

Bostik

RECYCLASS TECHNOLOGY APPROVAL

Brussels, 8 December 2020

The RecyClass PO films Technical Committee was requested to carry out an assessment of the technology 'M-Resins™' by Bostik to verify its impact on the quality of recycled PE flexible packaging.

The technology is a multilayer reseal film, that is generally used in combination with a stiff film to obtain resealable lidding films. The tested coextruded film comprises of an extrudable hot melt M-Resins™ adhesive, as reclosable layer, and PE for the adjacent layers. The M-Resins™ adhesive represents around 21wt% of the reseal film and is mainly composed by styrene block copolymer thermoplastic elastomer modified with tackifying resins and stabilizers.

According to the results that were obtained from the laboratory test by Proplast, carried out as per the Recyclability Evaluation Protocol for PE films, the 'M-Resins™' technology is considered to be **compatible with PE flexibles recycling**.

Based on these results, RecyClass certifies that Bostik 'M-Resins™' technology will not have a negative impact on the current European PE flexibles recycling provided the reclosable lidding films using this technology are designed under the following conditions:

- a) The density of the lidding film is below 1 g/cm³;
- b) The M-Resins™ adhesive represents around 21wt% of the reseal film, or less;
- c) The reseal film is combined to the stiff film with the PE-based lamination and the adhesives compatible with recycling;
- d) Applied printing technology is compatible with recycling; since several printing options are possible, it is the responsibility of the end-user to choose an appropriate combination of inks and printing process to ensure that:
 - i. the inks are non-bleeding;
 - ii. the inks comply with the European Legislation (e.g. Packaging and Packaging Waste Directive on the heavy metal concentration levels) and are EUPIA compliant;
 - iii. direct printing is limited as much as possible;

RecyClass concludes that Bostik ‘M-Resins™’ technology as per current market conditions and knowledge, is 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 25%¹, and providing that full package market penetration is limited to 10% maximum of the whole European LDPE flexible film market.

Outside of this above condition, RecyClass recommends to test the full lidding film structure according to the RecyClass Recyclability Evaluation Protocol to assess the combination of this reseal film with the stiff film and the laminating adhesive, in order to achieve a product approval.

RecyClass recognition applies only to Bostik ‘M-Resins™’ technology reported in Annex I and is not a recyclability assessment of specific packaging using this reseal film. Any specific packaging using this reseal film would need to be tested individually to demonstrate the system of resin, adjuvants, label, closure, and printing conformed 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.

Any change on the formulation of the technology must be communicated to the Technical Committee which will reassess the approval of the technology.

About RecyClass

RecyClass is a comprehensive cross-industry initiative that works to advance plastic packaging recyclability and to establish a harmonized approach towards recycled content calculation and traceability in Europe. Activities within RecyClass include the development of Recyclability Evaluation Protocols and scientific testing of innovative materials which serve as the base for the Design for Recycling guidelines and the free online tool. RecyClass offers Recyclability Certifications and Recycled Content Traceability Certification for plastic packaging.

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¹ Technology tested according to the RecyClass [Recyclability Evaluation Protocol for PE films](#)

Annex I

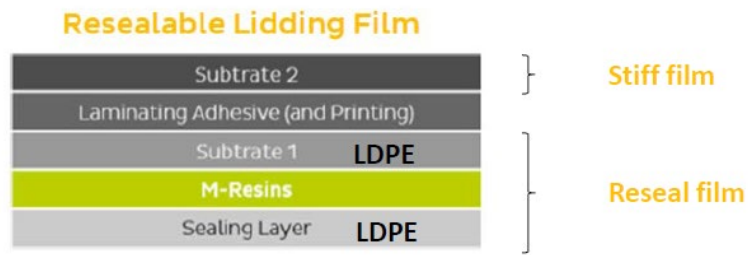


Figure 1 M-Resins™ technology by Bostik