RecyClass

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RECYCLASS TECHNOLOGY APPROVAL

Brussels, 03 December 2021
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DISCLAIMER

RecyClass recognition applies only to Avery Dennison 'PP60 TOP WHITE – Acrylic Adhesive, Film Thickness ≤60 µm' technology reported in Annex I. The recyclability assessment therefore does not refer to the testing of a specific packaging using this Pressure-Sensitive-Label. Any specific packaging using this Pressure-Sensitive Label 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 'PP60 TOP WHITE – Acrylic Adhesive, Film Thickness ≤ 60 µm' by Avery Dennison to verify its impact on the quality of recycled HDPE containers.

The technology is white PP Pressure-Sensitive Labels applied unprinted on a HDPE bottle, without cap. The Pressure-Sensitive Labels is composed by a PP facestock and a general-purpose permanent emulsion acrylic adhesive, covering about 40 % of the total surface of the bottle. Adhesive represents about 1.2 % of the total weight of the tested bottle.

According to the results that were obtained from the laboratory tests done by the Institut für Kunststofftechnologie und -recycling (IKTR), carried out as per the Recyclability Evaluation Protocol for HDPE containers, 'PP60 TOP WHITE – Acrylic Adhesive, Film Thickness ≤ 60 µm' technology is limited compatible with coloured HDPE recycling.

Based on these results, RecyClass acknowledges that Avery Dennison 'PP60 TOP WHITE – Acrylic Adhesive, Film Thickness ≤ 60 µm' technology will have a limited impact on the current European coloured HDPE containers recycling and provided that the full packaging using this Pressure-Sensitive Label is designed under the following conditions:

a) The packaging is made of PE, with a prevalence of HDPE;

b) The facestock of the Pressure-Sensitive Label applied on the packaging is made of clear or white PP;
c) The coverage of the Pressure-Sensitive Labels represents 6.35 cm^2/g of bottle (equivalent to 40 % of the packaging surface here), or less;
d) The amount of acrylic adhesive represents 1.2 % of the total weight of the packaging, or less;
e) The final density of the packaging is lower than 1 g/cm^3;
f) Any additional components, such as closure system are made of PE preferably clear or white;
g) Any additional component or features (e.g. inks) of the packaging must be compliant with the corresponding RecyClass Design for Recycling Guidelines[1].

RecyClass concludes that Avery Dennison 'PP60 TOP WHITE – Acrylic Adhesive, Film Thickness ≤ 60 µm' technology as per current market conditions and knowledge, is limited 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 100 % concentration[2].

In regard to RecyClass Recyclability Certification, the present limited compatibility with coloured HDPE containers recycling approval delivered to Avery Dennison 'PP60 TOP WHITE – Acrylic Adhesive, Film Thickness ≤ 60 µm' technology, means that a packaging containing this technology, as mentioned in the aforementioned conditions will be penalised with one Recyclability Class deduction. 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 B or C, respectively[3]. Also, it is noteworthy that the presence of additional packaging features could impact the certification process.

It should be noteworthy that application of extensive printing on the non-separable Pressure Sensitive Label reduces the quality of recycled plastic generated by the container, by limiting its compatibility with HDPE recycling. Therefore, the applicant is encouraged to improve the Pressure-Sensitive Label construction to allow its removal during the recycling process, based on RecyClass HDPE Technical Committee recommendation.

[1] Design for Recycling Guidelines - RecyClass

[2] Recyclability Evaluation Protocol for HDPE containers

[3] 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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Annex I

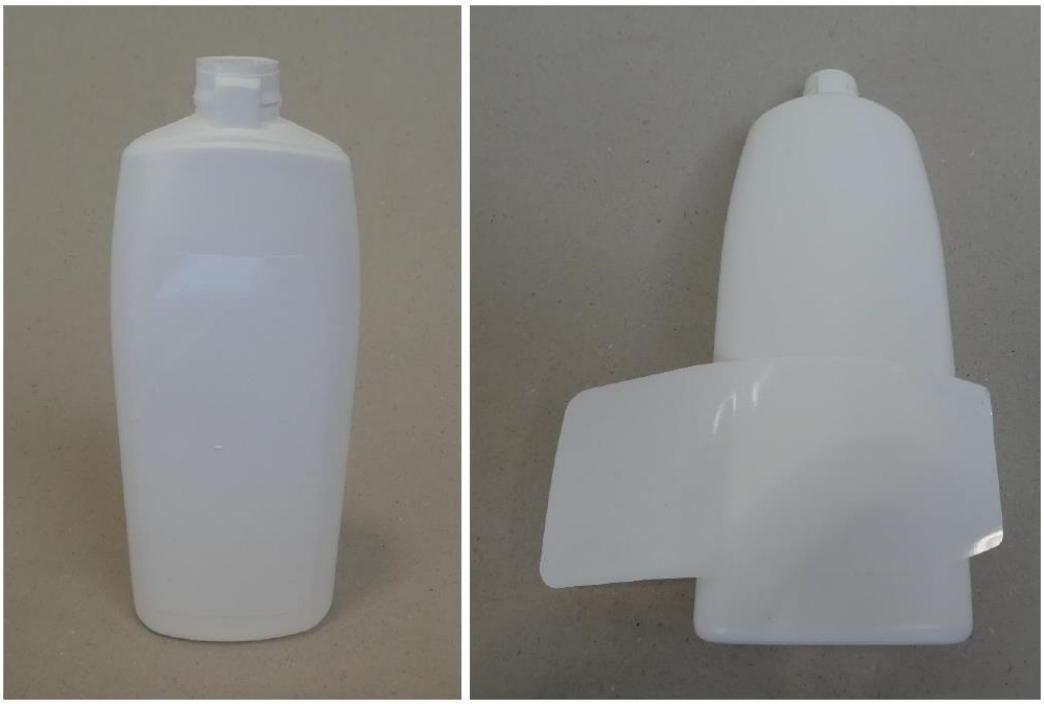

Figure 1. 'PP60 TOP WHITE – Acrylic Adhesive, Film Thickness ≤ 60 µm' *by Avery Dennison without cap and unprinted*