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Loparex Germany GmbH & Co.KG

RECYCLASS TECHNOLOGY APPROVAL

Brussels, 2 December 2025

DISCLAIMER

RecyClass recognition applies only to Loparex Germany GmbH & Co.KG 'LD180' technology reported in Annex I. The recyclability assessment therefore does not refer to the testing of a specific packaging using this process aid additive. Any specific packaging using this technology would need to be assessed individually to demonstrate that the system of resin, adjuvants, label, closure, and printing conforms to the RecyClass Design for Recycling Guidelines or 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 'LD180' by Loparex Germany GmbH & Co.KG to verify its impact on the quality of recycled PE flexible packaging.

The technology is a 3-layer coextruded PE film with a siloxane dispersion in PE processing aid additive 'LD180'. This additive is PFAS free (5 % active ingredient) and represents 0.7 wt% of the total weight of the film. In addition, a white masterbatch and fillers (70 % $CaCO_3$) are present respectively at 2.3 wt% and 3.7 wt%. The film also includes a silicone-based release layer representing 2.4 wt% of the total weight of the film.

According to the results that were obtained from the laboratory test performed by Proplast, carried out as per the Recyclability Evaluation Protocol for PE films (version 6.0), the 'LD180' technology is fully compatible with coloured PE flexibles recycling.

Based on these results, RecyClass acknowledges that Loparex Germany GmbH & Co.KG 'LD180' technology will have no impact on the current European coloured PE flexibles recycling provided that PE flexible films 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;
b) The 'LD180' process additive represents 0.7 wt% of the total weight of the packaging or less;

[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.**

c) The active ingredient present in the additive represents 5 wt% of the 'LD180', or less;
d) The white masterbatch and fillers (70 % $CaCO_3$) represent respectively 2.3 wt% and 3.7 wt% of the total weight of the packaging, or less;
e) The silicone-based release layer represents 2.4 wt% of the total weight of the packaging, or less;
f) Any components or attachments to the packaging should be preferably made of clear PE;
g) Any additional component or features (inks, laminating adhesives, …) of the packaging must be compliant with the corresponding RecyClass Design for Recycling Guidelines[2].

RecyClass concludes that Loparex Germany GmbH & Co.KG 'LD180' technology as per current market conditions and knowledge, is fully compatible with the existing European industrial recycling processes for coloured PE flexibles. The plastic generated by the recycling process may be used in high quality applications such as PE blown films up to 25 % concentration[3].

In regard to RecyClass Recyclability Certification, the present full compatibility with coloured PE flexibles recycling delivered to 'LD180' technology, means that a coloured packaging containing this 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 80 % in the final packaging to maximise chances to get a Recyclability Certificate with a Class A or B, respectively[4]. Also, it is noteworthy that the presence of additional packaging features, like inks or adhesives, could additionally impact the certification process.

Under the condition that the film is transparent, with no use of coloured masterbatch, the 'LD180' technology is also considered to be fully compatible with natural PE flexibles recycling. The technology must only be designed according to the conditions previously mentioned, and be transparent. A small amount of inks can be accepted if it is compliant with the corresponding RecyClass Design for Recycling Guidelines[5].

[2] Design for Recycling Guidelines - RecyClass

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

[4] RecyClass Recyclability Certification

[5] Design for Recycling Guidelines - RecyClass

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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. 'LD180' *technology by Loparex Germany GmbH & Co.KG.*