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by FAB Team | 1 October 2025



Three prominent players in the packaging supply chain – Dow, Macchi, and ITP – have collaborated to create a circular solution for flexible packaging: a monopolyethylene (mono-PE) pouch that is designed for recyclability and incorporates over 50% recycled plastic content derived from advanced (chemical) recycling using a mass balance credit approach.

The integration of advanced recycled content facilitates higher levels of recycled material in technically complex or highly regulated applications, such as food packaging. This is typically unachievable at scale through conventional mechanical recycling methods, ultimately reducing dependence on virgin resources. Moreover, the use of advanced recycling content guarantees that packaging materials are safe for direct contact with food products, allowing consumers to enjoy peace of mind regarding food safety while also protecting against gas and moisture.

This pouch strategically addresses the impending EU Packaging and Packaging Waste Regulation (PPWR), which stipulates specific recycled content targets for all plastic packaging by 2030, including a 10% requirement for food contact-sensitive applications.

This collective effort underscores the capacity to incorporate greater volumes of advanced recycled material without compromising on performance or safety.



A collaborative initiative fostering innovation in sustainable food and drink packaging.

ITP S.p.A., known for producing high-quality, sustainable PE films for food and drink packaging and industrial uses, has overseen film substrate selection, digital printing, lamination, and pouch manufacturing. Macchi, a leader in blown film extrusion technology, provided advanced multilayer extrusion machinery. Dow, a global materials science leader, contributed cutting-edge PE resins—such as INNATE™ Precision Packaging Resins, ELITE™ Enhanced PE Resins, AFFINITY™ Polyolefin Plastomers, and BYNEL™ Adhesive Resins—combining superior processability with exceptional functional performance.

Macchi, a pioneer in the blown film extrusion sector since 1961, has leveraged its extensive expertise to enhance the development of barrier film production lines. These advanced systems allow for maximum flexibility in film structure design and significant reductions in thickness, leading to material savings and enhanced cost-efficiency in production.

This evolution aligns seamlessly with the increasing demand for environmentally responsible technologies that minimize raw material consumption, support packaging reuse, and promote effective end-of-life recycling. Macchi's latest production line exemplifies this commitment to sustainability while addressing the market's requirements for high-performance processing solutions.

Anthony Michael Caprioli, Macchi CEO, stated, "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."

ITP, an Italian family-owned firm with over 50 years of experience in flexible packaging, specializes in PE film extrusion utilizing advanced single-bubble and triple-bubble technology. With its fully integrated production process, ITP maintains rigorous control at each step. This comprehensive oversight facilitates the optimization of film recyclability while preserving the technical performance essential for the food and drink sector. Consequently, ITP produces high-performance MonoPE multilayer structures that align with market demand for sustainable packaging—capturing innovation, safety, and the excellence of Made in Italy.

"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," explained Carlo Poggi, Managing Director of ITP.

Showcasing Innovations at K 2025

The new pouches will be unveiled at K 2025, the premier global event for plastics and packaging technologies, in Dusseldorf from 8-15 October. Attendees are invited to visit the Dow and Macchi booths to witness the results of this industrial partnership and explore the innovative technologies behind the project.

Join Dow in building 04.1, outside Hall 4, to discover how you can be part of [Generation Transformation](#). Additionally, explore Macchi's presence in Hall 17, booth C20.

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