

*Bostik*

RECYCLASS TECHNOLOGY APPROVAL

*Brussels, 8 December 2020*

*Reviewed: Brussels, 15 July 2024*

## DISCLAIMER

*RecyClass recognition applies only to Bostik 'M-Resin M650' 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 'M-Resin M650' 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-Resin M650 adhesive, as reclosable layer, and PE for the adjacent layers. The M-Resin M650 adhesive represents around 21wt% of the reseal film and is mainly composed by styrene block copolymer thermoplastic elastomer modified with tackifying resins and stabilizers. The film was tested unprinted.

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, the 'M-Resin M650' technology is considered to be limited compatible with PE flexibles recycling.

Based on these results, RecyClass acknowledges that Bostik 'M-Resin M650' technology will only have a limited impact on the current European PE flexibles recycling provided the reclosable lidding films using this technology are designed under the following conditions<sup>1</sup>:

- a) The M-Resin M650 must be used on a PE film.

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<sup>1</sup> 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) If laminated, the 'M-Resin M650' coated PE film should be preferably associated to a PE-based film. Any combination with a non-polyolefin layer (i.e. PET) will not be compatible with recycling.
- c) The laminating adhesive used on the reseal film must be compatible with PE films recycling.
- d) The density of the lidding film is below 1 g/cm<sup>3</sup>;
- e) The 'M-Resin M650' adhesive represents around 21wt% of the reseal film, or less;
- f) Any components or attachments to the packaging should be preferably made of clear PE;
- g) Any additional component or features (inks, adhesives, ...) of the packaging must be compliant with the corresponding RecyClass Design for Recycling Guidelines.

RecyClass concludes that Bostik 'M-Resin M650' technology as per current market conditions and knowledge, is limited 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%<sup>2</sup>.

In regard to RecyClass Recyclability Certification, the present limited compatibility with PE flexibles recycling approval delivered to 'M-Resin M650' technology, means that a package based on PE film containing the 'M-Resin M650' technology, as mentioned in the aforementioned conditions, will be penalised with one 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 B or C, respectively<sup>3</sup>. Also, it is noteworthy that the presence of additional packaging features, like inks or barrier material, could additionally impact the certification process.

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, or to test the full tray with the reseal film.

Note that, in addition to the 'M-Resin M650' Bostik developed other grades of M-Resins such as 'MX615', 'MWW65' and 'MWW31'. Such grades will also be considered as limited compatible with the PE flexibles recycling stream under the similar conditions aforementioned for 'M-Resin M650'.

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<sup>2</sup> Technology tested according to the RecyClass [Recyclability Evaluation Protocol for PE films](#)

<sup>3</sup> [RecyClass Recyclability Certification](#)

**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 M-Resins™ technology by Bostik