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Film and Sheet EXTRUSION


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This year's Plastics Extrusion World Expo North America – held in November – highlights new technologies and includes a free two-day conference with leading industry figures



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Film M&As slump in August

Mergers and acquisitions in film slumped to zero in August according to PMCF, a consultancy that tracks M&A deals.

It says there were no film-related deals in August 2026 – down from seven in the previous month, and one in August 2025. However, sheet and thermoforming moved in the opposite direction, with four deals in August compared to just one in the previous month. This brings year-to-date activity to 18 transactions, compared to 11 to August 2025.

Overall, the company tracked 29 deals in August – less than the 37 completed in July, and the 28 in August 2025. In the year to date, PMCF tracked 300 deals, compared to 278 in the same period last year.

Strategic buyers represented only 45% of the deal volume – and announced seven fewer transactions than the year-to-date monthly average. Financial buyers accounted for 16 deals in August, up from nine in August 2025.

'Industrial' remained the largest end market with 19 deals in August (down from 22 in August 2025), taking it to 209 deals for the year-to-date – 39 deals ahead of the same point last year. This made it the only end market to show a year-on-year increase in transaction announcements.

There were 13 domestic (ie, US) transactions in August and 98 in the year to date, representing 33% of all volume. 'Foreign' (non-US) transactions accounted for 13 deals in August and 156 for the year to date – for a total of 52%.

Medical deals rose from one to four in Augut. The most notable and relevant example was Truvant's takeover of Multi-Pak Packaging. Both are contract manufacturers that supply to the medical industry.

› **www.pmcf.com**

French and US firms team up in water-soluble packaging

Two producers of bio-based, water-soluble flexible packaging – France-based Lactips and US-based SmartSolve – have announced a global strategic partnership.

The companies began working together in 2024 and have since advanced through a stage-gate R&D process, bringing PureNil 0 from early-stage development to commercial scale within two years. This has now been formalised as a long-term partnership, with a joint innovation roadmap that extends beyond PureNil 0 to future materials.

PureNil 0 is a dispersible, printable and flexible packaging substrate. It rapidly disperses in water without leaving microplastic residues, and offers an alternative to conventional single-use packaging. The material is approved for direct food contact and already has customers in areas such as beauty and personal care, and food and beverage.



IMAGE: LACTIPS

von Tschammer: "This agreement with SmartSolve is a significant milestone in our global expansion"

"Lactips gave us the one thing this industry has been missing: a water-soluble material that performs at commercial scale," said Jonathan Jakubowski, CEO of SmartSolve. "What started as an R&D collaboration in 2024 is now a long-term strategic partnership."

Alexis von Tschammer, CEO of Lactips, added: "This exclusive agreement with SmartSolve marks a significant milestone in our global expansion. It reflects the maturity of our technology and our ability to provide an industrial-scale solution ready for deployment across the US market. Together, we have the opportunity to make a lasting positive impact on industry practices and the environment."

Lactips, founded in 2014, employs 40 people in France, while US-based SmartSolve was founded in 2016. It has grown into a 55,000 sq ft facility and recently received a JobsOhio Research and Development Grant.

› **www.lactips.com**
› **www.smartsolve.com**

Intertape buys Clysar shrink film

US-based packaging film specialist Intertape Polymer Group (IPG) has acquired Clysar, a manufacturer of polyolefin shrink film.

The deal is backed by Clearlake Capital. Financial terms of the sale were not disclosed.

IPG will now have two established brands in shrink film – adding Clysar to its own Exlfilm. It says the acquisition strengthens its relationships with key distribution partners and end users and expands its North American manufacturing capabilities.

"We see a significant opportunity to build on Clysar's strengths and leverage the broader IPG platform," said Pete Durette, CEO of IPG.

› **www.itape.com**
› **www.clysar.com**



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Evertis adds PET in Mexico

Evertis Mexico is expanding the capacity of flexible PET film at its Monterrey facility.

The company will install a new coextrusion cast film production line, adding more than 9,600 tonnes/year of production capacity for ultra-thin flexible PET films. This will lift the site's total manufacturing capacity above 44,000 tonnes/year.

Evertis said that the investment "strengthens our ability to deliver high-performance packaging solutions" that will incorporate recycled content.

"Together with our new manufacturing facility in South Carolina, USA, this investment reinforces our long-term commitment to serving customers across North America with innovative, sustainable PET packaging solutions," said the company.

› **www.evertis.com**

Canada bagmaker Polyethics sets up in US

Canada-based plastic bag manufacturer Polyethics Industries will establish its first US manufacturing location in Antwerp, Ohio.

The company will invest more than US$41 million – and plans to hire 250 people over the next few years. Before opening the Antwerp facility, its only presence in the US was brokering, selling and buying plastic for recycling.

"We are bringing our experience to Antwerp, closer to the customers we serve," said Derek Rynard, CEO of Polyethics Industries. "The support from this community has been remarkable, and I look forward to building a workplace that people here are proud to join."

Rynard said growing demand from US customers created an opportunity to establish domestic manufacturing – with the Antwerp investment allowing Polyethics to serve the market directly while creating a foundation for future growth and local employment.

"This will improve our responsiveness, strengthen control over production and delivery schedules and provide room to expand our manufacturing capabilities," said Rynard.

Set up in 1991, Polyethics produces a variety of products including household trash bags, heavy-duty contractor bags and agricultural mulch film. Its business combines film production, bag converting, recycling and quality testing.

The company received a JobsOhio Revitalization Grant to support upgrades to the existing 155,000 sq-ft facility.

› **https://polyethics.com**

Tioxide restarts TiO_2 in UK

Tioxide Materials says it has made further progress in restoring its titanium dioxide (TiO2) pigment plant in the UK to full capacity.

The site now manufactures all Tioxide and Deltio pigment grades.

In addition, more employees have been recruited – including some former Greatham site staff.

Tioxide announced that pigment production at its Greatham facility had resumed on the 18 August 2026, following the acquisition of the site and its associated assets by LB Group in April this year.

At the same time, work work is continuing towards the restart of the site's second production line – which is due to come onstream in early 2027.

› **www.tioxide.com**

Colourful canopy



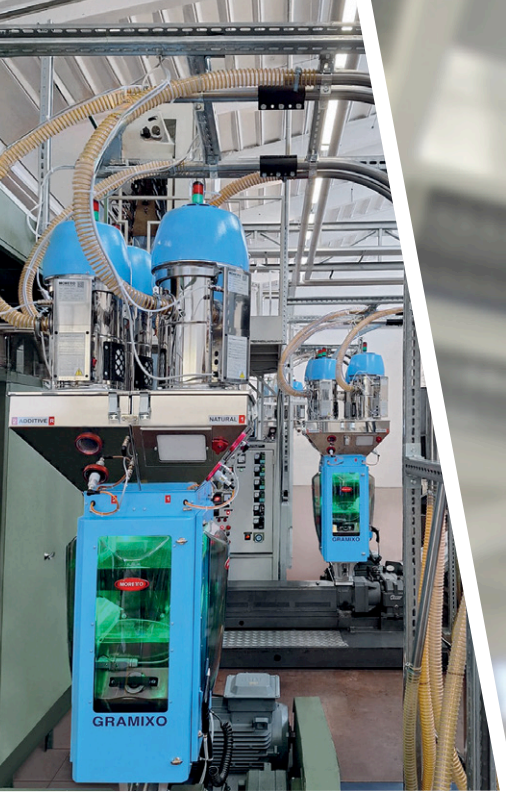
IMAGE: ANAISA FRANCO

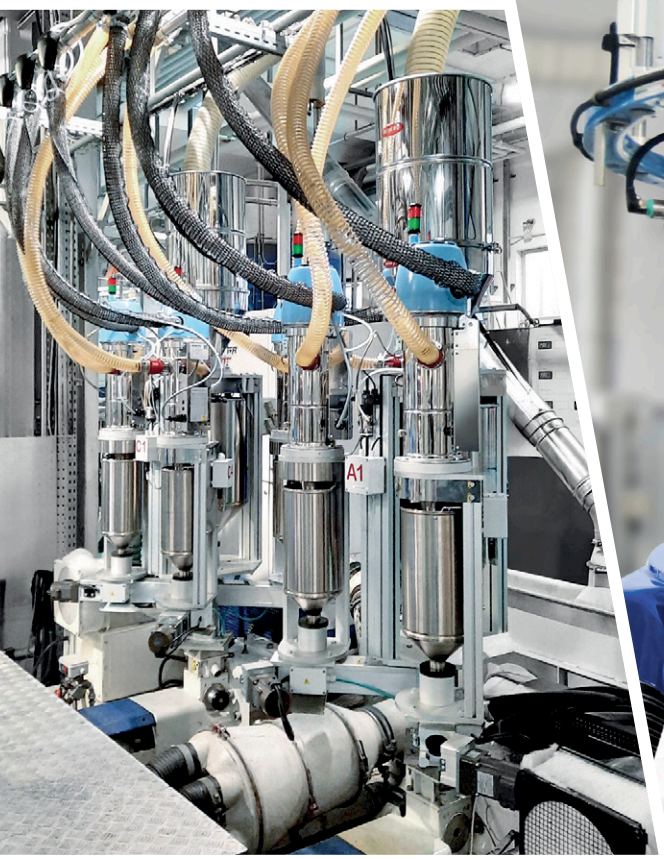
HexaLumina – a public artwork by Anaisa Franco in Dallas, USA – combines organic photovoltaic cells with transparent pink solid polycarbonate sheet from Exolon. Hexagonal stainless-steel elements incorporate organic solar cells and coloured, 6mm Exolon UV solid polycarbonate sheets. UV protection on both sides enhances their resistance to long- term environmental exposure, helping them retain their colour and gloss over time – which is critical for a permanent outdoor installation.

"The polycarbonate sheets play an important role in the technical implementation and artistic vision of HexaLumina," said Franco.

The solar cells harvest energy from sunlight during the day, which is then used to illuminate HexaLumina after dark.

› **www.exolongroup.com**



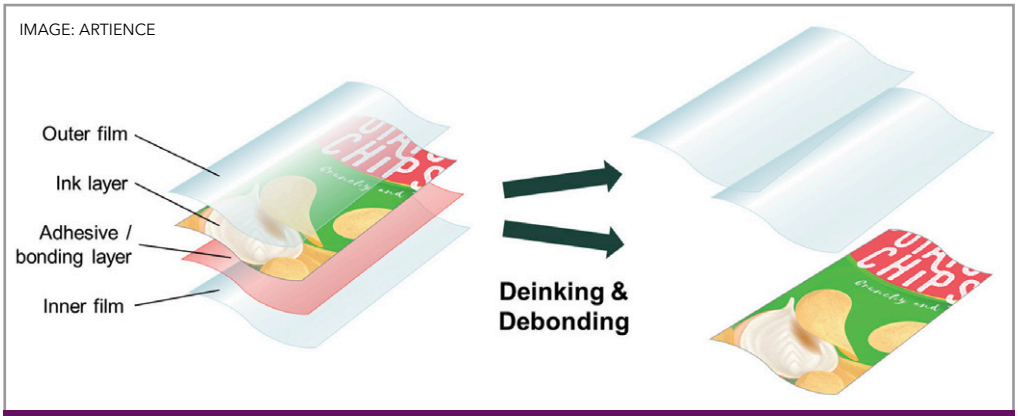




Automatic control of the extrusion process.

MORETTO

IMAGE: ARTIENCE



Artience and DIC are developing an industry protocol to evaluate the packaging film recyclability

Film recycling in Japan

Artience – through its subsidiary Toyo Ink – and DIC Corporation are developing a common industry protocol to evaluate the recyclability of film packaging.

They intend to establish test procedures, evaluation criteria and reporting formats for de-inking and debonding during flexible film recycling in Japan. They say the protocol will create a unified environment, allowing stakeholders to evaluate and compare recyclability methods. Through it, they hope to accelerate the circular use of flexible packaging.

Within packaging, there is growing demand for product designs that allow easier recycling – and for greater use of recyclate. The typical complexity of flexible packaging – including multiple materials, including inks – makes effective recycling difficult.

"Previously, these evaluation in Japan were conducted using proprietary tests," said the partners. "This lack of standardisation hindered recyclability assessment during the design phase."

They say adopting the protocol will help across the supply chain. It will help converters streamline the selection of printing and processing conditions and materials; brand owners can choose recyclable packaging materials based on objective, reliable data; and recyclers can set appropriate conditions based on material properties, leading to better quality recylate.

› **www.artience.com**
› **www.dic-global.com**

'K Alliance' expands to India

Messe Düsseldorf India and the Plastics Machinery Manufacturers Association of India (PMMAI) have become co-owners of the Plastfocus exhibition.

From 2027, they will jointly organise the show, which will become part of the 'K Alliance' – Messe Düsseldorf's global plastics and rubber portfolio.

"India is one of the most important future markets for the plastics industry," said Marius Berlemann, chief operating officer at Messe Düsseldorf."

Tushar Parikh, president of PMMAI, added: "Together, we want Plastfocus to reflect the scale, capabilities and growing global ambitions of India's plastic processing and allied machinery industry."

› **www.k-online.com**
› **www.md-india.com**
› **www.pmmai.org**

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SML EXTRUSION LINES – ENGINEERED TO PERFORM

England delays films plan but Wales pushes ahead

IMAGE: EXETER CITY COUNCIL



The UK government says the planned mandatory collection of plastic films and flexible packaging has been delayed in England.

All local authorities in England were expected to start collecting these materials from the kerbside from 31 March 2027 under the Simpler Recycling regulations, but Defra has now confirmed that this is to be pushed back to 2030 after concerns were raised about end markets.

It is understood that the official Simpler Recycling regulations will be updated during the next parliamentary period.

"While increasing recycling is vital for a circular economy, collection alone isn't enough," said Noel Marques-Neves, operations director at Hahn Plastics UK. "This delay offers a chance to develop the infrastructure needed to succeed. Now the focus should be on enhancing supply chains and processing capacity before collections begin."

Meanwhile, the devolved government in Wales has confirmed it will press on with plans to introduce household collections of plastic film and other flexible plastics from 2027.

David Gudgeon, head of external affairs at Reconomy, said Wales "is confident that it will have the systems needed to process flexible plastics and keep materials in use by then."

■ Endolys has secured planning approval for a £125m film recycling facility in Darlington, paving the way for one of the UK's largest chemical recycling projects.

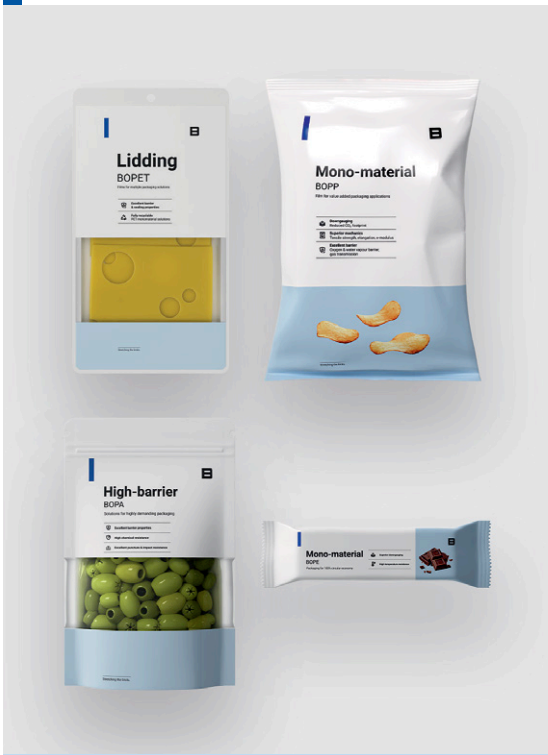
"Planning approval is a major milestone for Endolys and for advanced recycling in the UK," said Mark Leggett, CEO of Endolys. "We're creating skilled jobs, regenerating an iconic industrial site and delivering infrastructure to recycle plastic film."

Planning approval allows installation of 12 pyrolysis units, with operations expected to begin before the end of the year. The completed facility is set to process up to 120,000 tonnes/yr of waste plastics, producing around 80,000 tonnes of recycled pyrolysis oil for use by European refineries.

- **www.endolys.com**
- **www.gov.uk**
- **www.gov.wales**
- **https://hanit.co.uk**
- **www.reconomy.com**

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Recent extruder developments include new lines for blown and cast film, a single-screw installation for BOPET in China and a high-output, twin-screw extruder for polyolefin film

IMAGE: BB ENGINEERING

Upping output: latest extruder developments

Raising output is a critical measure for film and sheet extruders – and is a key focus for developers of extrusion lines.

SML recently expanded its portfolio with a new co-rotating twin-screw extruder – to meet increasing demand for high-output capacities for polyolefins and polyesters.

"Our in-house-designed co-rotating twin-screw extruder is tailor-made for the specific requirements of our extrusion lines, contributing to an exceptional film quality," said Hans-Jürgen Luger, head of research and development at SML.

Compared to a large single-screw extruder of the same output capacity, it has a shorter processing unit – and smaller footprint. This means less heating power is needed to maintain barrel temperatures. Because of starve feeding, the extruder drive operates at high torque over the whole output range. In addition, melt temperature can be controlled by adjusting the degree of filling.

Tests of the new extruder on a CPP line in SML's Technology Centre have shown that the specific energy input (SEI) is 10-15% lower than for a single-screw extruder. In terms of film quality, gel count detected by a web inspection system could be reduced by up to 20% for a standard CPP film.

With throughputs in the range of 1,000 to 2,000 kg/h, SML says the extruder has potential application in its cast film lines with end film widths of up to 6.5 metres.

A swivel-mounted barrel allows rear screw extraction for fast, easy screw changes. The temperature of the barrel is controlled by ceramic heaters and air cooling – which SML says is a precise, cost-efficient, low-maintenance solution. The company offers pre-configured single-piece barrel designs of different lengths – with venting ports, depending on the application. For the extruder screws, single-piece solutions or shafts with segments are available.

In combination with its vacuum unit, SML can offer a complete in-house extrusion solution for processing PET or PLA without pre-drying. In addition, the extruder enables high amounts of regrind or flakes to be processed – as well as in-line compounding.

New dimension

BB Engineering has supplied two 360mm PET single-screw extruders to a customer in China.

It says single screws extruders of this size – for

Main image: BB Engineering has supplied two 360mm PET single-screw extruders to a customer in China



IMAGE: BATTENFELD-CINCINNATI

Right: Battenfeld-Cincinnati showed a sheet extrusion line at an open house event recently

processing PET – have not been available on the market until now. The systems were commissioned at a Chinese customer's site and form the heart of BOPET film lines from Brueckner to produce optical films.

The new extruders feature a barrier-screw design that enables throughputs of up to 5,400 kg/h. With a screw length of 11.5m and a diameter of 360mm, manufacturing and transport posed technical and logistical challenges. The total weight of the extruder is more than 46 tonnes and its length of over 14m. Two energy-efficient, water-cooled motors, each with an output of 700kW, are used to drive the extruder.

With this extruder size, BB says it has achieved a "technological milestone in PET processing". The 360mm extruders open up "additional possibilities for applications in the high-performance segment", it says.

Open invitation

Battenfeld-Cincinnati showcased a sheet extrusion line at an open house event at its new technical centre. The centre, in Bad Oeynhausen, has been under construction for the last two years and includes a 1,300 sq m technical hall.

"We are now able to fully assemble and demonstrate complex extrusion lines," said Henning Stieglitz, CEO of Battenfeld-Cincinnati.

The company ran a live demonstration of a PP sheet production line. During production, the line was changed from making 280-micron sheet to 200-micron sheet. This was a highlight for visitors, said the company, as the original target had been "only" 220 microns.

Below: SML has added a new co-rotating twin-screw extruder its portfolio

The line – which can make both sheet and board products – offers a range of processing possibilities. For plasticisation, the demonstration line can be configured with three different extruder concepts. In addition, reliable melt filtration technology enables the processing of even highly contaminated material while maintaining high melt quality.

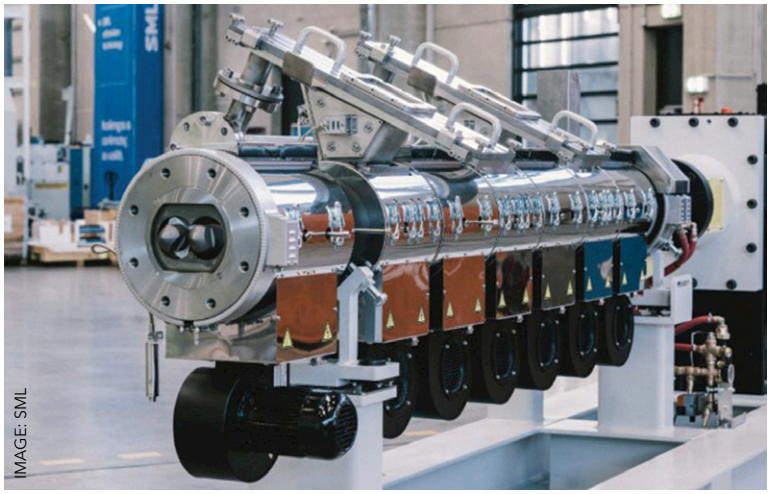


IMAGE: SML

Line updates

At Chinaplas recently, **Reifenhäuser** showcased its latest extrusion lines – Evo Gen3 for blown film and Everex for cast film.

The new generation of Evo Gen3 blown film lines delivers an output of up to 1,050 kg/h with a 350mm die diameter – about 30% more than its predecessors. This is made possible by new Evo Ultra Die Heads in combination with the new Ultra Cool Gen3 cooling rings, it says. The new die heads are available in three variants: a 3- and 5-layer variant for maximum throughput and fast product changeovers; a 7-layer variant – optimised for barrier films; and a 9-layer variant for the highest film quality in complex products.

As well as enhanced performance, the Evo Gen3 prioritises ease of use, as labour shortages and high employee turnover make it difficult for manufacturers to consistently achieve the desired quality and efficiency, it says.

Smart assistance systems and the new HMI, called Evo OS 3, help inexperienced operators to achieve fast, optimal results.

One key feature is the Auto Flat System, which enables the flatness of the film to be measured and automatically optimised. This improves post-processing and material consumption. In addition, the ReStart Assistant reduces downtime during material changes, while a new control architecture enables connectivity, data utilization, and automation, including AI integration.

Meanwhile, the new generation of Everex flat film lines for cast and sheet applications is de-

signed for automation – with elements such as the co-extrusion adapter, die, width adjustment and winder all running fully automatically.

At the heart of this is PAM 2.0, which automates width adjustment. Formulas can be reliably recalled, and product changeovers completed in under 80 minutes while raising quality and cutting waste during startup.

The automated width adjustment includes edge pinning, vacuum box, and pre- and final-trimming, which improves both film quality and process stability. The solution can also be integrated into existing – and third-party – systems. A new edge encapsulation system reduces the use of expensive barrier materials, as these do not end up in the edge trimmings, enabling savings of up to €150,000 annually, it says.

The Everex Hybrid polishing stack unit provides greater flexibility, enabling film thicknesses ranging from 150 to 2,500 microns. With standard polishing stacks, for example, PP films could generally not be produced thinner than approximately 380 microns without the use of an additional air slot die – which limits the line's productivity. With Everex Hybrid, producers achieve maximum flexibility and material savings thanks to downgauging.

Material gains

Colines has created a cast MDO PE film "recyclable pouch" on a seven-layer blown film line – using materials from **ExxonMobil Chemical**. The challenge was to make a stiff, tough laminated pouch designed for recyclability, that met converting and end-use requirements with a substrate film made using cast calender MDO technology.

Necessary characteristics included easy printing, lamination and pouch production on existing converting equipment. This meant integrating advanced materials and MDO technology to meet packaging requirements for both food and non-food applications.

"Our ability to offer cast film lines with integrated MDO units and a new nine-layer blown barrier line allows us to support advanced packaging solutions," said Nicola Lombardini, R&D manager at Colines. "The cast MDO is run in calender mode, resulting in excellent control of the thickness profile and planarity while guaranteeing mechanical properties."

Colines has also installed a cast film line at LyondellBasell's Technology Center in Cincinnati, USA. The 9-layer AllRollEx is used to make stretch film. LYB installed the line to support development of high-performance stretch films and other speciality applications. The line features a seven-layer, five-extruder setup that closely replicates commercial film production while operating on a smaller scale to avoid excess output. It supports stretch film grades like Petrothene GA1820 and GA1832, with the same chill roll diameter used in full-scale commercial lines – producing one finished roll at a time under near-commercial conditions.

CLICK ON THE LINKS FOR MORE INFORMATION:

- **www.sml.at**
- **www.bbeng.de**
- **www.battenfeld-cincinnati.com**
- **www.reifenhauser.com**
- **www.colines.it**
- **www.exxonmobilchemical.com**



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Granulators add second life to plastic products



Recent developments in recycling include a high-volume model for wet granulation, high-throughput shredders and a flow measurement system that boosts efficiency

Main image: Wursi uses two Weima shredders to make PE and PP granulate

While recycling of extruded products – including film and sheet – continues to increase, there is also a critical need to recycle in-house scrap to cut material costs.

Wursi of Spain shreds around 1,500 tonnes of PE and PP into regranulate every month, using two **Weima** W5.14 single-shaft shredders on its recycling line. It first processes sorted plastic waste manually and feeds it into the two shredders – which shreds the material to 30-100mm pieces.

The shredder is designed for demanding plastic applications. A V-rotor with a diameter of 500mm and a length of 1,400mm ensures uniform shredding even with tough materials. A Siemens PLC control system with touch panel allows precise adjustment of operating parameters. A hydraulically opening screen basket and inspection flap help to reduce downtime during maintenance or screen changes

Wursi uses interchangeable screen segments that can react flexibly to material differences – an advantage with changing polyolefin streams, it says.

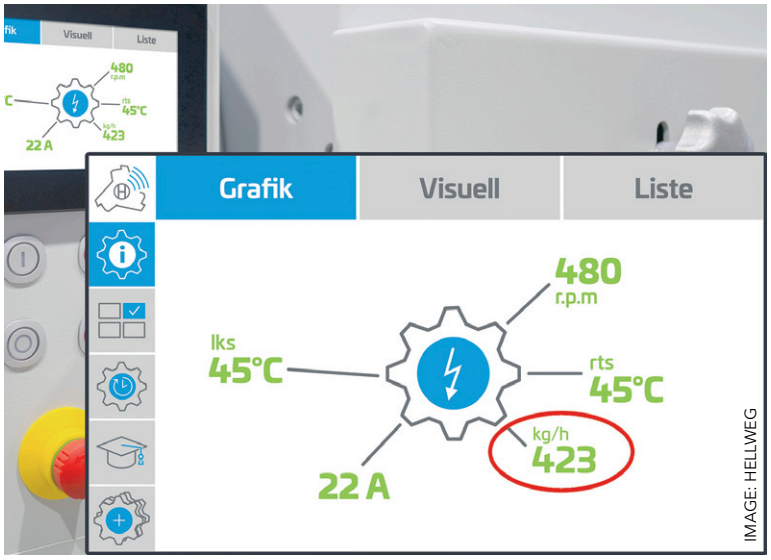
Online flow

Hellweg Maschinenbau has begun integrating an online flow measurement system called Smart Flow into its products.

It complements information already available via Hellweg's Smart Control system for bearing temperatures, speed and power consumption. Together, they provide a basis for Hellweg's next step: integration of self-learning AI modules. These will calculate the optimum ratio between material properties, feed and required power during granulator operation. The control system will then independently regulate the machine parameters to maximise energy efficiency without human intervention.

"The importance of the grinding process for successful recycling is still far too often underestimated," said Mark Hellweg, managing director of Hellweg.

The energy consumption of the granulators used for this purpose is not specified on the type plate. It is a free variable that can be adjusted to



Above: Hellweg has integrated Smart Flow online flow measurement into its products

the requirements of a specific material flow at any given time. Digitalisation of the relevant parameters, including mass flow, is necessary for AI to carry out the optimisation to reduce energy consumption and contribute to a reduced carbon footprint of the granulators, he said.

The core of Smart Flow is a sensor that measures the flow rate (bulk flow) without contact and is positioned in the riser pipe of the extraction piping. Its data is transmitted to the Smart Control system, where it is processed and displayed in the form of the (extrapolated) mass ground per hour as a measure of the machine's current performance.

The reliability, precision and repeatability of the data generated by Smart Flow is based on the sensor's operating mode, which uses microwave technology to measure bulk flow. The signal generated by the Doppler effect reflects changes in particle concentration and velocity, enabling an early response. Thanks to contactless measurement, the sensor requires no maintenance.

High intensity

At Plast this year, **CMG** showcased its EV 92-220 granulator, for high-intensity and complex recycling applications.

It is part of the company's Evolution series, which CMG says offers high production capacity, reduced energy consumption, fast maintenance operations and better regrind quality.

Key benefits include: energy savings of up to 50%, compared to traditional systems; high output with minimal dust generation; longer blade lifetime – with blade replacement times reduced by over 50%; and dedicated configurations for dry or wet recycling.

Evolution granulators are also designed with CMG's tangential-cut and open-rotor configuration, which eliminates the material dragging effect typical of conventional systems – reducing dust generation and improving regrind quality.

In addition, CMG recently expanded its production headquarters with a new 800 sq m area. This will be dedicated to logistics, enabling more efficient management of internal flows and freeing up production areas to meet increasing demand. CMG says the investment will allow it to improve organisation, production capacity and delivery times.

"For us, growth means investing in space, processes and expertise, with the goal of offering our customers increasingly effective solutions and a high-level of service," said Giorgio Santella, CEO of CMG.

Alongside the production area, the CMG HQ also hosts a new 1,000 sq m technical centre, dedicated to granulation tests and technical support. It features a test area equipped with granulators and shredders of various sizes and capacities that can process a range of materials – as well as a training area.

Customers can see CMG machines in operation, directly evaluate processing and reuse methods for their own materials and verify the quality of results firsthand.

If customers cannot attend tests in person, CMG can carry out granulation trials anyway. The material is delivered to the company, where it undergoes testing. At the end of the process, the material is returned to the customer, together with a technical report.

New releases

Rapid Granulator introduced several new products at K2025 last year – including its largest granulator yet.

Designed for high-volume, industrial-grade recycling, the 800 Series is optimised for wet granulation applications. It uses an efficient scissor-cut system that reduces wear and saves energy during cutting, while a reversible screen further extends service life and operational uptime.

"The 800 Series is the pinnacle of granulation technology for Rapid," said Anders Mårtensson, sales and marketing director at Rapid. "It is our largest and most powerful granulator and introduces a level of operator safety not yet seen in this industry."

It allows for knife changes from the back of the machine, keeping operators at a safe distance from the rotor and eliminating the need to work within the cutting chamber.

Rapid has also taken a step forward in digital production monitoring with its latest innovation, called Predict, which gives operators instant insights into how their granulators are performing.

This can help them perform tasks such as material feeding, operational adjustments, and energy-optimised performance improvements at the production source, to speed up decision-making.

Finally, its RMD (rapid metal detection) is a safety solution designed for slow-speed granulators. It instantly halts the rotor as soon as metal is detected – safeguarding the interface between fixed and rotating knives – without interrupting production.

RMD is fully integrated into the granulator, remaining hidden and non-intrusive. Unlike conventional metal detectors, it protects where it matters most, before contaminants reach the cutting chamber, says Rapid. This prevents costly damage to the rotor and knives while minimising downtime and maintaining process continuity.

Special projects

As part of a project focused on the recovery of plastic waste in the United Arab Emirates (UAE), **Camec** and **GCB Polymers** have designed and engineered a turnkey shredding and recovery plant for rigid plastics. The project focuses on creating a 'local loop' in the UAE to reduce dependence on external supply chains.

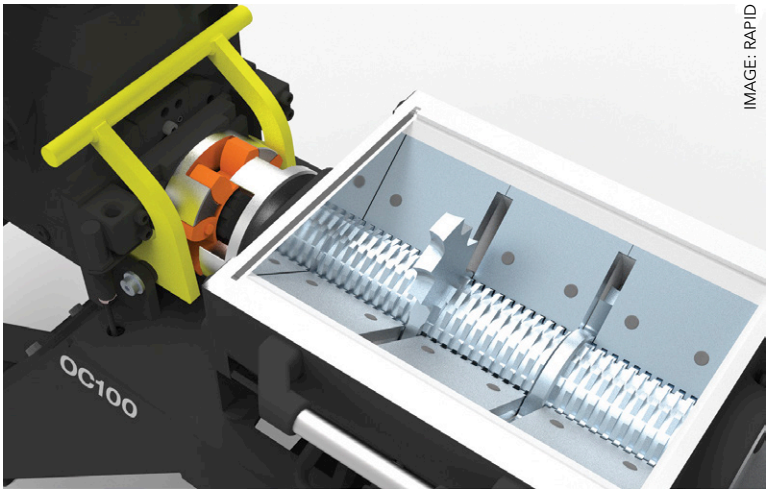
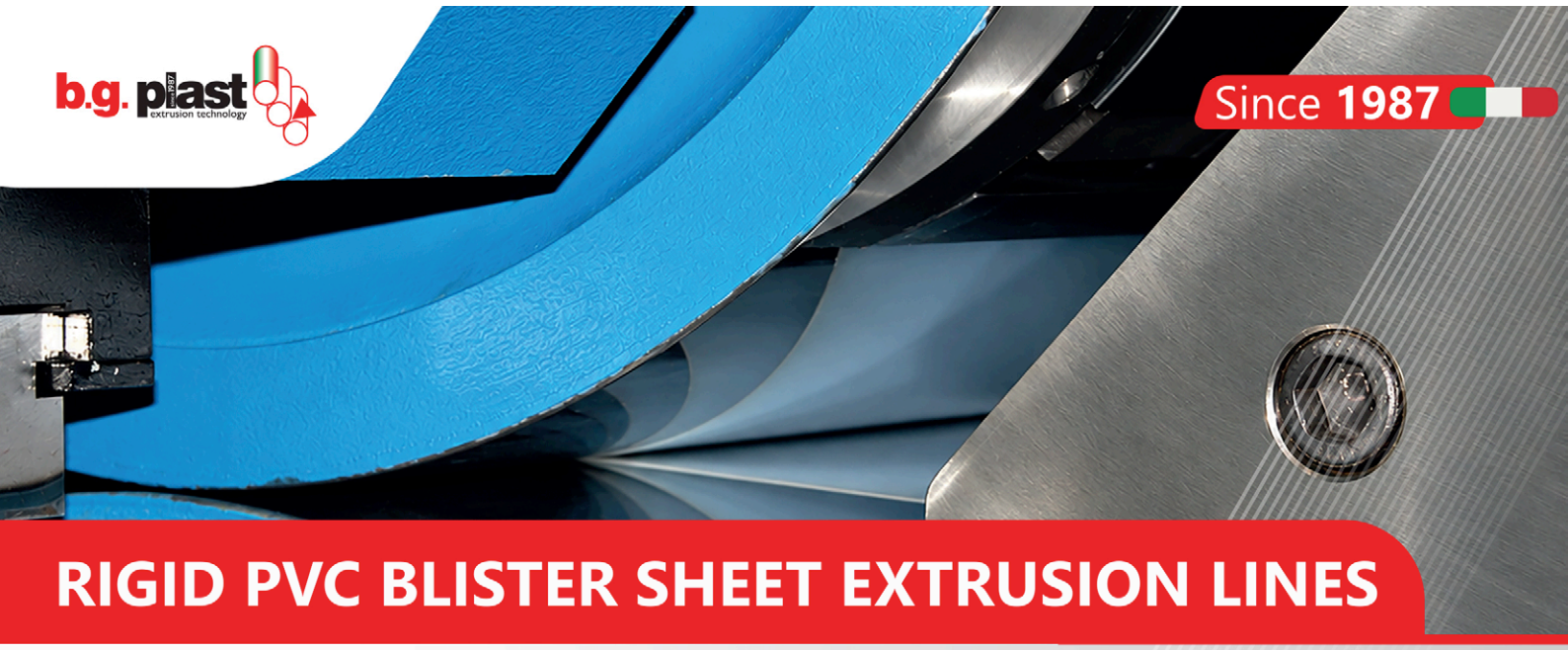


IMAGE: RAPID

Above: Rapid's RMD is a metal detection solution designed for slow-speed granulators

Camec said the system ensures an efficient, highly automated, constantly monitored process where every stage of treatment is optimised to ensure production of a clean, homogeneous, ready-to-use recycled granule – while reducing waste and energy consumption to keep operating costs low.

The treatment process is designed to transform rigid plastic waste, including mixed or contaminated fractions, into clean, ready-to-use recycled granules through an automated,



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Applications

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Consumer goods and dry food packaging

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Right: Cutting unit of the Lindner Micromat series shredder

controlled flow. The material undergoes primary shredding, after which metallic contaminants are removed via magnetic separation and metal detectors. Later stages of secondary shredding, air separation and cleaning eliminate residual impurities and prepare the material for granulation. Granules are dedusted, transported and stored in silos, ready for packaging or direct use in industrial applications.

Clean break

At IFAT 2026 earlier this year, **Lindner** showcased its latest innovations in shredding technology – including the new Urraco Evo mobile series for plastics and other materials.

The mobile twin-shaft shredder was developed for demanding, heavy-duty applications and combines high power, a quick-change function, and shaft versatility.

"We have responded to changing market requirements – away from a primary segment of light materials towards more robust and difficult applications," said Gerhard Gamper, segment director for mobile shredding at Lindner.

The latest version of the Urraco Evo series builds

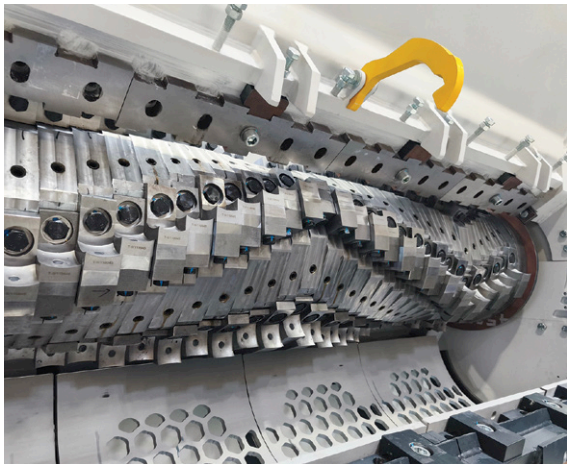


IMAGE: LINDNER

on proven Lindner technology with new features including modular design, robust construction and improved quality.

Andreas Klapf, head of engineering at Lindner, added: "We have also further automated the manufacture of our cutting unit and shafts. Through targeted use of this technology, we can increase our competitive edge in terms of robustness, stability and reliability."

Also at IFAT, Lindner presented the fourth generation of its Micromat series, which is based

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Material
TPO - PVC

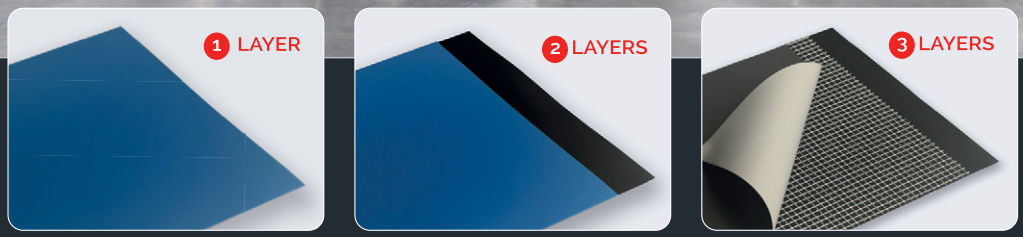
Configurations
From 1 to 3 layers,
non-reinforced/reinforced

Reinforcement
PES scrim, Glass mat

Back felt
non-woven PES fleece

Output
Single calender up to 2200 kg/h
Tandem calender up to 5000 kg/h

Width
Single calender up to 3050 mm (10')
Tandem calender up to 3650mm (12')



Plastimagen by informa

Booth 530

on a synchronous reluctance motor that achieves an energy efficiency class of IE6, offering more than 97% efficiency while using no rare earth metals. Regarding its shredding capabilities, the multi-cut rotor enables flexible operation for a range of materials including plastic, and reduces maintenance effort and downtime thanks to its rapid-change knife system.

Second use

Herbold Meckesheim says it is increasing sales of used recycling machinery to the plastics processing industry. Used machinery has long been part of its business – and has grown in recent years due to rising investment costs, shorter project timelines and more need for flexibility, it says.

"We see a clear increase in demand for used machines, driven by higher investment costs and the growing need for short-term solutions," said Karlheinz Herbold, senior sales specialist for used machines at Herbold Meckesheim.

"For many customers, a used machine is no longer a compromise, but an economically sound decision."

Its second-hand portfolio includes granulators, shredders and pulverisers. They are selected based on defined technical criteria and are supplied in a tested condition, ensuring functional reliability in line with Herbold's quality standards.

All used machines undergo technical evaluation. Depending on machine type, condition and intended use, equipment is either inspected and serviced, or refurbished. Some are dismantled and individually assessed, with critical components such as bearing seats, roller bearings and seals checked for tolerances, dimensional accuracy and overall condition.

For these processes, the company uses the same precision measuring and testing equipment as it does for production of its new machines.



IMAGE: HERBOLD

Left: Herbold offers a wide range of second-hand recycling machinery

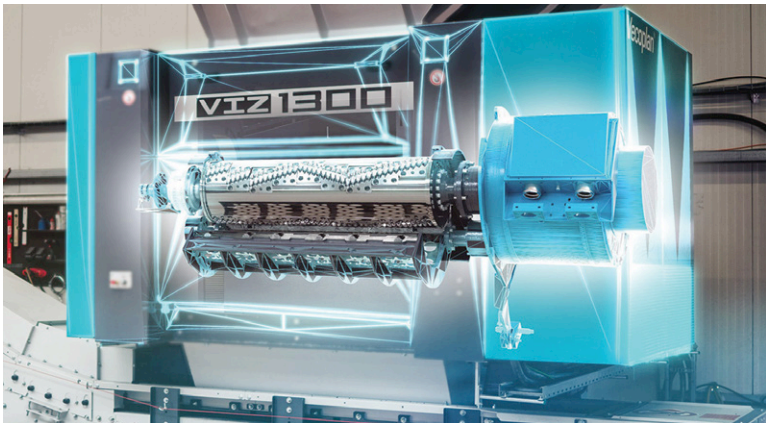


IMAGE: VECOPLAN

Shredding performance

Vecoplan presented its Viz 1300 high-performance shredder at the Plastpol show in Poland in May.

It is available with variable rotor and blade configurations as well as a range of screen sizes, which means it "adapts flexibly to virtually any plastic material and any application requirement", said Vecoplan.

A highlight of the Viz 1300 is the option to equip the machine with automatically adjustable counter-knives. Normally, operators need to manually readjust the cutting gap regularly to maintain consistent shredding quality.

The automatic counter-blade adjustment performs this task fully automatically and without manual intervention. Vecoplan says this reduces the time required and guarantees a high output quality, regardless of the operator's level of experience, says the company.

Users have two options for the type of drive that can be fitted. The gearless HiTorc drive generates torque directly and comes without any wear parts such as couplings, belt drives, and flywheels. As an alternative, the ESC belt direct drive is available.

Vecoplan says both options are designed for maximum efficiency and minimal maintenance. Machine control is handled by Vecoplan's VSC control system, which allows users to adjust numerous machine parameters and monitor operating data in real time from any standard mobile device.

Above: Vecoplan's VIZ 1300 shredder is available with variable rotor and blade configurations as well as a range of screen sizes

CLICK ON THE LINKS FOR MORE INFORMATION:

- **https://weima.com**
- **www.hellweg-maschinenbau.de**
- **www.cmg-granulators.com**
- **www.rapidgranulator.com**
- **www.camec.net**
- **https://gcb.ae**
- **www.herbold.com**
- **www.lindner.com**
- **https://vecoplan.com**



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AMI's new Global Market for BOPP Film report explores capacity, production and demand to 2030. ***Susannah Owen*** *provides a summary of its findings*

IMAGE: SHUTTERSTOCK

BOPP film market continues to show strength

In 2025, global demand for BOPP film reached nearly 11 million tonnes, continuing a steady upward trajectory despite a succession of challenges. Looking ahead, the global BOPP films market is expected to maintain steady growth despite ongoing uncertainty.

Crucially, BOPP remains difficult to substitute in many of its core applications due to its unique combination of performance, cost, and processing advantages. Its sustained growth is underpinned by the fundamental global trend of increasing access to packaged goods.

Overall, global demand is forecast to grow at more than 3% through to 2030 supported by BOPP's strong position in essential food packaging, its role in the expanding global snacks sector as well as greater penetration in retort pouches and high barrier packaging applications.

In non-packaging applications, BOPP consumption is growing strongly in emerging high-tech and new energy applications, where technical advancements are helping the film to play an increasingly important role in future growth applications.

India and South-East Asia are expected to deliver the strongest volume growth to 2030. India's urbanisation and continued expansion of organised retail benefit all packaging film substrates.

North East Asia's value growth is supported by a world-leading position in technical BOPP films and adjacent industries.

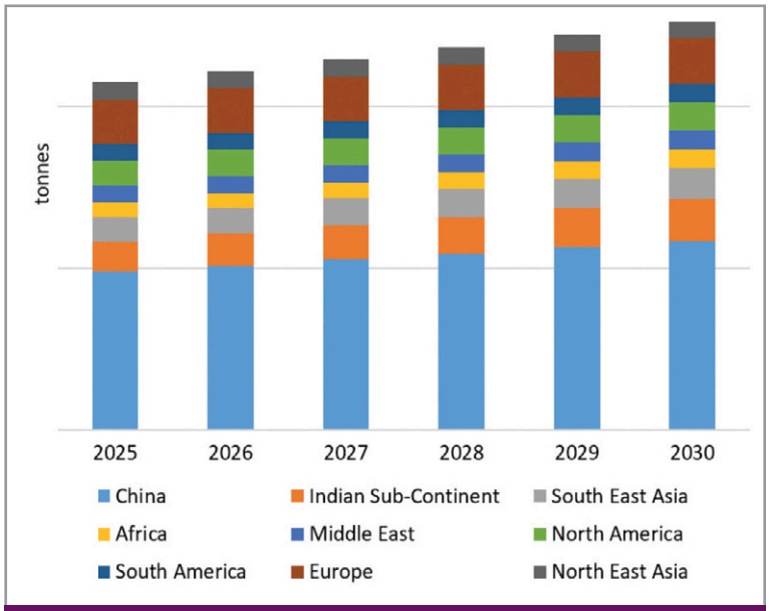
China's position

Chinese volume additions support domestic demand for speciality films and reinforce a strong competitive position in export markets. The strategic focus is now shifting towards technology, efficiency and easier-to-recycle structures.

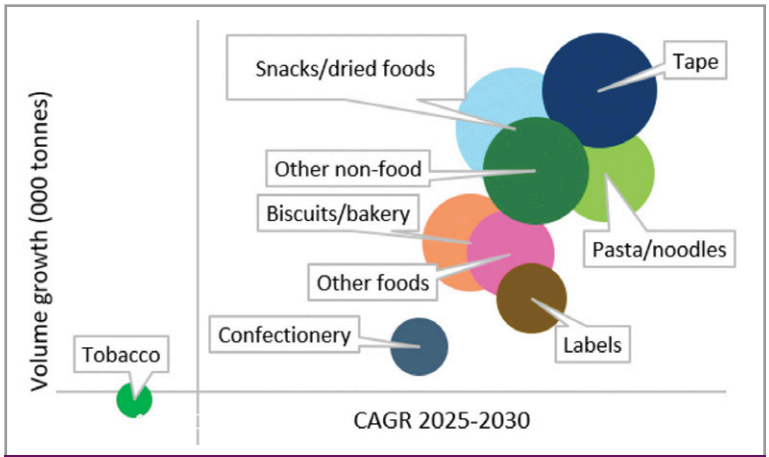
Already the largest market for demand, production and exports, China installed more than 400,000 tonnes of new capacity in 2025. Domestic consumption has become an important engine of growth.

Anti-involution measures aim to curb destructive below-cost competition and industrial overcapacity. Investment is expected to continue, but with greater emphasis on technological advancement and efficiency upgrades under the government's 15th five-year plan.

Rules encouraging recyclable or compostable



Future BOPP film demand evolution by region
Source: AMI Consulting 2026



Future BOPP film demand by major application
Source: AMI Consulting 2026

packaging and limiting excessive material use are increasing pressure on traditional multilayer structures. BOPP is not banned, but the market is moving towards lighter, mono-material and easier-to-recycle solutions aligned with circular-economy goals.

China's next phase is not simply more volume: competitiveness will increasingly depend on product performance, process efficiency and the ability to serve expanding technical and high-value applications.

The fastest BOPP growth is taking place in the Indian Sub-Continent, in both demand and capacity. Demand growth is expected to taper slightly, while capacity expansion is due to accelerate.

India benefits from one of the world's fastest-growing economies, a low-cost manufacturing base and government incentives under "Make in India". Bangladesh and Pakistan face greater exposure to economic instability, resin dependence and delivery disruption.

Indian producers operate the world's most modern machine park, including the largest line at 81,500 tonnes per year. Recent over-investment has suppressed margins, and additional capacity due onstream through at least 2028 remains a concern for local producers.

Packaging for food and emerging high tech and new energy are the segments which remain key to demand growth, attracting new players in an otherwise rapidly consolidating market, a trend that is particularly evident in Europe and South America. Faced with the exponential growth in Asia, established players have sought to strengthen their position through strategic acquisitions to grant better access to new markets.

Globally too, capacity expansion has accelerated, leaving the current average utilisation rate at its lowest since 2020. This is despite the high raw material costs, supply volatility, logistics disruption and high energy prices facing the industry's film producers.

Technological advances continue to push the boundaries of production and performance of BOPP films. Line widths have reached 12 metres/wide for packaging film production and 6.8 metres/wide for technical applications such as capacitor films.

Where possible, producers are choosing to hold on to – and in some cases, to reinstate – older/decommissioned assets which are worth little in monetary terms, but enable them to cater for smaller, more speciality runs.

Outlook

BOPP has a strong position in many of its core applications: it is difficult to replace in essential food packaging and the expanding global snacks sector, it has greater penetration in retort pouches, and in emerging high-tech and new energy applications. While projections indicate a slight slowing in growth rate through 2026 as a result of pressure from high inflation, waning consumer confidence and widespread geopolitical conflict, it estimates that longer term up to 2030, compound annual growth will exceed 3%.

About the author: Susannah Owen is Consultant, Flexible Films, at AMI. AMI's Global Market for BOPP Film 2026 provides quantified insights into capacity, production and demand data across all regions and applications to 2030. Click **here** to request your free sample.





IMAGE: DOW

Stretching ability in both directions

Biaxially oriented film – of many different types – can offer high strength and barrier properties, and are helping brand owners to extend their packaging capabilities

Delegates at the recent *Biax Film* event, organised by **AMI**, discovered that a wide variety of film can be created with emerging materials and techniques.

Toppan said it is investing in new packaging solutions – which includes a focus to replace PET film with mono-material PP alternatives. This is difficult, considering PET's characteristics – including high melting temperature, dimensional stability, stiffness and strength. However, the company says its Toppan GL barrier PP is suitable for retort applications and sterilisation processes up to 131°C – as well as having a high barrier.

It combines this with an Irplast LISIM outer layer – which is thermostable up to 150°C, and has 0% shrinkage and high structural integrity.

The film can be used for pet food and medical and pharma applications.

To deliver this, it recently installed a new 20,000 tonnes/year LISIM (simultaneous orientation) line from **Brueckner**. This is used for five-layer production of BOPP film with thicknesses as low as 50 microns.

"This line is dedicated to the production of speciality films designed with our in-house R&D," said the company.

The line, at Toppan's Italy-based film manufacturing subsidiary Irplas), was inaugurated in September.

Another option for barrier film is SiOx coating – which the company can do at a new greenfield site in Most in the Czech Republic. Here, it makes transparent high-barrier BOPP films for various applications.

"The plant enables sustainable packaging by combining strong barrier performance with compliance to evolving environmental and regulatory requirements," said the company.

Expanding footprint

Another Brueckner customer, China-based **Forop Advanced Materials**, runs 22 lines from the German machinery supplier and has five production bases. It says it plans to expand its footprint to 25 lines this year.

The company said the market has seen recent change – with a shift towards wider, higher-speed lines and higher-quality films. Once, it would have run a 3,000 tonnes/year line at up to 130 m/min – where now it runs lines at up to 600 m/min with a capacity of up to 75,000 tonnes/year.

There has also been a shift towards food packaging – accounting for more than half its output.

As well as forging an upstream relationship with SCG Chemicals – relying on its expertise in BOPE – it has a downstream partnership with Master Kong, a leading noodle brand in China. Here, it is

Main image: Dow says its advanced PE resins are widely used in biax applications

IMAGE: OBEN



Above: Oben offers a number of films based on recycled material

supplying custom BOPP film for printable barriers, as well as introducing BOPE solutions to the company.

BOPA recycling

Finland-based **Biaxis** is a producer of biaxially oriented polyamide (BOPA) film – and has recently carried out a recycling study of BOPA with the Advanced Packaging Association (APA).

PA and BOPA are commonly used in packaging, and APA wanted to understand its recyclability, said Juho Korkala, managing director of Biaxis. The project studied a variety of film structures including PE/PA6 coextrusions, PE/BOPA laminates and others.

The project involved choosing three commercially available PE/PA film structures and one PIR PE resin for dilutions and as reference. These were then granulated and blended with PIR PE to simulate the PE recycling stream. Industrial recycling facilities then recycled and produced pellets, which were used to make film samples – first at pilot lab scale and then at commercial scale.

Five different blends were recycled into pellets at three separate facilities. Conclusions included: all recycling processes were very stable and produced good quality material; PE films containing PA did not negatively impact the process; and pressure of PA-containing samples was comparable with PE reference samples.

There were then two film extrusion trials – one at Ube, the second at Seapack. In the Seapack trial, PA-containing resins could be processed and converted into commercial films. High moisture in some samples caused issues without the correct preventive measures. Samples with BOPA – but without compatibiliser – showed worse appearance but good mechanical properties.

"Next steps include preparing a technical paper with all the results obtained, and retesting PA-containing structures with the new CEN D4R testing protocol when available," said Korkala.

Sustainable films

Meanwhile, Peru-based **Oben** presented details of its recycled and bio-based films that can be used in biaxial film.

Omar Gonzalez, regional business development manager at Oben, told delegates that the company offers several 'sustainable' options, including grades made with PIR, mechanical or chemical recycling processes – as well as PCR-based grades suitable for food contact. These include BOPP, BOPA and BOPET.

Another option is mono-material lidding films based on PET and PP. Its Terphane films are available in lock seal, peelable and resealable versions. In one example, it offers a high-barrier CPP that is laminated to a transparent or matte BOPP – for a mono-material, 2-ply structure, for applications such as coffee pouches.

It also offers ultra-thin (6 micron) BOPA that cuts material use. The film boasts high flex-crack resistance, drop test performance and reliable protection against chemical migration and aroma loss. In addition, it is double treated for improved adhesion in laminations.

"It has a sustainability advantage, with 60% less plastic versus 15-micron BOPA," said Gonzalez.

Its bio-based films, called Oben Earth, are made of oriented PEF, which compare favourably with BOPET in characteristics such as strength and elongation at break, he said – as well as a superior oxygen barrier.

"BOPEF has 10 times the oxygen barrier and three times the water vapour barrier of BOPET, so can replace PVDC and EVOH," he said. "When metallised, met-BOPEF has 10 times higher oxygen barrier and twice the moisture barrier of met-BOPET, so it can replace Al foil."

Material gain

Mitsubishi Polyester Film said that expanding capacity of biax polyester at its plant in Wiesbaden in Germany will help to boost its capability for food packaging trays.

Holger Kliesch, manager of product development, said the company expanded annual production capacity by 27,000 tonnes this year. He said that while a PET tray typically uses a PET film seal, an enclosed sauce container is usually made from PP. However, running a recycling test with the tray from mixed waste will lead to good recovery for tray and inlay, he said.

He added that PET would need to meet new PPWR regulations coming into force in Europe – which includes stipulations such as being recycled at scale and having a minimum recyclate content.

Regarding recycling at scale, he said this was not yet defined for this packaging type – but added that single digit recovery rates were not likely to be acceptable.

"Unlike PET bottles, trays are not really harmonised yet," he said. "But modern machinery can sort PET from other trays and can also separate mono layer from multilayer trays."

For recyclate levels, he said hitting the 30% target should be "no issue in tray and film" as mechanically recycled PET with food contact allowance is already available.

"Today, most R-PET originates from bottles," he said.

"Tray material is becoming more available, but since there is no shortage of R-PET from bottles it will keep a dominant position," he added.

For PET film recycling, the company began using R-PET from polyester film waste about a year ago – and the annual amount is increasing – but it is not suitable for food contact.

"We do not expect a positive future opinion on mechanical recycled PET from polyester film by EFSA," he said.

This means that R-PET from film will need to be chemically recycled for food contact approval, according to Kliesch.

Mitsubishi has also developed RSCP 25/40 for cold peel applications – for trays stored below 10°C. This is dominated by offline peel film, but RSCP is an inline solution – so the peel layer is applied during initial film manufacturing. Benefits include a lower carbon footprint – by cutting a process – and a wider process window during tray sealing.

For its part, **Dow** will focus on advancing its TF-BOPE for mono-material solutions. The technology has so far proved successful, but the company says it needs to keep refining it.

Martin Hill, application technology leader for food & specialty packaging in EMEA at Dow, said the company is creating a toolbox to allow production of sequentially stretched BOPE with: low extrusion pressure and good thickness profile; an MD modulus up to 1300 MPa; a TD modulus up to 1800 MPa; haze below 5%; shrinkage below 8% at 120°C; and seal initiation below 90°C as needed.

For printing, he said Innate TF220 can be blended with TF80 to cover the full range of stiffness requirements. ›

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IMAGE: TOPPAN



Above: Toppan inaugurated a new Brueckner BOPP line, at subsidiary Irplast, in September

Future challenges include: minimising the 2-sigma thickness variation; increasing output rates; adding in-line functionality; and raising barrier performance.

"This will require further resin and process innovation," he said.

Simultaneous BOPE can be used in barrier packaging, he said, as resins are taken through heating and stretching cycles – with the process converting large crystal into increasingly small crystals that boost tear strength. PE-rich shrink film can provide stiffness and toughness combined with superior optics, while lidding film can incorporate barrier layers in all PE structures to lengthen shelf life, he said.

Compatible technology

Compatibilisers can be critical when recycling multi-material film.

Mohammed Abdus Salam, technical service representative at **Ingenia**, told delegates there is an urgent need to recycle film, not least due to impending legislation such as PPWR. However, the task is not easy.

"The recycling industry is unable to identify, sort and separate diverse films," he said. "Polymers used in multi-layer films are immiscible."

Recycling without separation – or failure to compatibilise – reduces recyclate quality, he said.

Despite the move towards mono-material solutions, multi-layer films are still important due to their high barrier properties. When recycling such a film, a compatibiliser will reduce the particle size of the polar phase, bring uniformity to particle size distribution and increase interfacial adhesion between the non-polar matrix and polar phase.

Extra antioxidant will also support repeated mechanical recycling, he said. In a recent multi-pass study, 1% IP1415 improved melt flow stability and showed colour improvement. In addition, IP1415 and 1417 provided gel and black speck protection throughout the study of highly degraded material.

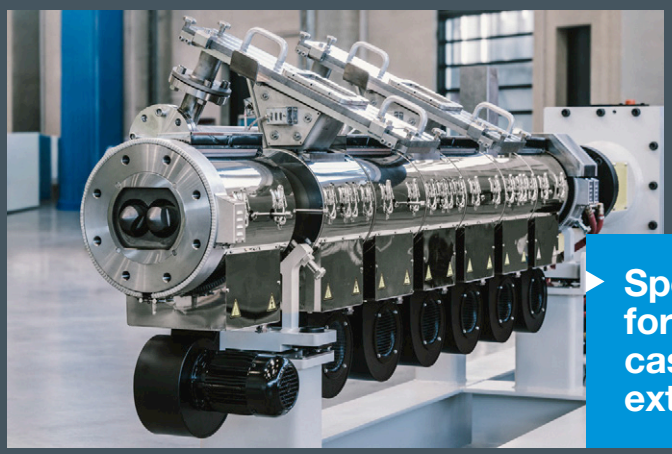
He said that Incircle IP1601 is a novel compatibilizer that "outperforms traditional maleic anhydride grafted polypropylene-type compatibilizer". Better compatibilisation of PP/PA6/EVOH increased mechanical properties, especially the Izod impact, and improved thermal stability and processability. It also enabled recycling of PP barrier film scrap into both flexible and rigid packaging applications.

■ The next *Biax Film* event will take place in 2028 but a related event, *Flexible Packaging Innovation and Recycling Europe*, takes place on 24-25 November in Vienna, Austria. For more details, contact Maud Holbrook on +44 (0) 117 314 8111 (**maud.holbrook@amiplastics.com**).

CLICK ON THE LINKS FOR MORE INFORMATION:

- **www.amiplastics.com**
- **www.forop.com**
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IMAGE: AMI

Plastics extrusion events return to Cleveland, Ohio

This year's Plastics Extrusion World Expo North America – held in November – highlights new technologies and includes a free two-day conference with leading industry figures

This year's Plastics World Expos 2026 – held on 11-12 November in Cleveland, Ohio – will once again feature both an exhibition and conference.

The free event, which takes place at the Huntington Convention Center, is North America's largest plastics industry gathering of the year.

It brings together four focused expos: Plastics Extrusion World Expo, Compounding World Expo, Plastics Recycling World Expo and Polymer Testing World Expo. Each includes a range of international suppliers, plus a dedicated conference theatre with full two-day programmes of technology talks, business debates and keynote presentations.

The event welcomed nearly 5,500 attendees and 352 exhibitors in 2025.

This year's exhibitor lineup boasts many leading industry players including Ampacet, Cabot, Cargill, Clariant, Coperion, CPM, Davis-Standard, Erema, Farrel Pomini, Galata, IMCD, JSW, KraussMaffei, KW Plastics, Lanxess, Maag, Milliken, Netzsch, NGR, Omya, PTi, Struktol, Thermo Fisher and Westlake.

This year, the show is focusing on the theme of Powering Plastics: Skills, People and the Future. This will be reflected across the exhibition and conference sessions, highlighting the importance of workforce skills, talent development and knowledge transfer.

"The expos are designed to make it easy for industry professionals to meet the right suppliers, compare solutions and stay informed," said Kelly DeFino, exhibition sales team manager at AMI.

Exhibitor slots are still available. For more information on exhibiting, visit the **website**.

The expos will showcase manufacturers of extrusion, compounding, recycling and testing equipment, plus suppliers of polymers, additives, software and industry services.

The event will also host around 100 expert speakers in its four conference theatres. They will explore key themes including materials innovations, process optimisation, recycling technologies, market trends, regulatory developments and the increasingly vital role of AI.

Details on exhibitors of most relevance to film and sheet extruders can be found on the following pages. ›

Main image: Free conference sessions are a key part of the event

Right: Atlas offers durability testing solutions for polymer and plastic materials and products



IMAGE: ATLAS MTS

Advanced Blending Solutions

ABS is a leading designer and manufacturer of material handling, blending, desiccant drying, and control systems for the plastics industry, offering products and services tailored that are tailored to the needs of its customers.

› **www.adv-blend.com**

AIS Gauging

AIS Gauging, which manufactures inline thickness gauging systems, offers sensors, frames, and user-friendly software, seamlessly integrated into comprehensive systems.

› **www.aisgauging.com**

Anton Paar

Anton Parr offers technologies including Raman spectroscopy, X-ray diffraction, particle size analysis and surface analysis. Its Paar TorqueTec subsidiary, formerly Brabender, provides solutions for characterising kneading properties and lab-scale extrusion.

› **www.anton-paar.com**

Arlington Machinery

Arlington Plastics Machinery specialises in buying and selling used equipment, consignments, liquidations, auctions and appraisals. The company's services also include testing, repairing, and refurbishing plastics machinery to meet customer specifications.

› **www.arlingtonmachinery.com**

Below: CMG Granulators specialises in granulators, shredders, and recycling systems

Atlas Material Testing Technology

As an industry leader in photodegradation and weathering testing instrument and service innovations, Atlas says it offers a complete range of durability testing solutions for polymer and plastic materials and products.

› **www.atlas-mts.com**



IMAGE: CMG

C4 Polymers

C4 Polymers develops high-performance polymers for industrial applications. It says it is dedicated to innovation and quality, providing products that cater to the evolving needs of its clients across multiple sectors, from automotive to consumer goods.

› **www.c4poly.com**

CA Picard

As a manufacturer, as well as an expert in metallurgy, CA Picard specialises in producing high-performance, corrosion- and wear-resistant precision parts, serving the extrusion aftermarket.

› **www.capicard.com**

Carnevalli

Brazil-based Carnevalli is a manufacturer of extrusion machinery, with more than 4,000 machines manufactured, delivered, and installed for clients across various industries. Its 25,000 sq m industrial facility is equipped with state-of-the-art CNC machinery.

› **Carnevalli Facebook page**

CDS Custom Downstream Systems

Based in North America, CDS provides turnkey plastic extrusion machinery for various polymer and rubber applications, including pipes, profiles, tubes, automotive parts, and medical devices.

› **www.cdsmachines.com**

Clinton Instrument

Clinton Instrument specialises in high-voltage quality control and pinhole detection equipment for wire and cable, plastics and other manufacturing industries. It also provides factory repair services, technical support and long-term product assistance for its systems.

› **www.clintoninstrument.com**

CMG Granulators

CMG Granulators makes granulators, shredders, and recycling systems. It offers a range of solutions for post-consumer and post-industrial recycling. It serves sectors including thermoforming, extrusion and injection moulding.

› **www.cmg-granulators.com**

Davis-Standard

Davis-Standard is a leader in the design and development of extrusion and converting equipment technology. The company supports a wide range of industries, including automotive, construction, consumer products, medical, and packaging.

› **www.davis-standard.com**

Dongguan Ditai Plastic Products

The China-based company has been a custom

heavy-gauge vacuum forming and thermoforming manufacturer since 1997.
› **www.ditaiplastic.com**

Dursol-Fabrik Otto Durst
The company's Autosol brand was developed for the care and protection of metal surfaces. Its portfolio includes specialised cleaning agents for the plastics industry, plus cleaning pastes, rust removers and corrosion protection products.
› **www.autosol.de**

Eagle Vizion
The company's systems combine optical technologies, NIR sensing, AI-driven analytics and data platforms for sorting materials in recycling.
› **https://eaglevizion.com**

Eisenbeiss
Eisenbeiss designs, manufactures, services and repairs industrial gearboxes. These have been used for over 100 years in various machines and equipment such as trains, power plants, cranes and plastics manufacturing machinery.
› **www.eisenbeiss.us**

FB Balzanelli USA
FB Balzanelli USA is a leader in the production of automatic and semi-automatic coilers for flexible pipes. Its coiling machines optimise the coiling, packing and storing processes for various pipe types.
› **www.fb-balzanelliusa.com**

Federal Equipment
Federal Equipment is involved in buying and selling used processing and packaging equipment in industries such as pharmaceuticals, chemicals and plastics. With over 60 years' experience, it also provides expert appraisals and asset management services.
› **www.fedequip.com**

Foremost Machine Builders
Based in New Jersey, its products include granulators, blenders, blowers/cyclones, pneumatic conveyors, discharging stations, metal detectors and separators, weight inventory equipment, container unloaders, barrel mixers and material bulk hoppers.
› **www.foremostmachine.com**

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Right: Gneuss offers systems including screen changers to process contaminated materials

Global Polymer Industries

The company, a compression moulder of UHMW-PE, says its process eliminates secondary operations, allows for moulded-in fasteners and enables over-moulding of UHMW-PE onto steel.

› **www.globalpolymer.com**

Gneuss

Gneuss offers technologies such as MRS extrusion systems, automatic screen changers and sensors for processing contaminated materials. Its Omni recycling machines are customisable and designed for high-demand applications.

› **www.gneuss.com**

Guill Tool

Guill, an extrusion tooling designer and manufacturer, uses its experience to tailor tooling and die design for customers, helping them increase efficiency and decrease production cost in operations from extruding PVC pipe to complex profile co-extrusion.

› **www.guill.com**

Hosokawa

Hosokawa Micron Powder Systems produces granulators, dedusting systems, separation systems and multi-stage recycling plants for film, cable, post-consumer materials and other general plastic recycling applications.

› **www.hmicronpowder.com**

IIA

The full range of testing capabilities from Industrial Inspection & Analysis includes metallurgical, non-destructive, dimensional, mechanical, EMC/EMI, consumer goods, calibration, environmental and chemical analysis.

› **www.industrial-ia.com**

Below: Guill uses its experience to tailor tooling and die design for customers

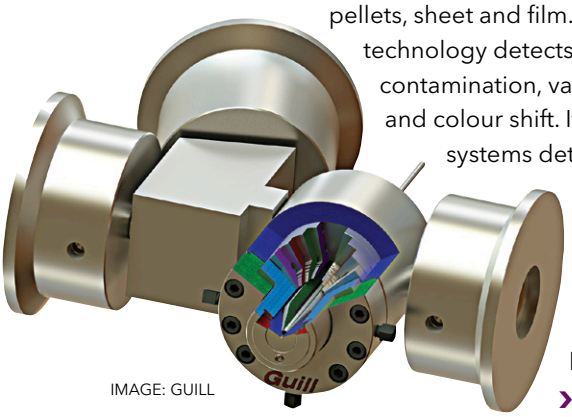


IMAGE: GUILL

Inspec.tech

Inspec.tech (Inspection Technologies) develops inspection and measurement systems for plastic pellets, sheet and film. Its pellet inspection technology detects quality problems such as contamination, variations in size and shape, and colour shift. Its film and sheet inspection systems detect common defects such as black specks, gels and bubbles, and can identify more subtle imperfections like scratches, crystals, optical distortion, haze.

› **www.inspec.tech**



IMAGE: GNEUSS

Integrated Control Technologies

ICT specialises in drive and control upgrades for old plastic extrusion lines. Its innovative solutions enhance existing equipment with modern control capabilities, offering advanced diagnostics, troubleshooting tools, and easy process data collection.

› **www.integratedcontroltech.com**

Japan Steel Works America

JSW is a leading supplier of plastics processing machinery, including twin screw compounding extruders, film and sheet machines and spinning extruders.

› **www.jswamerica.com**

Jeol USA

The company's core product groups include mass spectrometers, NMRs and ESRs, as well as electron microscopes (SEMs and TEMs).

› **www.jeolusa.com**

Konex Makina

The company manufactures extruders, corrugators and belling machines for pipe production, plus a range of auxiliary equipment.

› **www.konexmakina.com**

Kuhne North America

Kuhne North America specialises in sheet and flat-film extrusion, with solutions ranging from extruders to downstream equipment. Its K-Tool and Kuhne Anlagenbau divisions offer custom solutions, with tailored equipment for plastic converters.

› **www.kuhne-group.com**

Laidig

Laidig is a leader in designing and manufacturing bulk storage and automated reclaim systems,

particularly for materials with difficult flow characteristics. These handle a range of materials, including recyclable goods like plastic flakes and granulated vinyl.
› **www.laidig.com**

Leistritz
Leistritz makes co-rotating, intermeshing twin screw extruders (TSEs) with screw diameters of 12-260mm, and systems for compounding, devolatilisation, reactive processing, foaming and direct extrusion. Specialisms include compounding of filled engineering resins, and integration of TSEs into film and sheet systems.
› **www.leistritz.com**

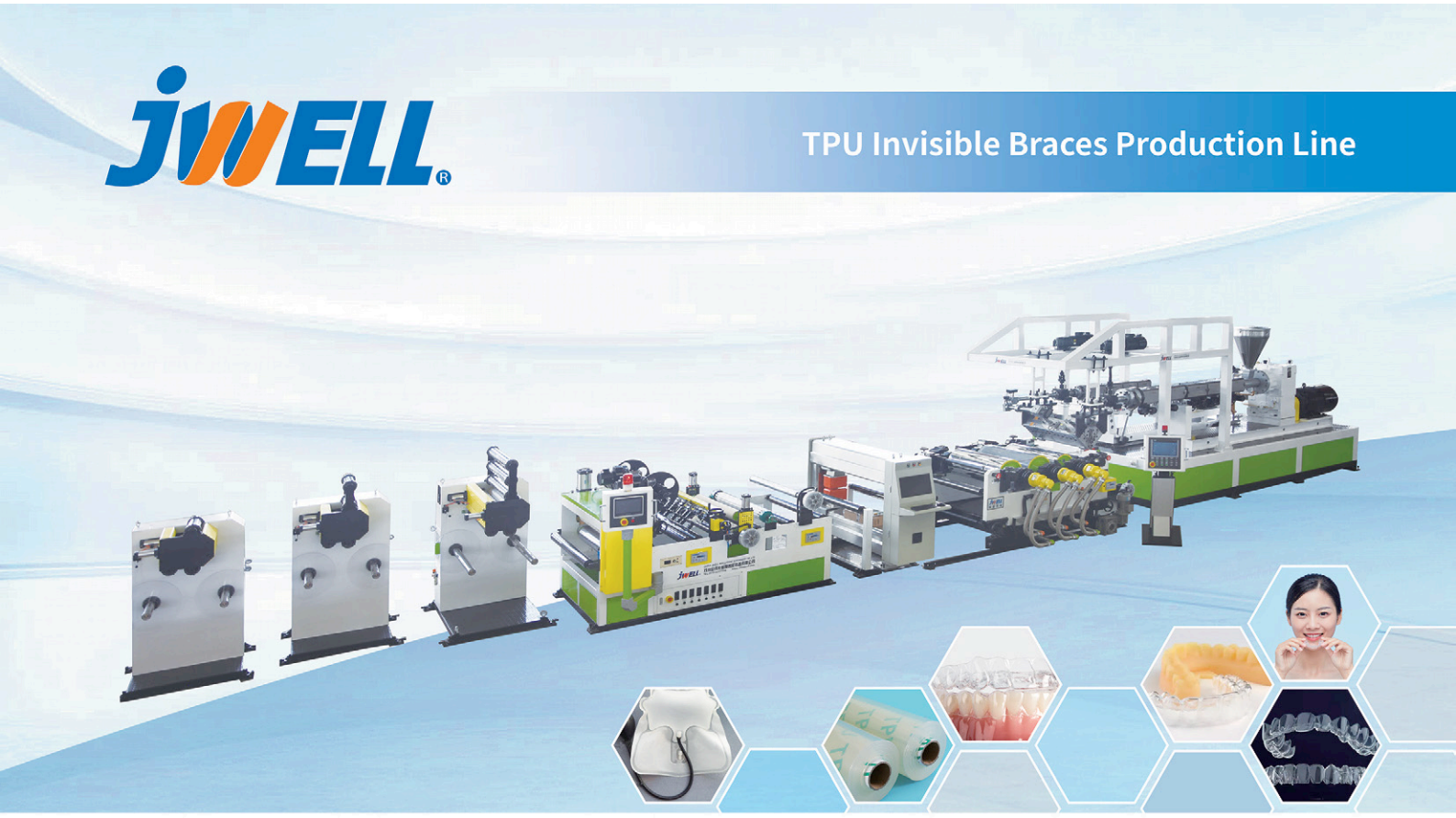
Leybold Vacuum
Leybold has a wide portfolio of standard vacuum pumps as well as specially designed vacuum systems for plastics processing and composite manufacturing.
› **www.leybold.com**

Mettler Toledo
The company is a leading global manufacturer of precision instruments, including weighing instruments for use in laboratory, industrial and food retailing applications.
› **www.mt.com**

Netzsch Instruments
Netzsch offers thermal analysis instrumentation for material characterisation and the study of properties including specific heat capacity, enthalpy, weight change, Young's modulus, conductivity, thermal diffusivity, and evolved gas analysis.
› **www.netzsch.com**

NFM Welding Engineers
NFM offers turnkey rubber and plastic extrusion systems with custom integrated controls. Its technologies include co- and counter-rotating twin-screw extruders, single-screw extruders and specialised extruders for silicone and rubber products.
› **www.nfm.net**

OA Newton
The company offers multiple conveying methods such as dilute or dense phase pneumatic conveying



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sales@jwell.cn

and various types of mechanical conveying.
› **www.oanewton.com**

Palmer Holland

The company is a supplier of speciality plastic additives and resins in the compounding, composites, film/packaging, rubber, colour and wire & cable markets.
› **www.palmerholland.com**

Piovan UnaDyn

UnaDyn (Universal Dynamics Inc) is a US-based company that specialises in the design, manufacture, and installation of automation systems for plastics processing.
› **www.piovan.com/unadyn**

Polymer Additives Group

Polymer Additives Group specialises in manufacturing flame retardants and smoke suppressants, offering non-halogen options and advanced technologies that meet regulatory and performance demands.
› **www.pagholdings.com**

Polyvel

The company is a technology-based manufacturer of innovative plastic additive masterbatches and custom compounds for the film, fibre, moulding and compounding industries.
› **www.polyvel.com**

Promix Solutions

Promix Solutions supplies key components and process technology for mixing, foaming and cooling in the plastics industry.
› **www.promix-solutions.com**

Proton Products

Proton Products supplies industrial measurement and control system, including technologies for plastics extrusion. Products include laser and ultrasonic measuring systems, digital length and speed gauges, and integrated process control systems.
› **www.protonproducts.com**

PSI

PSI - Polymer Systems Inc provides screen changers, gear pumps and custom systems for polymers and rubber. Its products include continuous dual-piston and backflush screen changers, and specialised gear pumps for extrusion and high-pressure applications.
› **www.psi-polymersystems.com**



Right: Promix supplies components and technology for mixing, foaming and cooling for plastics

PTi

PTi Processing Technologies International is a leader in high-performance sheet extrusion machinery. It offers turnkey extrusion systems for applications in packaging and industrial markets, including mono-layer to multi-layer structures.
› **www.ptiextruders.com**

Q-Lab

Q-Lab's weathering and corrosion test chambers are supplied to industries such as automotive, aerospace and building materials. Its flagship products include the QUV accelerated weathering tester, Q-SUN xenon arc test chamber and Q-FOG cyclic corrosion tester.
› **www.q-lab.com**

R&B Plastics Machinery

R&B Plastics Machinery designs and manufactures single screw extrusion and blow moulding equipment. It provides advanced equipment that enhances production capabilities and supports the development of innovative plastic products.
› **www.rbplasticsmachinery.com**

Reel Power Industrial

Reel Power Industrial is a leader in equipment and engineering solutions for winding, spooling, and coiling flexible products. It designs and builds standard and custom reeling and coiling equipment, offering innovative and cost-effective solutions.
› **www.reelpowerind.com**

Scantech

The company provides online measurement and control systems using X-ray, laser, infrared and microwave technologies. Scantech's products are used globally in production lines for extruded films,

non-woven fibres, metals and more.
› **www.scantech.com**

Schake Industries
Schake Industries manufactures spiral-rolled aluminium silos, which are weather-tight, maintenance-free and resistant to contamination, rust and flaking. Schake also provides services including installation, cleaning, repair, and relocation of silos.
› **www.schake.com**

Shini USA
The company offers heating and cooling systems to control process temperature, and plastics granulators for in-house recycling of plastic waste. Shini USA machinery is used in injection moulding, compound mixing, extrusion, thermoforming and blown film.
› **www.shiniusa.com**

Sikora
The group says it has set international standards with exceptional measuring, control, and testing devices for the wire, cable, hose, tube, pipe, sheet and plastics industries. The company employs 400 people at its headquarters in Bremen, Germany.
› **www.sikora.net**

Silon
Silon is a producer of polyolefin-based performance compounds, including crosslinked polyetheylene (PE-Xb) and cable compounds suitable for construction, automotive, renewable and industrial cables.
› **www.silonllc.com**

Smithers
Smithers provides testing, consulting, information and compliance services. Its rubber and polymer testing laboratory offers a full suite of material testing, chemical analysis, and sample preparation services for clients across several industry segments.
› **www.smithers.com**

Solberg
As well as a broad product portfolio for filtration, separation and silencing, the company offers vacuum filtration technology for plastic extrusion applications.
› **www.solbergmfg.com**

Syncro
The group says its ancillary equipment is designed to raise productivity. This includes design and manufacturing of ancillary components such as a complete gravimetric dosing system, as well as flat-die technology and precision optical inspection systems.
› **www.syncro-group.com**



IMAGE: SIKORA

Above: Sikora equipment is used to measure, control and test products such as extruded pipe

TA Instruments
TA Instruments is a leader in thermal analysis, rheology, microcalorimetry and mechanical analysis systems. Its instruments help scientists in laboratories test the physical properties of their materials.
› **www.tainstruments.com**

Texas Extrusion Service
The company provides extruder repair services, from barrel replacements and gearbox repairs to optical barrel alignments, stuck screw removals and screw and barrel repairs.
› **www.texasextrusionservice.com**

Tinius Olsen
Tinius Olsen is a specialist in static tension and compression materials testing equipment. Its systems are designed for use in research and quality control to measure material strength and performance.
› **www.tiniusolsen.com**

Trendelkamp
The company designs and manufactures extrusion system solutions that include melt filtration screen changers, polymer start-up and diverter valves, pellet-sorting classifiers, extruder degassing systems and custom processing system solutions.
› **www.trendelkamp.com**

TSM Control Systems
TSM specialises in material management for the plastics processing industry. Its product line includes silos, railcar-unloading equipment, material

Sessions show skills, tech and trends

Visitors to the event can attend a free **conference** in the *Plastics Extrusion World Expo* theatre – where industry experts will present papers on industry trends and technology updates.

Several are of particular relevance to film and sheet extruders.

On Day One, **Johan Froentjes** of **Movacolor** will cover how to remove variability from extrusion dosing. There are also two AI-focused presentations. The first, from **Bryan Debois** of **RoviSys**, explains how agentic AI can capture and scale critical factory-floor expertise and accelerate digital transformation. After this, **Laurent Ratte** of **Sciences Computers Consultants** shows how AI and virtual analysis can optimise extrusion processes and screw design.



Speakers include (from left): Bryan Debois of RoviSys, Daniel Stephens of Routsis Training and Aditya Tiwari of Xaloy

On Day Two, **Shawn Osborn** of **BYK** kicks off with a session explaining PFAS-free processing aids for extrusion, then **Daniel Stephens** of **Routsis Training** gives an insight into trouble-shooting the extrusion process. In the afternoon, **Dana Darley** of **Syncro Group** will show how advanced automation retrofits can transform film extrusion. **Joseph Mitchell** of **PSI** then illustrates how melt pumps and static mixers can improve sheet extrusion stability. Finally, **Aditya Tiwari** of **Xaloy** shows how AI can turn extrusion telemetry into real-time discussions.

There is also a panel discussion, covering how to close the skills gap in the plastics industry, featuring **Jake Martin** of the **Plastics Industry Association**, **Vii Rice** of **Pennsylvania College of Technology** and **Luis Roca Blay** of **Aimplas**.

handling equipment and blending systems.
› **www.tsm-controls.com**

US Extruders

US Extruders develops custom single-screw extruders, with highly engineered solutions tailored to customer specifications. It is committed to delivering machines that meet performance expectations, with a strong focus on customer support and satisfaction.
› **www.us-extruders.com**

USA Rolls

USA Rolls is a manufacturer of heat transfer rolls and ASME code certified steam drums in North America, all made to exact specifications.
› **https://usarolls.com**

Uway Extrusion

Uway Extrusion supplies custom extrusion systems with outputs up to 14,000 lbs/hr. It says it is dedicated to improving extrusion machinery, from engineering systems to fit in-line with thermoforming machinery to integrating compounding into the extrusion process.
› **www.uwayextrusion.com**



IMAGE: XALOY

Right: Xaloy is a leading manufacturer of barrels and screws

Virtus Equipment

Virtus Equipment says that with ACM Extrusion it offers a full range of plastic solutions including size reduction machinery. This includes heavy-duty, single-shaft shredders, plastics central grinders, beside-the-press granulators, and PVC pulverisers.
› **https://acm-extrusion.com**

Vooner

The company's products include vacuum systems for the packaging, handling and plastics industries, for thermoforming, blister packaging, pneumatic conveying, plastic extrusion and CNC routing.
› **www.vooner.com**

Xaloy

The company offers a wide range of high-quality screw and barrel designs. Xaloy's technical expertise has led to advances in improving quality and throughput for plastics processors, including inventing the first tungsten carbide barrel.
› **https://xaloy.com**

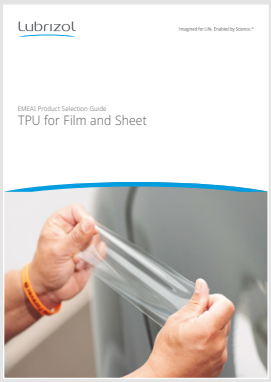
Zhejiang Jwell Pipe Equipment

The China-based company engineers a wide range of extrusion lines and related technologies for applications including pipe and sheet.
› **www.jwell.cn**

Download these new product brochures

Simply click on the brochure cover or link to download a PDF to your PC or smartphone

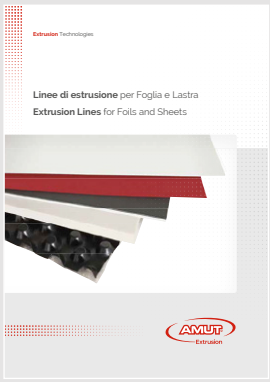
LUBRIZOL TPU FOR FILMS



Find out about Lubrizol's thermoplastic polyurethane materials for film and sheet applications in this product selection guide for EMEAI.

❯ CLICK HERE TO DOWNLOAD

AMUT: FOIL EXTRUSION LINES



Built on more than 50 years of plastics expertise, Amut's range of extrusion lines for production of foil and sheet covers a broad range of applications. They can produce mono or multi-layer sheet as thin as 150 microns and as wide as 3.3m at rates up to 4 tonnes/hr or more.

❯ CLICK HERE TO DOWNLOAD

COLINES: BARRIER FILMS



This new brochure from Colines focuses on extrusion lines for the production of barrier films for vacuum and modified atmosphere packaging to preserve foodstuffs and medical products.

❯ CLICK HERE TO DOWNLOAD

BRUCKNER: BOPP/BOPE FILMS



Brückner Maschinenbau says its BOPP/BOPE film lines offer benefits including high stiffness and sealing strength, excellent transparent barrier, outstanding puncture resistance and linear tear opening behaviour. Find out more in this brochure.

❯ CLICK HERE TO DOWNLOAD

HAN KING



Han King, based in Taiwan, has produced this brochure outlining its machines for blown film extrusion, covering five-layer film, three-layer co-extruded film, agricultural film, geomembranes; plus other products in stretch hood, lamination and bags.

❯ CLICK HERE TO DOWNLOAD

VAN MEEUWEN: ADDITIVES



Van Meeuwen's functional additive range for plastics film and sheet producers includes anti-blocks, anti-statics, anti-fogs and specialty fluids. Suitable for plastic packaging applications, products comply with EU food contact regulations.

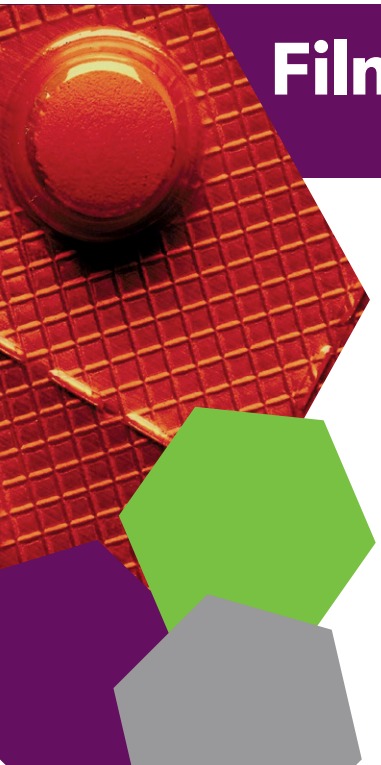
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If you would like your brochure to be included on this page, please contact claire.bishop@amiplastics.com. Tel: +44 (0) 7905 848744

Forop Advanced Materials

Head office:	Fuqing City, Fujiang Province, China
Chairman:	Cheung Fung Sze
Founded:	2012
Ownership:	Private
Profile:	Forop, founded in 2012, is a Chinese manufacturer of BOPP and BOPE films, with an annual capacity of more than 1 million tonnes. Its products are used in applications including food-grade packaging, pharmaceutical packaging and new energy materials. As well as selling into the domestic market, it exports to more than 50 countries.
Product lines:	The company produces a wide range of both BOPP and BOPE products, developed through an extensive R&D programme. It supplies BOPP film for many applications – including flower packaging and tissue wrapping – in forms including anti-fog, aluminium-laminated, double-sided heat-sealable and low-temperature sealable. In BOPE, it provides lamination film for frozen food packaging, rice packaging, liquids and some room temperature food packaging. In addition, its BOPE printing film can be used as a printing surface for multiple applications.
Factory locations:	The company has five production bases across China (in Fuqing, Nantong, Zhaoqing, Weifang and Chengdu). Its equipment includes 25 film production lines – with the latest going into production in September 2026. It uses Brueckner machines – with a top speed of 600m/min as well as slitters from Goebel and Kampf (Atlas). It has an upstream relationship with SCG Chemicals and a downstream partnership with Master Kong, a leading noodle brand in China – for which it supplies custom BOPP film for printable barriers.

To be considered for 'Extruder of the Month', contact the editor on lou.reade@amiplastics.com



Film and Sheet EXTRUSION FORTHCOMING FEATURES

The next issues of Film and Sheet Extrusion magazine will have special reports on the following topics:

November/December 2026
Thinwall packaging
Screen changers/melt filtration
Foamed sheet
Polyolefin additives

January/February 2027
Printing equipment
Polyolefins for film/sheet
Materials testing/quality control
Medical materials and applications

Editorial submissions should be sent to Lou Reade: lou.reade@amiplastics.com
For information on advertising in these issues, please contact:
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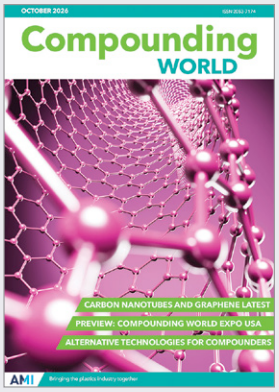
Film and Sheet September 2026
Film & Sheet Extrusion's September edition explores the impact of AI technology on masterbatch development, innovations in multilayer film, developments in plasticisers and new materials handling equipment.

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Film and Sheet July/August 2026
Film & Sheet Extrusion's July-August edition has a cover feature on the latest developments in pouches while other articles cover the varied source materials for new bio-based plastics, plus new downstream processing equipment.

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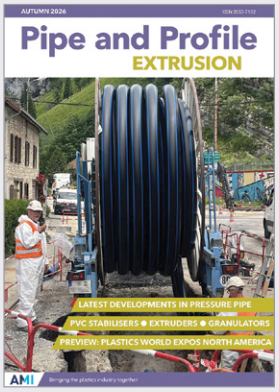
Compounding World October 2026
In the October edition of Compounding World discover how the latest nanoscale additives can support compound development, and read about exhibitors at the Compounding World Expo in Cleveland, plus alternative technologies for compounding.

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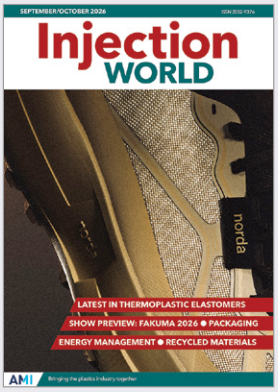
Plastics Recycling World September 2026
The Compounding & Recycling Expo in Frankfurt is previewed in the September edition of Plastics Recycling World. Recycling of food-grade polyolefins is explored in an opinion article and a feature, while sorting and granulating technologies are also covered.

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Pipe and Profile Autumn 2026
The cover feature of Pipe and Profile Extrusion's Autumn edition looks at pressure pipe companies winning praise for their work. The issue also contains features on the latest in extruder and recycling technologies, plus PVC stabilisers.

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Injection World September/October 2026
Plastics sustainability is a key topic in the new issue of Injection World magazine, covered in features on energy efficiency and recycled materials. Plus: Fakuma 2026 is previewed and TPEs and packaging moulding are explored.

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Compounding WORLD
Film and Sheet EXTRUSION
Pipe and Profile EXTRUSION
Injection WORLD
Plastics Recycling WORLD

GLOBAL EXHIBITION GUIDE

2026	**3-5 November**	PU China, Shanghai, China	www.puchina.eu
	3-6 November	Ecomondo, Rimini, Italy	www.ecomondo.com/en
	11-12 November	Plastics Extrusion World Expo North America, Cleveland, USA	https://na.extrusion-expo.com/
	10-13 November	Plastimagen, Mexico	www.plastimagen.com.mx
	1-5 December	IPF Japan, Chiba	www.ipfjapan.jp
	2-5 December	PlastEurasia, Istanbul, Turkey	https://plasteurasia.com/en/
	14-16 December	RACE, Mumbai, India	www.raceexpos.com
2027	**2-4 March**	JEC World, Paris, France	www.jec-world.events
	13-16 April	Chinaplas, Shenzhen, China	www.chinaplasonline.com
	20-22 April	UTech Europe, Maastricht, Netherlands	www.utecheurope.eu
	27-29 April	Plast-Alger, Algiers, Algeria	www.plastalger.com
	3-7 May	NPE 2027	www.npe.org

AMI CONFERENCES

24-25 November 2026	Flexible Packaging Innovation & Recycling, Vienna, Austria
7-9 December 2026	Stretch & Shrink Film North America
TBA, 2027	Polyethylene Films, USA
20-22 April 2027	Stretch and Shrink Film Europe, Malaga, Spain
1-3 June 2027	Global FilmTech Forum, Savannah, USA
14-15 July 2027	Agricultural Film and Plastics, Long Beach, USA
15-16 September 2027	Chemical Recycling, Frankfurt, Germany
September 2027	Single-Serve Capsules Europe, Malaga, Spain
20-21 October 2027	Chemical Recycling, Houston, USA
TBA, 2028	Biax Film

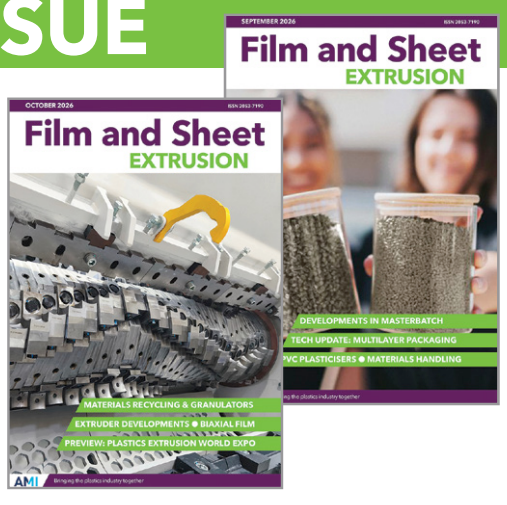
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