



Dow and partners unveil mono-PE, 50% advanced recycled food pouch

29 SEPTEMBER 2025



Dow, Macchi, and ITP have come together to create a mono-PE pouch prototype containing over 50% chemically recycled content, intended as a recyclable pack for snacks and other highly regulated products.

Reportedly incorporating recyclate based on a mass balance credit approach, the companies aim to unlock recycled packaging for applications that mechanical recycling technologies cannot achieve. This is set to lessen reliance on virgin resources while providing a gas- and moisture-resistant material suitable for direct contact with food products.

Additionally, it claims to align with the Packaging and Packaging Waste Regulation's recycled content quotas, such as the minimum threshold of 10% for food contact-sensitive packaging made of plastic.

ITP oversaw the selection of the film substrate, as well as the digital printing, lamination, and pouch-making stages. Macchi provided its high-performance multilayer extrusion technology, which is believed to maximize flexibility in film structure design and reduce the required film thickness.



Meanwhile, Dow offered its INNATE Precision Packaging Resins, ELITE Enhanced PE Resins, AFFINITY Polyolefin Plastomers, and BYNEL Adhesive Resins, among others. These are said to combine 'excellent' processability with 'top-end' functional performance.

Together, the companies aim to demonstrate their ability to increase a pack's advanced recycled content without sacrificing performance or safety.

"Through this collaboration, ITP highlights its expertise in PE extrusion to provide high-performance films with advanced recycled content, fully compliant with upcoming PPWR requirements and ready to meet future market challenges," said Carlo Poggi, managing director at ITP.

Macchi CEO Anthony Michael Caprioli added: "This synergy, born from the combined research and expertise of three leaders in their respective fields, represents a key milestone in shaping the future of the plastics industry."

The prototype will be displayed at **K 2025** from 8th – 15th October. Visitors can see the pouch at Down's booth in Building 04.1 outside Hall 4, or with Macchi in Hall 17, Booth C20.

In another collaboration, **Volpak**, **Amcor**, and **Menshen** have developed a **mono-PE inverted pouch format** for the food, home care, and personal care sectors; the partners claim it lowers the overall packaging weight and reduces carbon emissions compared to rigid bottles, and it is reported to be recyclable.

Additionally, Südpack has just showcased mono-PE stand-up pouches for dry snack products, manufactured on SN Maschinenbau's horizontal pouch packaging machine, at **this year's Fachpack trade show**. The pouches feature an integrated PE zipper and are believed to secure a long shelf life with oxygen and water vapour barriers, UV protection, and anti-fog features without requiring aluminium or metallization.

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