaging using this technology 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 'Toothpaste Tubes with self-assembled shoulder' by Procter & Gamble to verify its impact on the quality of recycled HDPE containers.

The technology is a laminated white-coloured tube, provided with HDPE shoulders, excluding cap. The EVOH barrier concentration is below 5 % of the total weight of the packaging, with more than 2 % PE tie layers (maleic anhydride gradfted).

According to the results that were obtained from the laboratory test by Plastics Forming Enterprise (PFE), carried out as per the APR HDPE Critical and Application Guidance testing protocols, the 'Toothpaste Tubes with self-assembled shoulder' technology is fully compatible with HDPE recycling.

Based on these results, RecyClass acknowledges that Procter & Gamble 'Toothpaste Tubes with self-assembled shoulder' technology will not have a negative impact on the current European HDPE containers recycling and provided the full packaging using this tube as the body is designed under the following conditions:

a) The tube and its shoulders are made of clear or white PE;
b) The maximum EVOH concentration is below 5 % by weight and provided by more than 2 % PE tie layers;
c) The density of the finished tube is lower than 1 g/cm^3;
d) Closures, liners, seals and valves, as well as any other components are made of PE;

e) Any additional component or feature of the packaging must be compliant with the corresponding RecyClass Design for Recycling Guidelines[1].

RecyClass concludes that Procter & Gamble 'Toothpaste Tubes with self-assembled shoulder' technology as per current market conditions and knowledge, is fully compatible with the existing European industrial recycling processes for 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[2].

In regard to RecyClass Recyclability Certification, the present full compatibility with HDPE containers recycling approval delivered to Procter & Gamble 'Toothpaste tube with self-assembled shoulder' technology, means that a packaging containing this technology as mentioned in the aforementioned conditions will not be penalised with any Recyclability Class downgrade. Moreover, the amount of recyclable PE will impact the final Recyclability Class obtained during Recyclability Certification and should be kept above 95 % or 90 % in the final packaging to maximise chances to get a Recyclability Certificate with a Class A or B, respectively[3]. Also, it is noteworthy that the presence of additional packaging features could impact the certification process. However, RecyClass recommends to review and further reduce the direct printing applied on the tube. Direct printing is to be avoided, as it leads to colouring of the recyclate, limiting its further applications.

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[1] Design for Recycling Guidelines - RecyClass

[2] Recyclability Evaluation Protocol for HDPE containers

[3] RecyClass Recyclability Certification

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Annex I

Figure 1 Toothpaste HDPE Tube with self-assembled shoulder without cap by Procter & Gamble