RecyClass

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Walki Plasbel

RECYCLASS TECHNOLOGY APPROVAL

Brussels, 15 January 2024

DISCLAIMER

RecyClass recognition applies only to Walki Plasbel 'Lamibel®MDO-PE Laminate HB' 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 PE films, and that it is sorted in the PE 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 'Lamibel®MDO-PE Laminate HB' by Walki Plasbel to verify its impact on the quality of recycled PE flexible packaging.

The technology is a laminated structure containing a MDOPE layer laminated to a sealant web consisting of LDPE containing EVOH and tie layers. The MDOPE layer accounts for about 37 % of the total weight of the structure, while the LDPE with EVOH layer represents about 59 wt%. The two layers are laminated together with Mor-Free™ L 75-720 + CR 88-721 a solvent-free aromatic PU-based laminating adhesive that represents 3.5 % of the total weight of the structure. The EVOH accounts for 4.8 % of the total film weight. The EVOH is coupled with LLDPE grafted with MAH acting as tie layers, which contribute to 8.7 % of the total weight of the multilayer.

According to the results that were obtained from the laboratory test performed by Aimplas, carried out as per the Recyclability Evaluation Protocol for PE films, the 'Lamibel ®MDO-PE Laminate HB' technology is considered to be fully compatible with PE flexibles recycling.

Based on these results, RecyClass acknowledges that Walki Plasbel 'Lamibel®MDO-PE Laminate HB' technology will have no negative impact on the current European PE flexibles recycling provided that PE flexible packaging using this technology are designed only under the following conditions[1]:

a) The density of the PE film is below 0.97 g/cm^3:

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

b) Mor-Free™ L 75-720 + CR 88-721 - a solvent-free, aromatic PU-based laminating adhesives represents 3.5 % of the total weight of the packaging or less;
c) The EVOH constitutes 4.8 wt% of the total weight of the film or less;
d) The EVOH is compatibilized with PE-based tie layer grafted with maleic anhydride, with an EVOH: tie layer ratio lower than 1:1.9;
e) Any components or attachments to the packaging should be preferably made of clear PE;
f) Any additional component or features (inks, adhesives, …) of the packaging must be compliant with the corresponding RecyClass Design for Recycling Guidelines.

RecyClass concludes that Walki Plasbel 'Lamibel®MDO-PE Laminate HB' technology as per current market conditions and knowledge, is fully compatible with the existing European industrial recycling processes for PE flexibles. The plastic generated by the recycling process may be used in high quality applications such as PE blown films up to 50 %[2].

In regard to RecyClass Recyclability Certification, the present full compatibility with PE flexibles recycling approval delivered to 'Lamibel®MDO-PE Laminate HB' technology, means that a package based on a PE film containing the 'Lamibel®MDO-PE Laminate HB' technology, as mentioned in the aforementioned conditions, will not be penalised with a Recyclability Class downgrade. Nevertheless, 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, like inks, laminating adhesive or barrier material, could additionally impact the certification process.

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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[2] Technology tested according to the RecyClass Recyclability Evaluation Protocol for PE films

[3] RecyClass Recyclability Certification

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Annex I

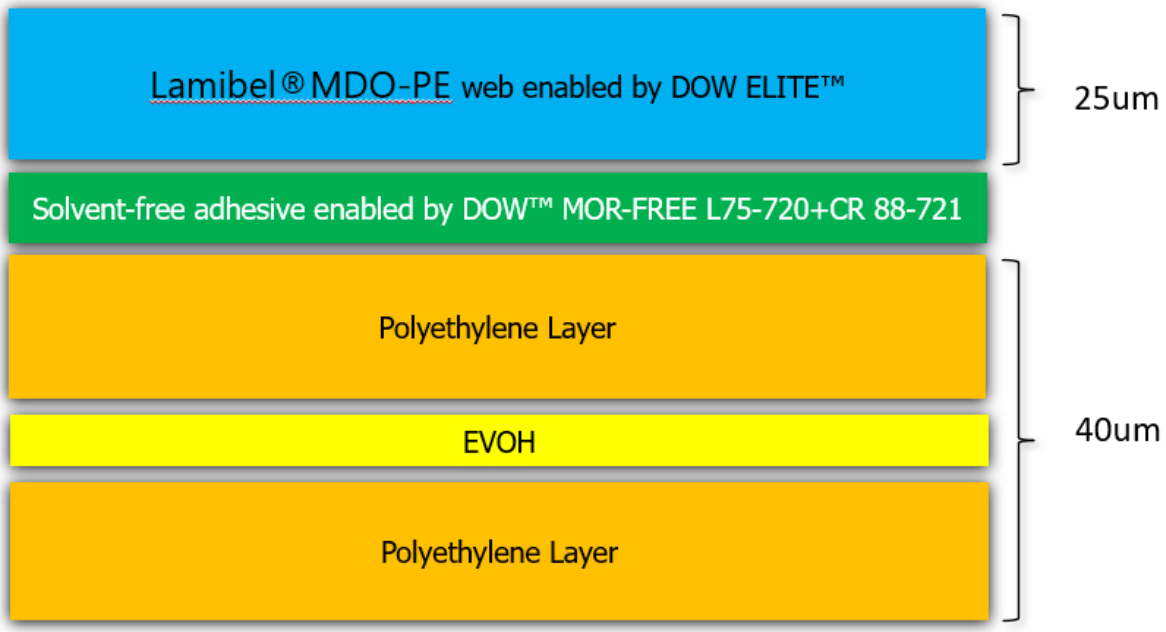

Figure 1 'Lamibel®MDO-PE Laminate HB' *technology by Walki Plasbel.*