NOVEMBER 2022 ISSN 2053-7190

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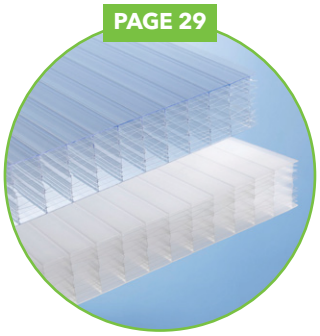
Film and Sheet EXTRUSION


PAGE 13


PAGE 21


PAGE 29


PAGE 37

PAGE 41

COMING NEXT ISSUE

› Melt filters › Foamed sheet › Static control › Polyolefin additives › Reviews: K2022, PEW Expo USA

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Collaboration aims to create more sustainable packaging

Berry Global is to collaborate with film converter and manufacturer Printpack to create packaging that supports increased customer demand for sustainability.

The companies have introduced the Preserve PE PCR recyclable polyethylene (PE) pouch. The pouch is How2Recycle pre-qualified – and contains 30% FDA-compliant post-consumer recycled (PCR) resin. It features Berry's Entour sealant film technology and the Entour Bold machine direction-oriented print film. A low seal initiation temperature sealant provides a wide processing window for stand-up pouch packaging equipment.

"Our goal in developing Entour films is to establish products that can expand sustainable flexible packaging solutions," said Caleb Triplett, product management director at Berry Global.

Through the collaboration, the companies provide finished product in formats such as pre-made pouches, vertical form-fill-seal, and horizontal form-fill-seal packaging. It can be used for multiple end-uses, including dry foods, nutraceuticals, and petfood. Consumers can recycle the marked packages through in-store recycling drop-off locations at participating retailers.

Dave McLain, senior director of sustainability at Printpack, added: "We are excited to collaborate with Berry to deliver a pouch that meets the recyclability and PCR content goals of customers. We're always seeking to minimize those trade-offs between conventional and more sustainable packaging."

› **www.berryglobal.com**
› **www.printpack.com**

IMAGE: BERRY GLOBAL

Left: Berry and Printpack have teamed up to create more sustainable packaging

Simona's positive results

Simona of Germany has boosted sales and profits in the first three quarters.

The company, which produces a diversity of products – including plastic sheet – raised sales by 38% and profitability (EBIT) by nearly 16%.

Sales for the first nine months of the year reached €553 million (US$549m), while EBIT topped €45m (US$45m). The company said it raised revenues in all business lines – mainly through increased prices, as volumes only grew marginally.

› **www.simona.de**

Walki expands in Central Europe

Finnish packaging specialist Walki is to acquire German flexpack company Folian.

Folian specialises in converted flexible packaging – using flexo printing and other downstream finishing services. In 2021, it generated sales of €27 million (US$27m). The company employs 94 people and is based in Stralsund, Germany.

The transaction requires approval from competition authorities. The purchase price and terms have not been disclosed.

"With this acquisition we continue to implement our expansion strategy and strengthen our presence in Central Europe," said Leif Frilund, president and CEO of Walki.

With capabilities such as its use of water-based printing inks, Folian complements Walki's portfolio by offering lower CO2 footprint solutions, says Walki.

Folian will join Walki's flexible packaging business and become part of its global consumer packaging division. Its founders and management team will continue in the new firm.

› **www.walki.com**

Teraplast healthy up to Q3

TeraPlast of Romania reported healthy growth for the first three quarters of the year – though its new flexible packaging division continues to struggle. Its sales of around RON28 million (US$6m) constitute around 5% of the company total – and led to a loss (EBITDA) of around RON8m (US$2m).

TeraPlast said it was "still burdened by the operational losses of the flexible packaging segment, specific to the start-up period". The company is looking to expand into foreign markets – and is signing contracts with several large international retail chains. It expects to see "a positive contribution" from flexpack next year.

› **www.teraplast.ro**

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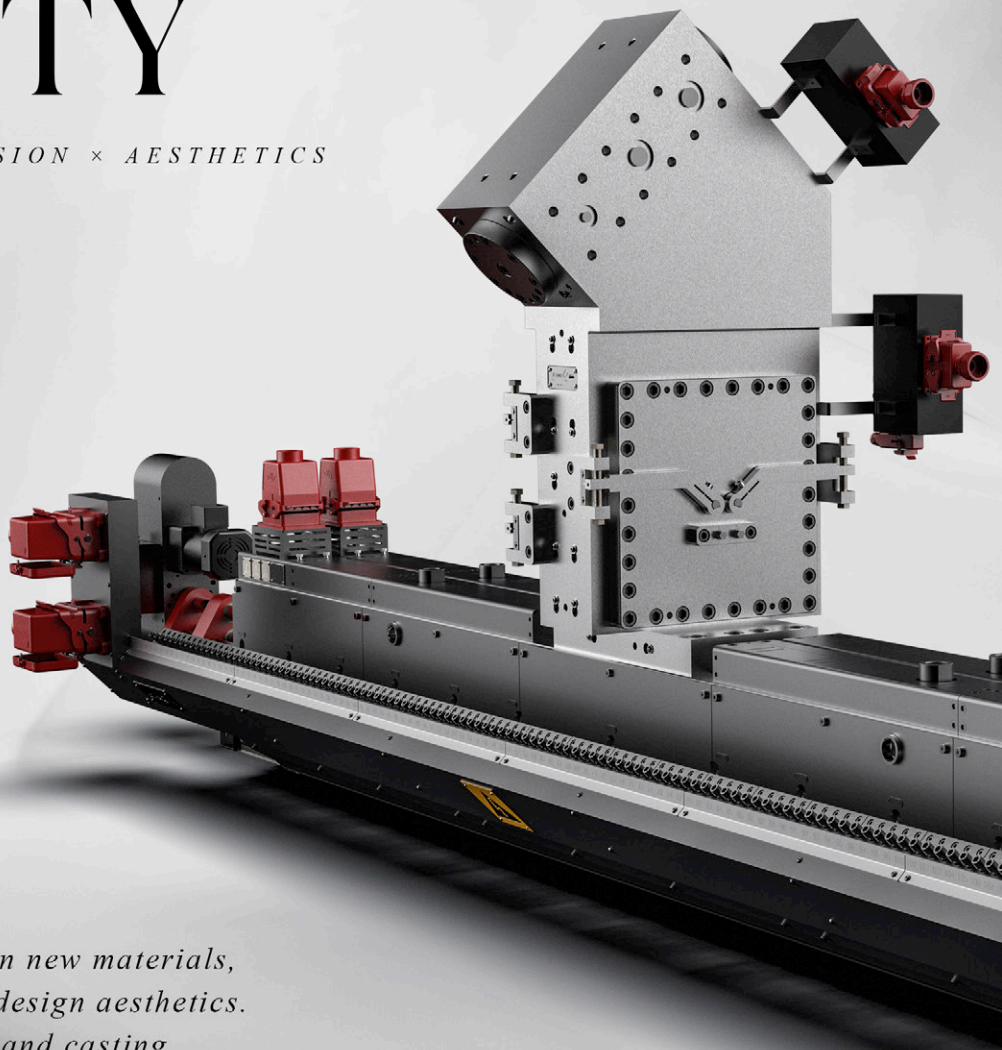

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JC-TIMES.COM

Changes due at EuPC

Trade organisation European Plastics Converters (EuPC) has made several changes to its organisational structure.

The changes come as part of its PolyVision project – launched in June 2022 – that will help the European plastics converting industry move towards a plastics circular economy.

"An important aspect for Europe's 50,000 SMEs in the plastics converting industry is that family-owned businesses often do not have the management time to foresee important strategic changes," said Benoît Hennaut, president of EuPC.

PolyVision will develop tools and find new ways to help its members who need advice and guidance in the move to a circular economy.

The first step has been to appoint Bernard Merkx as managing director, which will take place on 1 January 2023. Merkx replaces Alexandre Dangis, who has led EuPC for more than 30 years. Dangis will remain senior advisor to EuPC's president and engage with other circular plastics projects.

"I am honoured to take over this position and continue to guide the industry – with all the challenges ahead of us," said Merkx.

Merkx has worked with EuPC as manager of the building & construction division since that start of this year – while his background in plastics recycling will help drive work on the circularity of the European plastics industry, said Hennaut.

› **www.plasticsconverters.eu**

Above: Bernard Merkx (left) will be an ideal replacement for Alexandre Dangis (right) as managing director of EuPC, says its president Benoît Hennaut (centre)

PureCycle and SKGC in PP JV

South Korean-based PP producer SK GeoCentric (SKGC) and solvent-based recycling technology company PureCycle have signed an agreement to build and operate a PP recycling plant in Asia.

Each company will own 50% of the joint venture – located in Ulsan, South Korea – which will have a capacity of up to 54,000 tonnes/year. Completion is expected by the second quarter of 2025.

SKGC will bring marketing capabilities to the venture, while PureCycle will provide its purification recycling technology/IP and technical capabilities.

› **http://eng.skgeocentric.com**

› **www.purecycle.com**

PPC to take over PPT

US-based PPC Flexible Packaging has bought fellow flexpack company Plastic Packaging Technologies (PPT).

PPC produces a range of flexible packaging, including cleanroom packaging for healthcare and medical applications. By acquiring PPT, it will now have 13 manufacturing facilities in the USA. PPT's products include printed roll stock films – up to 11-colours – high barrier laminations and many pre-made pouch formats. It employs 425 people in the USA. It is owned by David and Dan Staker.

"We've watched David and Dan build PPT into one of the most respected, technology-driven firms in our industry," said Kevin Keneally, president & CEO of PPC.

David Staker, president and CEO of PPT, added: "This solidifies our position in packaging for the pet care, food and beverage, healthcare and speciality consumer markets in North America."

› **www.ppcflex.com**

SCG Chem raises capacity at Sirplaste

SCG Chemicals has invested in new technologies and machinery at Sirplaste, the Portuguese plastics recycler in which it acquired a 70% stake in April.

The investment expands production capacity for recycled high-density PE (rHDPE) and high-quality PCR by 9,000 tonnes/year, equivalent to 25% of current total production capacity. This will take Sirplaste's total PCR production capacity to more than 45,000 tonnes/year.

"SCGC has a clear business strategy for the green polymer that fulfils the market's need for sustainability," said Tanawong Areeratchakul, president and CEO of SCG Chemicals. "The decision to invest in new technologies and machinery at Sirplaste at this time is to strengthen the business and expand the commercial potential to become more competitive in the global market."

› **www.scgchemicals.com**

› **www.sirplaste.pt**

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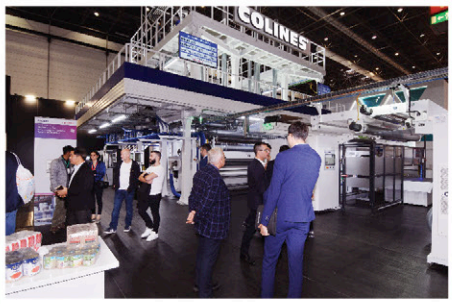

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BASF extends PCF data

BASF announced availability of Product Carbon Footprint (PCF) data for a number of new products at the recent K2022 fair.

Produced using its own digital PCF application, the cradle-to-gate calculations are based on GHG emissions from its own plants – combined with either average data for purchased raw materials and purchased energy, or supplier-specific data as it becomes available.

The first PCF data has been made available for several antioxidants and light stabilisers in its Irganox, Tinuvin and Chimassorb additive ranges.

The company also launched Ultraform lowPCF, a new addition to its POM range that offers a PCF at least 30% lower than one of its conventional Ultraform grades, it said.

› **www.basf.com**

K2022: visitor numbers exceed expectations

IMAGE: MESSE DUSSELDORF

Above: Visitors wait to enter the K2022 fair in Dusseldorf last month

Visitor numbers at this year's K2022 fell by 22% compared to the last edition in 2019.

The show – in its 70th anniversary year – drew in around 224,000 visitors, at a time when many restrictions continue to affect international travel.

The organiser, Messe Dusseldorf, had not publicly given an indication of the expected attendance, but it is understood that the final figure was at the highest end of the company's private expectations.

More than 70% of visitors came from outside of Germany, with the Netherlands, Italy, France, Belgium, Poland and Spain the most represented European visitor nations. According to Messe Dusseldorf, 42% of visitors came from beyond Europe. It said that Covid quarantine regulations had reduced attendance from south-east Asia – but that the US, Brazil and India were well represented.

■ In next month's issue, we will cover some of the new products that were launched during K2022.

› **www.k-online.de**

SI Group gets deeper into recycling

At K2022, US-based SI Group launched a new range of additives for recycling under the brand name EverCycle.

The move underlines a significant transformation in the business over the past three years, according to Robert Kaiser, VP polymer solutions and MD for the EMEA region. This includes investments to expand antioxidant production – especially its Weston 705 phosphite antioxidants – at several global sites.

"Innovation should not be limited to what we already have but also connected with the future and sustainability," he said during the show.

The first products in the EverCycle family include two additives for PET recycling and converting, which are claimed to enhance process stability and colour control and reduce acetaldehyde levels. EverCycle PET-102D and PET-103D are intended for use with products including PET trays. PET-102D is available as a pellet and PET-103D as a liquid.

There are also two additives for polyolefin recycling. EverCycle PP-101S improves stabilisation in HDPE and PP rigid packaging, while ID-101S is intended for stabilisation in HDPE flexible packaging. EverCycle ID-104P targets mechanical performance issues such as gel formation in films – which create weak spots and affect clarity.

› **https://siigroup.com**

AMI | Events

Recycling Flexible Packaging

13-14 December 2022 | Cologne, Germany

Creating circularity through increased recovery and recycling of 'hard to recycle' flexible packaging

Agenda out now! Speakers include:

Guido Aufdemkamp
Executive Director,
Flexible Packaging Europe

Mike Baxter
External Affairs Director,
Berry bpi Group

Delia Harabula
Sustainability Advocacy Lead EMEA,
Amcor

Thomas Kahl
Head of Sustainable Packaging Solutions FMCG & Industrial Channels
Mondi Group

Other speaking companies include: CEFLEX, CIRCPACK by Veolia, Erema Group, Borealis, EXPRA and many more.

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15-17 November 2022 | Vienna, Austria

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Dr Mark Dawes
European Market Development Manager
Dupont Teijin Films

Daniele Borin
Product Manager - Flexible Packaging EU
Taghleef Industries

Dr Dimitra Kapsimali
Packaging Specialist
A. Hatzopoulos S.A.

Vivianne Munnix
Engineer Market Development & Technical Marketing
SABIC

Andrea Cabanes Gil
CEO
Fych Technologies

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Norner adds seven-layer blown and cast film extrusion line

Norwegian research organisation Norner has installed a seven-layer cast/blown film extrusion pilot line – which it says will be used for barrier flexible packaging with recycled content.

The company says the line – supplied by Collin Lab and Pilot Solutions of Germany – is "the largest investment ever made by Norner".

The line can produce both cast and blown films – as well as cast sheet – up to 550mm wide. This enables films to be laminated, printed and used in commercial packaging lines. This is important for further upscaling of innovative solutions into commercial production, says Norner.

"With the new line, we can produce prototype films with even higher performance to support mono-material developments," said Asbjørn Noraberg, manager of the application pilot centre at Norner.

The line can also make mono- and multi-layer sheets up to 2mm thick, for applications such as trays, cups and other thermoformed products, it said.

Norner already has a development centre for film and sheet applications and flexible packaging which include several extrusion lines, an MDO pilot and laboratories for testing materials, films and packages.

It says the new line fits into its pilot infrastructure – allowing it to run a range of materials, as well as pilot trials with barrier film structures in both cast and blown film technology. This will allow developments in mono-material flexible packaging, and both healthcare and technical applications.

The films can also be run on MDO for investigations of MDO barrier films, said Norner.

› **www.norner.no**

Suedpack opens new flexpack plant in India

Suedpack of Germany has opened a new flexible packaging production plant in Ahmedabad, India.

The site is a joint venture with Kamakshi Flexiprints – called Kamakshi Suedpack, which was founded in 1994. The new plant has taken around 18 months to complete.

The facility hosts a range of extrusion, printing, coating and laminating machinery – for the production and finishing of high-performance films. It also complies with the IGBC standards for green buildings. It covers an area of around 47,000 sq m and is divided into areas for extrusion, printing, laminating and pouch production.

"The site is designed so we can gradually expand its capacity in order to meet increasing demand for multi-layer films for flexible packaging on the Indian subcontinent," said Tharcisse Carl, managing director of Suedpack.

He said the plant would help the company to improve its market penetration, improve response times and supply local customers promptly.

› **www.suedpack.com**

AMI | Events

Stretch and Shrink Film

November 30 - December 1, 2022
New Orleans, LA, USA

AGENDA HAS BEEN RELEASED

Connect with your industry next month in vibrant New Orleans to examine the opportunities accelerating the growth of the stretch and shrink film market

Speakers include

Alison Keane
President & CEO, Flexible Packaging Association

Shawn Cook
Technical Manager - Plastic Additives, Dover Chemical

Patrick R. Lancaster, III
Chairman and Co-Founder, Lantech

Esteban Sagel
Principal, Chemical and Polymer Market Consultants

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Recent developments in sheet include several new acrylic grades, a major takeover in the PET sheet market and new materials for both medical and rail applications

IMAGE: SABIC

Flat feat: advances in sheet materials

Sheet materials are most widely used for packaging, but more durable versions are typically applied to applications such as building and transport.

At K2022, **Simona** showed its Simorail flame-retardant interior trims for passenger trains.

It has been developed for use in interior finish applications within the rail industry and encompasses low-flammability, recyclable sheets. Target groups include designers, rail vehicle manufacturers, component suppliers and thermoformers.

The thermoformed components are also suitable for trucks, buses and ships. Compared to other materials – such as metal or glass-fibre-reinforced thermosets – Simorail sheets offer significant weight savings and high impact strength. Due to their ease of handling, Simorail parts also help to reduce transport and shipping costs.

US-based subsidiary Simona Boltaron, meanwhile, has been working with aircraft interior designer Gary Doy to create an aircraft seat back made of Boltaron's 9865 Terreform – which is recyclable, and contains a high percentage of recycled material. It meets the standards set out in the Federal Aviation Regulations (FAR) regarding flammability, heat release and smoke development. It also has high chemical and impact resistance, and a wide range of surface finishes.

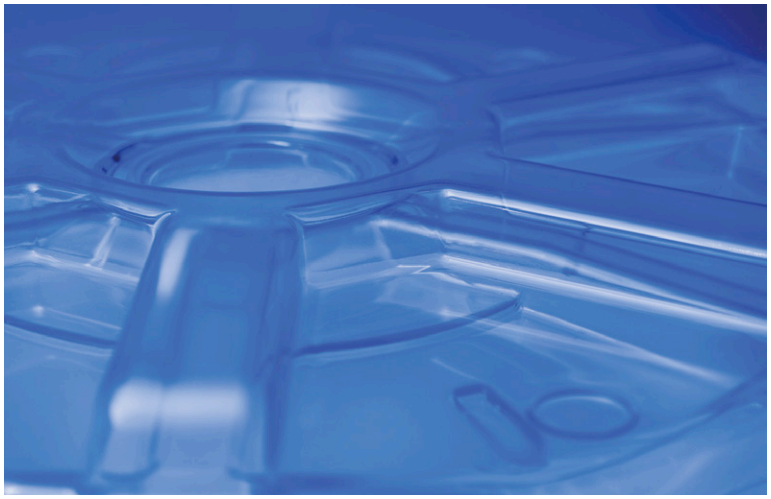
Main image: Sabic's LNP FST copolymer extrusion grades are aimed at train seating applications

Rail components

SABIC introduced several new sheet materials for railway components at the recent InnoTrans 2022 show in Berlin, Germany.

Its new Lexan sheet series – H6700, H6800 and H6900 – provides light weight, durability, aesthetics and compliancy to major railway FST standards. They are suited to a range of large thermoformed railway interior applications, such as wall and seat claddings, kickboards, window frames, partition

IMAGE: EXOLON



Above: Vivak Med is one of three products in Exolon's medical range

walls, lavatory modules and ceilings.

Compared to fibre-reinforced plastics (FRPs), the sheet series offers up to 30% weight savings per part and vehicle, says the company. As an engineering thermoplastic material, it provides superior freedom of design for cost-effective part integration and consolidation, making it suitable as a replacement for FRP and aluminium. It has high surface quality – with anti-graffiti properties to make maintenance easier. By eliminating the need for painting or coating, it makes end-of-life recycling easier.

In addition, it has developed a number of new LNP FST copolymer resins that target train seating applications designed to meet EN 45545 R6-HL2. The range includes an extrusion grade – including a bio-based version that uses 55% renewable feedstock from crude tall oil and other waste products. A complementary FST extrusion product, also available in a bio-based version, has been developed to meet EN 45545 R1-HL2 for horizontal and vertical interior claddings, including ceilings and walls.

"Railway operators are constantly seeking new material solutions to meet the challenges of increasingly stringent safety and environmental regulations while reducing cost of ownership," said Marco Dalmino, director of customer fulfillment for EMEA in SABIC's specialities business unit.

Sheet debut

Sheet manufacturer **Exolon** – formerly owned by Covestro – made its debut at the K show this year, where it presented its entire medical range – Exolon Med, Vivak Med and Inspria Med.

All products consist of 100% virgin material, meeting the requirements of ISO 10993 for the biological evaluation of medical devices. Sheets are produced in accordance with good manufacturing practices (GMP). These are used to make a wide range of medical products, including dental splints, rigid medical packaging, containers and trays for medical devices.

The company also makes sheet for building and construction. It says that its Exolon multi UV Hybrid-X is a new type of multiwall sheet. Its geometry is a complex combination of walls and air chambers., giving it high energy-saving potential. The sheets offer good thermal insulation and improved light diffusion, plus strong mechanical properties with optimised area weight.

Their low heat transfer coefficient (Ug) impresses with energy savings of more than 30% compared to standard sheets available on the market, it says.

Its abrasion-resistant (AR) solid sheet range includes various types of wear-resistant, chemical- and UV-resistant polycarbonate sheets. Combined with high breaking strength and a surface quality comparable to glass, the material has high resistance to scratches and abrasion.

With the AR 5 and AR FO product types, Exolon is expanding its range of hard-coated polycarbonate sheet. While Exolon AR can only be installed flat, the new types can be formed – despite the coating. Subsequent offline coating processes are unnecessary. The sheets can be coated on one or both sides. ›

AMI | Events

Specialty Packaging Films

6-7 December 2022 | Bangkok, Thailand

VIEW THE AGENDA AND BOOK YOUR PLACE

An Asia Pacific event on markets and technology of flexible barrier packaging for retail and industrial applications

Industry speakers include

Ying Staton
Head of Corporate Development
Plasticenergy

Horoshi Koyama
Technical Manager
Kuraray Asia Pacific

Alexander Bockisch
Head of strategy Flexible Packaging
Henkel

Baijnath Gupta
Vice President
SRF Limited

Dr. Wouter Van den Berg
Commercial Director
Yparex

SECURE YOUR DELEGATE PASS HERE

Right: Mexico's Alpek has acquired Oman-based PET manufacturer Octal

Range extension

Röhm has expanded its Plexiglas ProTerra range by adding a new grade in white – as well as transparent and black versions in additional thicknesses.

The broader range provides greater flexibility in project planning and makes it easier to adapt products, says the company.

The white grade is available in thicknesses of 3, 4 and 5mm; transparent colourless is now available in 2, 3, 4, 5, 6 and 8mm thicknesses; and the black grade is available in the thicknesses of 2, 3, 4 and 5mm.

"This is our response to the increasing demand for resource-friendly and recyclable materials for booth construction and shopfitting," said Denise Gündling, who is responsible for the furniture and interior design segment for acrylic products. "Plexiglas ProTerra is a high-quality sheet material made from around 90% recycled acrylic glass, meeting the high brand quality of the original."

Sustainable acrylic

Trinseo has developed a series of sustainable acrylic materials.

Its Altuglas R-Life acrylics incorporate chemically and mechanically recycled, reused and bio-based PMMA into a variety of product, including cast and extruded sheets.

The extruded sheet includes a minimum of 75% mechanically recycled, reused PMMA scrap material, while the cast sheet has at least 75% chemically recycled PMMA cast sheet.

The materials can be used in a range of

applications in retail, lighting, interior architecture and transport, said the company.

"We plan for Altuglas R-Life to be a growing, dynamic series – proven, with scientific tools such as LCA, to have a measurable environmental impact," said Aldo Zanetti, global sustainability manager for engineered materials at Trinseo.

For each solution, the Global Warming Potential (GWP) was calculated through a life cycle analysis (LCA). There is a GWP reduction of 35% for the cast sheets and 53% for the extruded sheets.

The sheets are processed to have equivalent mechanical, aesthetic, and optical properties of those made from an oil-based equivalent, said Trinseo. They are made at Trinseo's plants in Rho in Italy, Saint-Avold in France, and Brondeslev in Denmark.

ECTFE protection

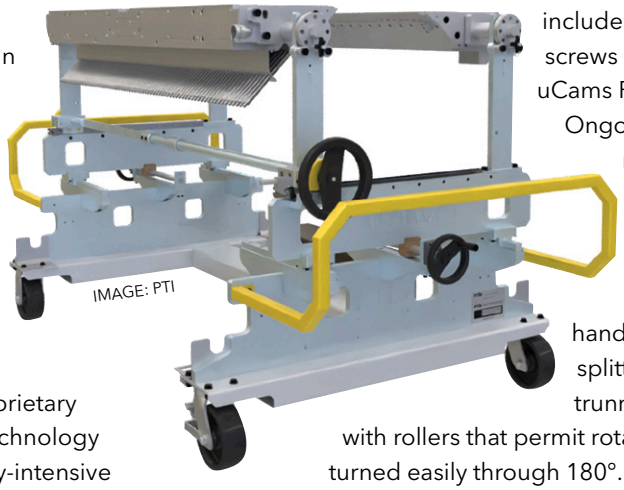
A copper mining plant in Bulgaria has installed a protective lining – using laminated ECTFE sheets from **Agru** – in a 140m-high flue gas stack.

Processing copper ores produces sulphurous waste gases, which are burned to generate energy. Sulphuric acid is extracted from the waste gases and purified air is released via the flue gas stack. Because the sulphuric acid corrodes many plastics and metals, the company used a dual-laminate solution. This consists of the fluoroplastic ECTFE as lining material and glass fibre reinforced plastic (GFRP).

The GFRP structure provides static and mechanical strength, while the ECTFE adds chemical resistance – and protects the GFRP. The application temperature of the flue gas stack is up to 70°C – and sometimes reaches 75°C. One challenge was producing sheet of the correct length for the customer. A roll length of 10m was

IMAGE: AGRU

Above: Agru's laminated ECTFE sheet has been used as a protective chimney lining



Right: PTI's uCams Plus can rotate die halves easily through 180°

used to line the 3.2m-diameter chimney in one piece.

Octal takeover

Alpek of Mexico has acquired **Octal** – an Oman-based manufacturer of PET sheet and raw material – for US$620 million.

Octal says that its proprietary direct-to-sheet (DPET) technology eliminates several energy-intensive steps in converting PET into sheet. It has customers across the Americas, Middle East, and Europe.

In Oman, Octal has a 576,000 tonnes/year PET production plant and a 400,000 tonnes/year PET sheet plant. In addition, it has an 11,000 tonnes/year PET thermoform packaging plant in Saudi Arabia and a 33,000 PET recycling plant in the USA.

Alpek says the takeover strengthens its core business – helping it move directly into PET sheet, using a process that could be expanded across the business.

"This transaction is an ideal fit for us," said José de Jesús Valdez, CEO of Alpek. "Through a single acquisition, we're able to access the profitable and growing PET sheet segment and acquire differentiated technology that provides a sustainable competitive advantage."

Alpek estimates growth rates for PET sheet to be 6.4% per year until 2025. It expects the acquisition to boost profitability for the rest of the year – adding around US$120 million in EBITDA "based on better-than-expected polyester market conditions".

Maintenance upgrade

Processing Technologies International (PTI) has upgraded its sheet extrusion maintenance programme for flat-die servicing.

Its uCams (Universal Cleaning Assembly and Maintenance System) has now been extended to include chrome rolls and feed screws – and is now called uCams Plus.

Ongoing advantages include mobility, ease of use by a single operator and safe accessibility. Previous features have evolved – including a hand wheel mechanism for splitting flat dies and trunnion supports coupled with rollers that permit rotating die halves to be turned easily through 180°.

Available in three models, uCams accommodates servicing flat dies in 710-2,500mm widths. The new feature is sold as an add-on to the base system and transforms uCams into a servicing station for chrome rolls and feed screws.

Extrusion die

Comelt launched a high-precision and flexible sheet die at K2022.

The sheet die – with coat hanger manifold, flex lip, flex restrictor bar, sliding lower lip, lip heating and adjustable, external deckling – has a sheet production width of 1850mm.

"With it, our customers can produce plastic sheets at a high technical level," said Johannes Müller, director of sales and technology at Comelt.

It meets extreme requirements with regard to surface and appearance, he said – with the sheets being used in automotive interiors, furniture, suitcases and for exhibition booth construction.

Comelt offers the entire process – including design (via 3D renderings), simulation and manufacturing. Dies are individually designed according to the customer requirements. The slot dies cover a range of applications and are available from 150mm up to 3,000mm. They are made of standard or stainless steel. The range includes mono, co-ex and multi-manifold slot dies as well as feedblocks, sheet dies and spinnerets.

Left: Comelt has launched a high-precision, flexible sheet die with a width of 1850mm

CLICK ON THE LINKS FOR MORE INFORMATION:

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IMAGE: PROMIX

Product protection: thin-wall packaging

Recent advances in thin-wall packaging include new thermoformable PLA film and biax film, the use of microcellular foam structures and other ways to boost sustainability

The trend towards reducing the amount of plastics in packaging has accelerated the need for thin-wall containers – with producers looking to slim down wall thickness as much as they can.

At K2022, **Kuhne Anlagenbau** showed a large-scale line for biaxially oriented thermoforming films using its Triple Bubble technology.

With a thickness of 80 to 120 microns, the films are only about half the thickness of conventional cast films used in food packaging, says Kuhne. The maximum achievable thermoforming ratio is 1:10. This means a reduction in material consumption – and in greenhouse gas emissions by around 50%.

Thanks to optimised cooling rates, the lines can achieve throughputs of up to 2,000 kg/h or annual outputs over 15,000 tonnes – so can surpass the productivity and profitability of cast film lines.

Typical applications of these multilayer films include vacuum packaging for transporting and storing large pieces of ham, meat or cheese. Generally based on PA, EVOH and PE, these films combine high transparency with good thermoforming characteristics and elevated puncture resistance.

Triple Bubble lines currently enable production of films with up to 17 layers at widths of up to 3,000mm double flat (6,000mm film width). Thermoforming formulations contain well below 10% PA and EVOH and permit a large reduction in thickness. Monomaterial solutions are also possible. A high level of molecular orientation improves the films' mechanical and barrier properties.

"Working with us gives customers more than just delivery and installation of the Triple Bubble line," said Jürgen Schiffmann, CEO of Kuhne. "Our service also includes application-specific film formulation and tuning of process parameters."

Main image: Promix has used chemical foaming to cut material use in PET trays by 20%

Vacuum skins

Harpak-Ulma has developed a thermoforming solution for packaging fresh foods.

Its TFS 216 is designed to produce vacuum skin packs on a flat cardboard base. It uses cardboard

IMAGE: KUHNE ANLAGENBAU

Above: Kuhne's Triple Bubble blown film lines can be used to make ultra-thin thermoforming film

roll stock to produce the flat, non-thermoformed base of the packaging – eliminating the need for a plastic tray while generating zero cardboard waste.

It is equipped with a bottom film traction system without chain, so the LeafSkin packaging produced retains all the base material, regardless of its width. LeafSkin incorporates both an 'easy open' corner to remove the lid, and a 'recycling' corner to separate the different materials and make recycling easier.

"It really delivers on two key customer concerns," said Ken Forziati, Harpak-Ulma's thermoformer product manager. "First, it's cost-effective, saving up to 48% in base material costs compared to pre-cut plastic trays. Second, it's a big step forward in sustainability – reducing both plastic and food waste."

Thermoformable PLA

Germany-based **Rohm** has developed thermoformable PLA films from renewable raw materials.

Europlex Film LJ 21123/123 is a transparent, high-gloss film. Unlike other PLA films, it has not been biaxially stretched – so can be thermoformed.

The film consists of certified, compostable PLA, which meets the requirements for industrial composting as per the ASTM D6400 US standard and the EN 13432 European standard. If it is is not disposed of correctly, its persistence is lower than that of petroleum-based films, says Rohm.

Its properties include: bio-based and industrially compostable; can be thermoformed at 55°C; highly transparent – with a light transmittance of over 92%; high tensile strength and good flexibility; and, can be stamped, cut and printed on.

On request, development samples can be provided in thicknesses of 53 to 500 microns and widths of 200mm.

It is aimed at applications such as packaging for food and non-food items, as well as decorative films for insert moulding decoration processes, or printed products such as graphics panels.

"Our experience in film extrusion enables us to produce PLA films with high optical quality," said Herbert Groothues, head of film and extrusion development at Rohm.

Conference highlights

Delegates at the recent **AMI** *Thin Wall Packaging* conference – held in Chicago, USA in June – heard about a range of technologies, including new machinery and materials.

Terry Woldorf, managing director of **CMT Materials**, told delegates how his company has tested its new Hytac plug-assist materials for food packaging.

There are a number of regulatory concerns to take into account, he said, such as those from the FDA on materials that are intended to come into contact with food. There are similar concerns about additives in food packaging – which may migrate into the food itself, for instance. These must all be taken into account, said Woldorf.

A 2005 review was intended to create a 'worst possible scenario' model. It used baselines such as: an FDA definition the each square inch of a food packaging container would contact 10g of food; and that each square inch of plug assist would contact one square inch of 60 million food containers, in a 1 billion-container production run. This led to a theoretical result of 2.7ppb migration over six years – well below the detection limit used in migration studies. "Dietary exposure would be vanishingly low," he said.

Specific migratory testing was also carried out on two Hytac products – B1X and FLXT. Here, multiple food containers were rinsed with a food simulant – an equal mix of ethanol and water. The simulant was then dried and the residue captured. Analysis was performed using liquid chromatography with fluorescence (LC-FLR) and gas chromatography with nitrogen phosphorus detection (CG-NPD).

IMAGE: ULMA

Right: Harpak-Ulma's TFS 216 produces vacuum skin packs on a flat cardboard base

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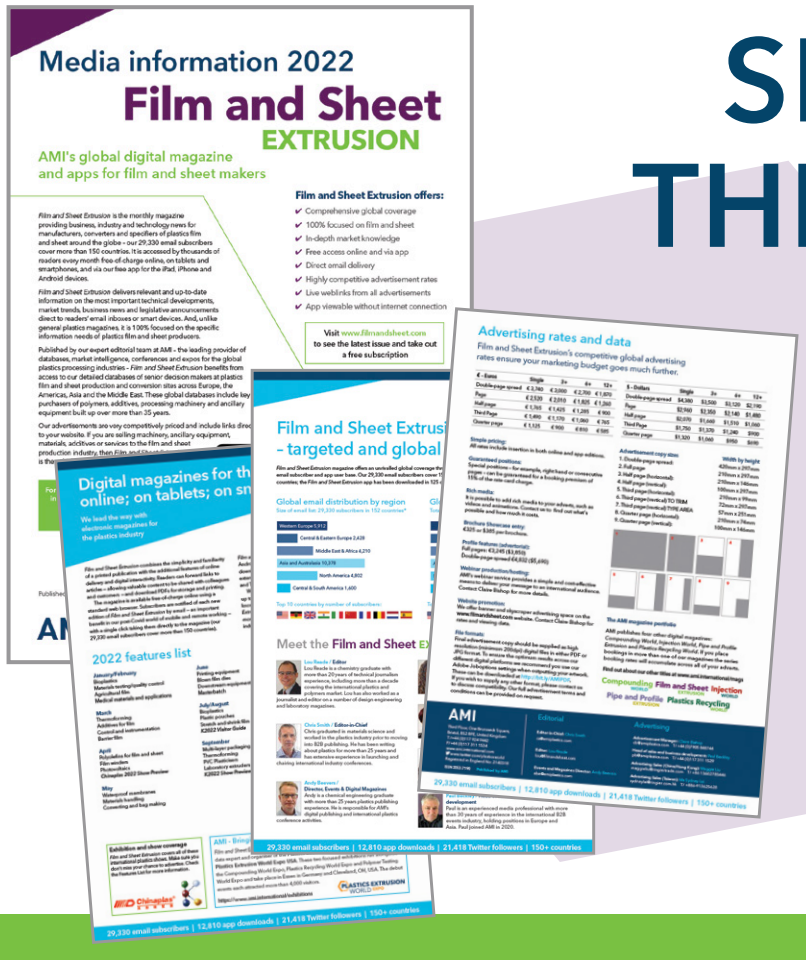

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Performance boost

Michael Moran, commercial director of **Impact Consumer Products Group (ICPG)**, talked about potential performance advantages from polypropylene (PP).

The company's XPP product can be used as a replacement for polystyrene (PS) in applications such as thin-walled thermoformed containers, he said.

He pointed to a number of advantages, including: higher barrier; mechanical improvements; higher efficiencies; and greater sustainability.

"We develop material replacement solutions that achieve sustainability targets without sacrificing packaging performance or adding significant cost," he said.

It has added barrier properties to the XPP portfolio – which he said helps to provide an alternative material for high-barrier food applications. He said there was a "180,000 lb opportunity pipeline for XPP-branded products".

Foamed solution

Andy Caufman, president of **Promix Solutions LLC**, explained how microcellular structures can reduce polymer usage in thin-wall packaging.

Above: Rohm has developed thermoformable PLA films for a range of applications

The company's technology incorporates gas bubbles into extruded structures – such as sheet – to reduce their density.

"Products produced with Promix microcellular structure are suitable for use in circular economy," he said.

Reducing plastics consumption can lead to cost savings of more than $500,000 per year depending on the application, he said. In addition, lighter components, improved haptics, better thermal and acoustic insulation, higher stiffness or even better flexibility are also possible.

The microcellular structure is typically

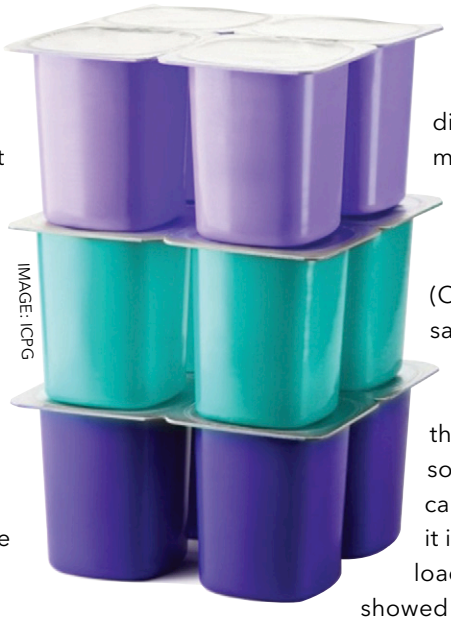
IMAGE: ICPG

Right: ICPG says its XPP product can replace PS in applications such as thin-walled thermoformed containers

introduced by flow-controlled gas dosing of carbon dioxide or nitrogen. It requires efficient internal cooling, exact temperature stabilisation and perfect melt homogeneity, he said.

It has been applied to a number of structures, including both PS and PET trays and PP cups. The foamed PET trays – 18% lighter than their conventional equivalents – maintained the top load strength of a non-foamed tray, for instance. PP cups could be made 7% lighter – while also seeing a 65% increase in top loading strength.

Circular performance

Sebastian Heitkamp, global business segment manager at **BASF** Switzerland, explained how the company's IrgaCycle additives can help to raise the performance of polymers for packaging applications.

IrgaCycle helps overcome many of the typical problems of using recyclate, including reduced mechanical and thermal performance, gel formation and lower processability. Its IrgaCycle PS 030G and 031G grades, for instance, are aimed at the flexible packaging and agricultural film markets.

As an example, PS 030G was used at a 0.2% loading in rLDPE – and managed to reduce gel formation in cast packaging film.

In addition, its IrgaClear XT is a clarifier that helps to raise recyclability, organoleptic qualities and processability, he said. It works at addition levels of 120-200ppm.

Clear advantage

Similarly, John Mara, technical and marketing manager of **Amfine Chemical**, said that clarifiers help boost the transparency and clarity of PP. The main applications of thin wall packaging are for food containers such as cups and trays, he said – offering high productivity, low cost, light weight and ease of use.

"There has been an increase in demand for home delivery and takeout due to the COVID-19 pandemic," he said. "There is also a trend towards thinner packaging from the perspective of resource saving."

By accelerating the crystallisation of PP, clarifiers can help to boost transparency and clarity and raise mechanical performance, he said. It is typically paired with either thermoforming or injection moulding for producing thin-wall packaging.

Thermoforming processes use low melt-flow PP.

"Crystallisation conditions differ from those in injection moulding because the extruded sheet is cooled while being stretched," he said.

In a test, an Amfine clarifier (CA1) – an organophosphorus salt-based product – was used to make thermoformed cups.

The sheet used was 1.3mm thick. In a performance comparison with a cyclo-aliphatic carboxylate-type clarifier (CA2), it improved transparency at loadings of 500ppm. CA1 also showed an improvement in mechanical properties, he said.

GHG reduction

Neste and **Illig** presented a joint paper on how renewably produced PP can cut GHG emissions.

Martin Bussmann, renewable polymers and chemicals at Neste Germany, detailed how the company has developed a PP grade based on renewable materials. The material is bio-based, but not biodegradable – as it is identical to conventional PP.

The material, called Circulen C14 HP 640, has been used to create extruded sheet for thermoforming – and was compared to a conventional grade.

"For sheet extrusion, it is a drop-in solution," he said. "Identical processing parameters can be used."

A comparison of the two grades showed near-identical shrinkage, stacking height, top load and wall thickness, he said.

"The final technical evaluation showed no significant detectable differences," he said.

■ The next *Thin Wall Packaging* conference is held in Cologne, Germany on 6-7 December 2022. For more details, contact Agata Swietek on +44 (0) 117 314 8111 (**agata.swietek@amiplastics.com**).

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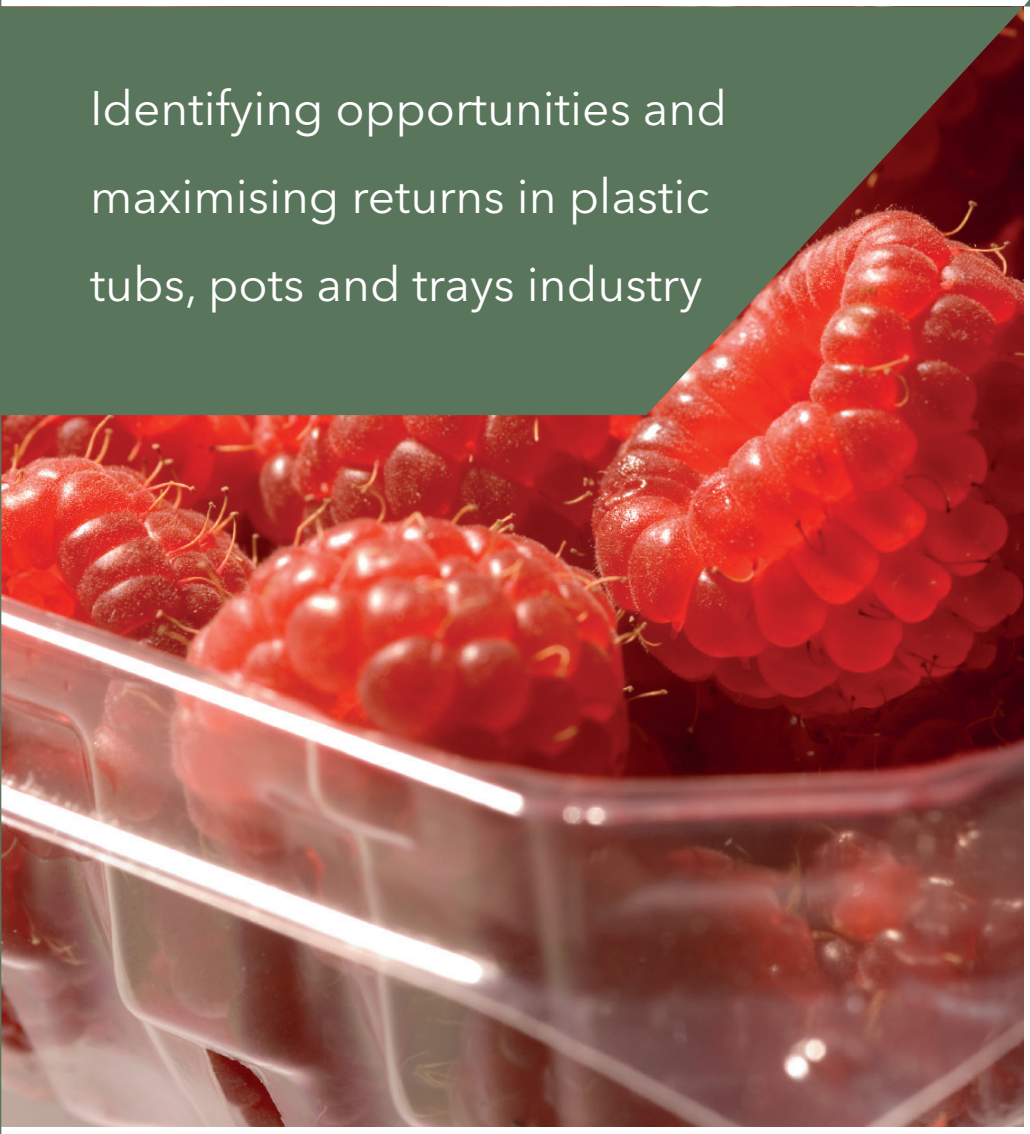

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IMAGE: EXOLON

Building work: latest in plastics for construction

Advances in plastics for building applications include lightweight rPET honeycombs, new solid and multi-wall sheets, and a scheme to cut packaging in the construction supply chain

The building and construction sector is a major user of plastics – and many producers are looking to reduce this in order to meet targets for sustainable behaviour.

UK-based roofing components supplier **Klober** made its plastic packaging more recyclable – in order to improve sustainability in the construction supply chain.

The company is in the process of introducing a number of recycled packaging solutions. It comes as plastic waste from UK construction businesses increased by nearly 46% in two years, according to government data in 2021, says the company.

"Plastic in construction components remains fundamental due to its durability and longevity benefits," said Chris Nicholls, commercial director at Klober. "Alternative materials could create more waste, due to shorter component lifespans and more frequent replacements. That said, identifying ways to cut back is vitally important. Packaging is one area that we can make a change."

The construction industry is responsible for around 23% of all plastic consumed in the UK. A report published this year – from the Alliance for Sustainable Building Products (ASBP) – highlighted a lack of substitute materials, especially for shrink wrap and pallet straps.

"We've introduced a range of solutions to reduce plastic consumption," said Nicholls. "We've switched our tapes to PET – which is the most recycled material worldwide. It's made from 85% recycled content and is 100% recyclable."

Since the UK's Plastic Packaging Tax came into effect this year, many manufacturers have ensured that their plastic packaging contains more than 30% recycled content.

"The tax was a catalyst for change, creating incentives for businesses to reduce waste," he said.

He points to the example of Klober's shrink wrap. As well as being made from 30% recycled content, it has 400% stretchability – meaning that a typical user will need 50% less, compared to conventional shrink wrap.

Honeycomb expansion

EconCore has installed a new production line for its lightweight honeycombs based on recycled PET (rPET). The panels can be used in a number of

Main image: Exolon's Hybrid X is a multi-wall sheet that has high energy-saving potential in buildings

IMAGE: KLOBER

Above: Roofing components supplier Klober has introduced several ways to cut plastic consumption

applications, including many in construction.

The line can make honeycomb cores in widths up to 1.2m. At the same time, the design of the line allows other thermoplastics – such as polycarbonate and polyamide – to be processed.

The rPET honeycomb cores are made of up to 100% post-consumer and post-industrial recyclate. They can be laminated with conventional fibre-reinforced plastics (FRPs) to make sandwich panels and parts. In combination with PET or PET composite skins, they offer recyclable, sustainable and lightweight panels, said the company.

"Recognising the global problem of agglomerated PET waste, we decided to optimise the technology towards rPET materials," said Tomasz Czarnecki, chief operations officer at EconCore.

EconCore recently presented the rPET honeycomb technology at K2022.

The company – which comprises EconCore in Belgium and ThermHex Waben in Germany – mainly focuses on PP honeycomb cores and PP composite sandwich panels.

"The demand for sustainable materials is very evident these days," said Czarnecki. "We have been extending the range of applications of our PP honeycomb technology."

Integral skin

Simona of Germany has developed its Celplast range of integral skin foam sheets, which are made at its centre for PVC foam products in Turkey.

It is likely to be added to Simona's PVC product portfolio in early 2023. Celplast is made using a semi-Celuka process – which prevents cell formation on the surface of the molten material through an immediate reduction in temperature. It produces a compact, smooth and even surface. The result is a foamed PVC sheet that is lightweight and strong – offering good surface quality and low thickness tolerance across the entire width. This makes it suitable for design and construction applications.

Insulation board

Trinseo has commercialised its Styron X-Tech 4660 polystyrene resins for extruded polystyrene (XPS).

The material – based on patented cross-linked polystyrene technology – allows customers in the building and construction industry to reduce material consumption in foam insulation boards.

"Customers can lower foam insulation board density without compromising compression strength," said Alain Minelli, business manager of copolymers and polystyrene.

With XPS insulation board, the closed cell foam structure is responsible for providing long-term

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durability and rigidity.

"The new material impacts this structure by introducing increased melt strength to enhance performance and allow for raw material and cost savings," he added.

The material offers the same performance as previous formulations, with improved sustainability. It has been validated by several Trinseo partners – who have reduced the weight of insulation board by around 5%, and carbon emissions by "a corresponding amount".

Light show

Exolon recently showcased a number of solid and multi-wall sheets at the Light + Building exhibition in Germany.

The use of LED lights puts high demands on homogeneous light diffusion and brightness. Exolon's DX range of sheet offers designers and lighting specialists the flexibility they need to implement sophisticated lighting concepts.

"Even with slim designs, hotspots disappear due to high light transmission and even brightness," it said.

Highly transparent polycarbonate raw materials – with scattering additives – ensure that the incident light colour remains radiant even when emitted. It is an ideal lighting solution for adjustable cold/warm white and RGB-coloured LEDs, said Exolon.

Optionally extras for the range include: UV-resistance, for outdoor use – with 10-year weather-resistance warranty; abrasion-resistant version, with a hard coating that increases chemical resistance and protects against scratches and abrasion; and a flame-retardant version designated as TPA – for special building requirements in the UK.

Exolon has also addressed the need for glare-free internal lighting, with its SX Sharp transparent polycarbonate solid sheet. It has a special micro-structure finish applied on one side.

Earlier this year, the company also introduced its Hybrid X product – a multi-wall sheet that has high energy-saving potential in buildings.

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IMAGE: AIMPLAS

Intelligent design: recent news in smart packaging

Recent developments in smart packaging include an industrial-scale test of a prototype sorting machine and a new way of preserving cellulose-based articles such as film stock

Active and intelligent packaging – otherwise known as smart packaging – does something above and beyond protecting its contents. By incorporating features such as sensors or watermarks, it can help to improve packaging performance, such as by further extending shelf life or streamlining the recycling process.

A smart packaging project called Nemosine – coordinated by **Aimplas** of Spain – has come to an end after four years. Its aim is to preserve items of cultural significance – including films and photos – that are made of highly unstable cellulose.

The project has created smart packaging that extends the life and improves the preservation of these cultural items and helps reduce the energy consumption and costs of traditional storage systems (usually based on cold storage below 5°C).

The new packaging contains material that adsorbs acetic acid that is released by the cellulose.

It also has sensors that detect acetic acid and nitrogen dioxide, and software to monitor the emissions and generate a degradation model for decision-making on preservation.

Acetic acid adsorbents were developed to inhibit the degradation caused by 'vinegar syndrome' – a process that threatens the preservation of cellulose-derived materials. The adsorbents are based on metal organic frameworks (MOFs) – a porous nanomaterial that can adsorb acetic acid under moisture conditions.

For easier handling, the adsorbents are included in a packaging mesh in the form of granules in sealed sachets of Tyvek, which is made of HDPE fibres. Tests show that the adsorbents are effective, mechanically stable and have high adsorption capacity. ›

Main image: A new type of smart packaging adsorbs acetic acid, which protects items made of cellulose

IMAGE: AIMPLAS

Above: BeonNet is developing bioplastics-based active packaging for cosmetics applications

To prevent fungal contamination, the mesh can be filled with silica gel sachets to dry the damaged material first – after which MOF sachets can be installed.

Separate to this, Aimplas is a partner in the BeonNet project – which is developing bioplastics for active packaging for cosmetics applications.

The project relies on sourcing biomass from trees and shrubs that are grown on marginal land. It covers the cultivation and harvesting of selected species, extraction and purification of essential oils and plant extracts, and manufacturing a variety of packaging materials – including activated carbon and bioplastics.

Aimplas will produce PLA from lactic acid – produced by fermenting sugars in plant biomass waste. Essential oils with different active properties – such as antimicrobial action – will be added to the PLA, and used to make cosmetics packaging. Aimplas is collaborating with Laboratorios Maverick to produce the packaging, and with Idoasis as a supplier of active substances.

Shelf-life assessment

Oli-Tec has developed an intelligent label technology for products that are temperature- and time-sensitive.

It says this will help to reduce food waste – which in turn will cut greenhouse gas emissions.

The smart labels can be applied to any product with a shelf life of between five and 15 days. They feature an integrated visual indicator that is sensitive to time and temperature. It gradually changes from yellow to red – more slowly in cool

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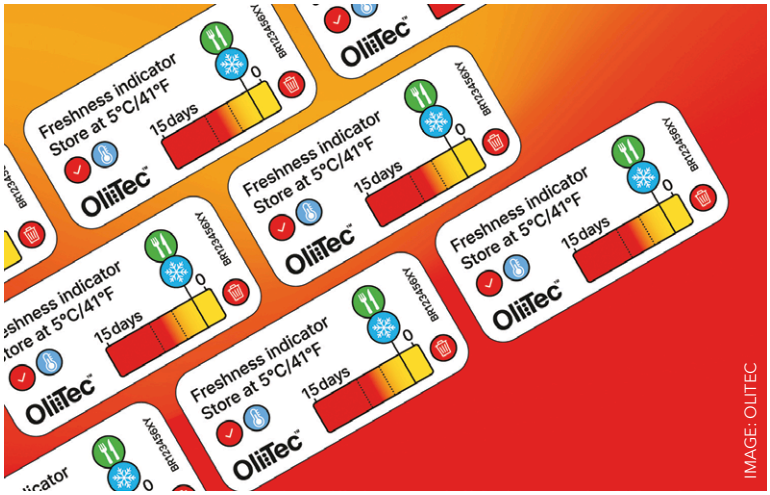

Above: Oli-Tec's intelligent label will help reduce food waste – and cut greenhouse gas emissions

temperatures and more quickly in warm conditions. This provides a clear, visible 'call to action' for both retailers and consumers.

The technology can be tailored to the product being labelled, using customisable expiry periods and personalised graphics. Labels are made from standard recyclable label stock materials and can be activated and automatically applied using traditional high-speed label applicators.

OliTec says that a study conducted in Denmark showed that the smart labels reduced in-store food waste by 20%.

The company says similar reductions could be achieved at home – if products had a visual label rather than a printed 'use by' or 'best before'.

"We wanted to develop a technology that is easy to integrate into the complex processes in the supply chain and in-store, so each label could play some part in reducing waste," said Nik Richardson, CEO of Oli-Tec.

Test validation

The 'digital watermarks' initiative (also known as Holy Grail 2.0) – coordinated by **AIM** – has completed semi-industrial validation of a prototype sorting unit.

Results show that the digital watermark technology can achieve more granular sorting of packaging waste at scale – such as developing separate food and other PCR streams that currently do not exist.

This would open up new recycling streams and overcome the limitations of existing near-infrared (NIR) sorting technologies, said AIM.

The prototype system achieved high detection rates of different plastics – of typically 99% accuracy. In addition, it achieved an average 95% range for ejection and the same for purity.

"We have achieved our objective of proving that digital watermarks can increase intelligent sorting of packaging waste at scale, enabling new recycling streams that currently do not exist," according to Michelle Gibbons, director general of the organisation.

The semi-industrial tests began in October 2021, which replicated real-world industrial conditions. Comprehensive tests were performed on around 125,000 pieces of packaging at 3 m/s belt speed, with soiling, crushing and throughput representing routine industrial operations. Additional tests were performed at 4.5 m/s – with severe soiling and crushing – which did not affect performance.

Ripening bananas

DK11 K-Resin from **Ineos Styrolution** has been used to make controlled atmosphere packaging (CAP) film for better fruit preservation.

It says that Chinese banana farmers have used it to control the ripening of bananas during transportation from Yunnan to other coastal regions in China.

The tough, high clarity film preserves the freshness, colour and integrity of the fruit while allowing to ripen organically ripen, without the use of preservatives or ripener during transportation.

"We are very pleased with the performance of the CAP film," said Jary Liao, director of transparent specialities for Asia-Pacific at the company. "Its excellent gas permeability allows for the organic ripening of the bananas, while preserving the shelf life of the fruit especially during long journeys."

Design book

RecyClass says its *Design Book* is a practical guide clarifying the concepts of recyclability and design based on a science-driven approach. It provides a step-by-step explanation and guidance on how to produce rigid and flexible plastic packaging to make it more compatible with recycling.

As well as providing insights into how Design for Recycling guidelines work, the document also looks into the realities of sorting and recycling processes and how they determine packaging recyclability.

"Design for Recycling is a crucial first step in ensuring that a product will be recyclable at the end of its use phase," said Paolo Glerean, chairman of RecyClass.

CLICK ON THE LINKS FOR MORE INFORMATION:

- **www.aimplas.es**
- **www.oli-tec.com**
- **www.digitalwatermarks.eu**
- **www.ineos-styrolution.com**
- **https://recyclass.eu**

COATINGS

Film adds to food safety

Aptar recently demonstrated its InvisiShield antimicrobial delivery system.

It uses Aptar's proprietary three-phase Activ-Polymer platform to mitigate the risk of food-borne illness from pathogens introduced through the supply chain. The material is deployed as an extruded Activ-Film material fixed to the lidding film of a package. After the package is sealed, the InvisiShield system releases a controlled amount of chlorine dioxide to reduce pathogens commonly associated with minimally processed foods.

■ For similar technology, see the smart packaging feature on **page 37**.

› **www.aptar.com**

ADDITIVES

Spanish project develops antimicrobial facemasks

A collaborative Spanish research project is developing masks and face shields with antimicrobial properties – to help prevent viral and bacterial infection.

The project, called Dotmask, looks at new coatings and plastics obtained from plant extracts that improve the performance of personal protective equipment (PPE).

The initiative is coordinated by chemical company Lamberti.

Partners include Aimplas, the Medical Research Institute of La Fe Hospital in Valencia, biotech company ADM Biopolis and mask manufacturer Airnatech.

The materials are being developed to reduce infection from pathogens – which are frequently

IMAGE: AIMPLAS

transmitted by air. Viruses and bacteria can be particularly hazardous in hospital environments, where they can become resistant to drugs.

Existing coatings typically use inorganic, metal-based additives. However, has some disadvantages, such as a tendency to corrode in some environments and the possible release of active ions – with potential toxic effect. Plant-based compounds could help to overcome these problems. Dotmask is developing materials based on bio-based phenolic compounds with strong antimicrobial activity for integration into PPE.

The coatings will be applied to plastic sheet that is used to make protective face shields.

› **www.aimplas.es**

POLYOLEFINS

Nova launches PE from recyclate

Nova Chemicals has developed a new, mechanically recycled polyethylene resin.

The grade, EX-PCR-NC4, allows converters and brand owners to meet sustainability goals without compromising package performance – in applications such as shrink film,heavy-duty sacks and protective packaging.

The material is made completely from post-consumer recycled polyethylene (rPE). It is sourced from distribution centre flexible film, which includes a blend of back-of-store stretch and front-of-store consumer drop-off. Source materials are processed to have a low odour.

IMAGE: NOVA

"Through customer trials and applications development, we have successfully incorporated our new rPE resin into various end-use formats," said Anna Rajkovic, circular economy market manager at Nova.

Commercial quantities of the grade are already available.

Alan Schrob, mechanical recycling director at Nova, added: "By utilising rPE, we're diverting plastic waste from landfills while enabling a fully-recyclable new product. We aim to deliver commercial quantities of consistent high-quality rPE products to meet the needs of our customers."

› **www.novachem.com**

BOPP

Thin glossy film cuts carbon impact

Innovia Films has developed Rayoface CSA46 – a clear, one-side gloss-coated BOPP film.

The product is aimed at food and beverage, household and personal care applications. The 46-micron film is around 10% thinner than most facestock films. This gives it a higher yield and reduces its carbon impact compared to thicker coated facestock films, says Innovia.

Rayoface CSA film is a high clarity, low haze film giving enhanced product visibility and a 'no-label look' appearance. It has a wide print window and is suitable for printing with flexo, gravure, screen offset and letter press – as well as with UV, low-migration and water-based inks.

"The performance of CSA46 means it has excellent cold foil adhesion and appearance, allowing eye-catching graphics and label designs," said Alasdair McEwen, product manager for labels at Innovia. "It provides balanced orientation for enhanced die-cutting and die lifetime and also has EU food contact compliance."

› **www.innoviafilms.com**

IMAGE: INNOVIA

BIOPLASTICS

ESD packaging for electronics includes corrosion protection

Cortec has developed a range of self-sealing bubble-wrap bags – offering protection against both corrosion and electrostatic discharge (ESD).

ESD is a serious problem in the electronics industry and can undermine product integrity. The new EcoSonic bags – based on Cortec's Nano-VpCI technology – offer protection against ESD while also protecting against corrosion.

The bags combine vapour-phase corrosion inhibitors with self-seal cushioning bubble bags and ESD protection to safeguard sensitive electronics from three threats: triboelectric charge generation, corrosion, and physical damage. They protection metal components from corrosion by saturating the enclosed airspace with vapour-phase corrosion inhibitors. These form a protective molecular layer on all packaged metals without leaving a noticeable film or residue. The bubbles add cushioning and physical protection.

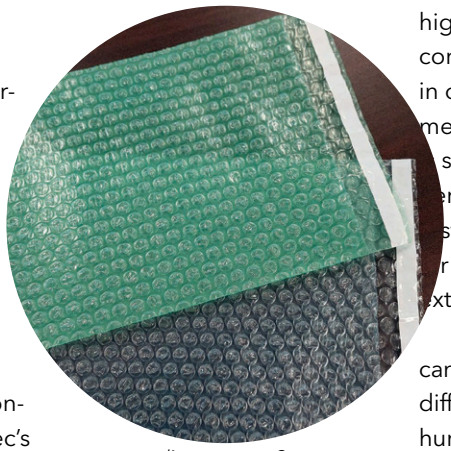

IMAGE: CORTEC

While ESD protection is standard in the industry, corrosion protection is not. However, Cortec says that electronics components are highly complex – and may contain multiple metal types in one unit. In dry environments, the risk of corrosion small – but when components are shipped over long stances, they can encounr unpredictable and xtreme environments.

Good storage options can also be expensive and difficult to find in hot and humid climates where it is not uncommon for large computer companies to require climate-controlled warehousing for electronics. Combining corrosion protection with ESD packaging and bubble wrap tackles three threats at once for greater convenience and efficiency in electronics packaging. Any discoloration – or corrosion – on a component may cause the end user to reject it due to the possibility of failure, says Cortec.

› **www.cortecpackaging.com**

FLEXPACK

JSW OK for TF-BOPE

SABIC says that Japan Steel Works (JSW) has validated the use of its LLDPE BX202 material – a linear low-density polyethylene (LLDPE) for processing on tenter frame extrusion equipment for biaxially oriented PE (TF-BOPE) packaging film.

The collaboration endorses the use of the material on JSW film lines, extends the machine supplier's reach into BOPE film for flexible packaging.

JSW has trialled the material on a pilot film manufacturing line in Japan, to prove its performance. The material combines processability with good mechanical and optical properties.

› **www.sabic.com**

› **www.jsw.co.jp/en**

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Here is what our attendees thought:

"Interesting presentations on the ongoing innovation in the flooring business."
Berry Alloc

"Valuable presentations and good networking opportunities."
Vynova

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CONTROL

Common control now available for all ancillaries in Conair portfolio

Conair has completed its goal of implementing a common control across all its HMI-interfaced ancillaries – with a system for its dryers and drying equipment.

Users can equip many of Conair's drying products with a control platform whose interface shares the same interactions and features as other Conair ancillaries. These include its desiccant dryers, PET crystallisers, hot air dryers and hopper temperature controllers.

"Introducing the DC-B Common Control across our drying product line represents an effort to create an identical user experience across virtually all of Conair's upstream auxiliary equipment," said AJ Zambanini, drying products manager at Conair.

Its dryer customers now have a control system that offers the same interaction style for throughputs above 15 lbs/hr, he added.

"The same control interface is already available in our blending, conveying, and temperature control auxiliaries, so there's much less training involved for an operator to understand and master the use of different equipment."

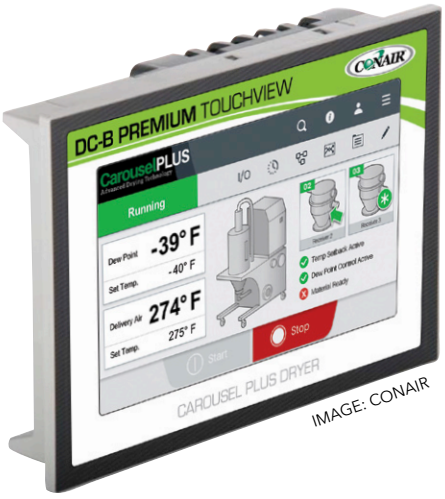

IMAGE: CONAIR

Since introducing the platform into dryers, it has has added three new features. The first is an automatic Airflow Monitor, which electronically measures the total airflow quantity (cfm) in all drying equipment – complementing automatic dewpoint monitoring – to ensure that the quality and quantity of drying airflow is correct. Secondly, it has 'setback on' input. Ordinarily, temperature setback is automatically triggered over a period of hours. The new feature allows the system to reduce to a standby temperature based on machine downtime. This gives the user an additional level of control and provides energy-saving and material overdry protection automatically. Finally, it has self-adapting 'smart' recipes: the DC-B control offers 20 standard recipes and can store up to 3,000 production recipes overall. These take into account the basic dry parameters of temperature and dew point – and also include the loading criteria and alarm setpoints.

As more features such as VFD and level control are added, these inputs are also captured – making the recipes truly 'smart'.

› **www.conair.com**

RECYCLING

Handheld kits for sorting plastic types

Trinamix has launched an initiative to supply waste management projects with 50 starter kits – helping them to identify different plastic types instantly.

Each kit contains its mobile NIR spectroscopy solution, a smartphone, data analysis in the Trinamix spectroscopy cloud, real-time access to results via mobile app and the documentation of results in the customer portal. The usage is free for one year.

The aim is to work with a range of organisations to explore where plastic waste occurs, how it is handled and where it ends up. The technology helps to improve waste sorting by identifying a broad range of plastic types. This is especially relevant in areas where waste management infrastructure is limited, or industrial sorting solutions are not viable. The solution has been used by companies worldwide.

"Our solution allows users to identify plastic waste on the spot within seconds – using a mobile device," said Adrian Vogel, business development manager at Trinamix. "This could be used to train waste sorters – to improve the purity of sorted bales."

At K2022, Trinamix and its partner – the Alliance to End Plastic Waste – explained how they would bring the technology to remote areas.

Justin Wood, vice president of strategic partnerships at the Alliance, said: "We are using the handheld device to help some of our projects engage with communities and education more effectively.

"This will improve the sortation and characterisation of plastic waste and maximise bale quality and economic value."

› **www.trinamixsensing.com**

› **www.endplasticwaste.org**

Download these new product brochures

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

DIING KUEN: BLOWN FILM

In this brochure, Taiwan-based Diing Kuen provides all the specifications of its blown film technology to produce mono, two, three and five layer films. The film lines are divided into four categories: HTRL horizontal top rotating; EBLR vertical top rotating; BFL fixed; and other types.

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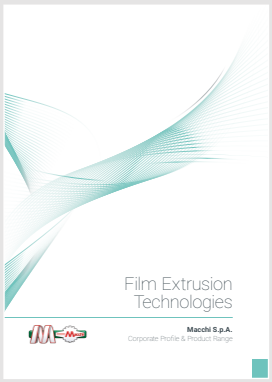
MACCHI: FILM EXTRUSION



This 28-page brochure from Macchi covers the company's wide range of film extrusion technologies including coextrusion lines, wide webs, die heads, take offs, winders, trim recovery and control systems.

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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.

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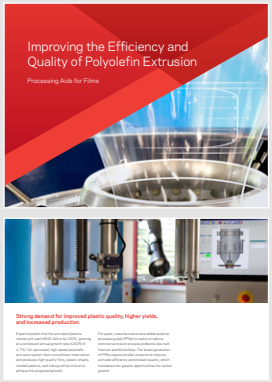
CHEMOURS: PROCESSING AIDS



In this brochure, Improving the Efficiency and Quality of Polyolefin Extrusion, Chemours explains how issues including melt fracture and extrusion instabilities can be addressed with its Viton FreeFlow products, the next generation of polymer processing aids.

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POLYSTAR: PLASTICS RECYCLING

Recycling Made Simple is the brochure from Polystar where you can find information about all of the company's plastics recycling systems. Its Repro Flex lines can recycle post-industrial and post-consumer PE/PP packaging and PP raffia/ woven materials.

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PTI SHEET EXTRUSION

PTI is a leading provider of high quality plastic sheet extrusion systems. In this brochure, find out more about PTI's portfolio of products including G-Series sheet extrusion systems, dryer-less HTVSE PET/PLA systems, Super-G high speed systems and co-extrusion systems.

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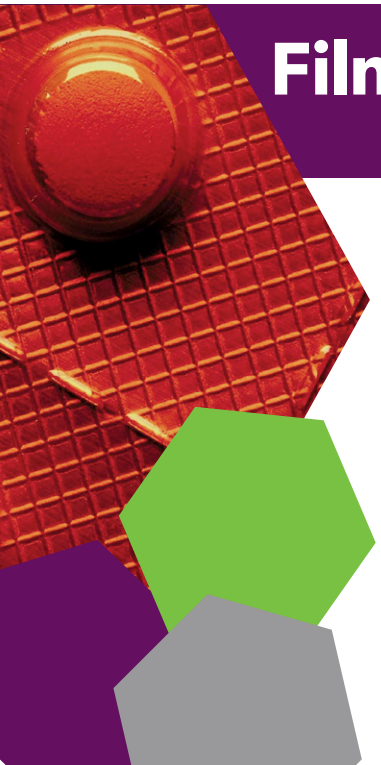
If you would like your brochure to be included on this page, please contact Claire Bishop claire.bishop@amiplastics.com. Tel: +44 (0)1732 682948

Wentus

Head office:	Hoexter, Germany
Managing director:	Christof Renz
Founded:	1965
Ownership:	Private (part of Clondalkin)
Employees:	Around 280
Profile:	Wentus, founded in 1965 as Schrader Verpackungen, is a specialist in flexible packaging films. It began extruding cast polypropylene (PP) film in 1972 and co-extruded polyethylene (PE) in 1987. Its products include skin films, lidding films, flowpack, liner film and bottom films, which are used mainly in food applications – ranging from baked goods and dry products (such as spices) to cheese, sliced meat and raw meat and fish – as well as in consumer goods.
Product lines:	Wentus produces a wide range of flexpack films – including its Wentopro SkinTight skin films for barrier packaging of products such as raw meat and fish. The films are characterised by strength, surface shine and suitability for microwaving. As well as a standard version, there are films that allow lower packaging temperatures, greater sustainability, better printing and higher puncture resistance. In addition, it offers lidding films in pure PE or PP, while its Klappack envelope packaging is used for products such as sliced meat and cheese.
Factory locations:	The company makes all its products at its Hoexter site in Germany. Here, it uses a variety of methods – including both blown and cast film production, printing and lamination – to produce its range of products. It was recently involved in a collaborative project with Saperatec and Henkel, to create a circular flexible packaging prototype that uses around 35% post-consumer recyclate (PCR).

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



Film and Sheet Extrusion FORTHCOMING FEATURES

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

December 2022
Screenchangers/melt filters
Foamed sheet ● Polyolefin additives
Static control/web cleaning
K2022 Show Review ● PEW Expo USA review

Jan/Feb 2023
Bioplastics
Materials testing/QC
Agricultural film
Medical materials/applications

Editorial submissions should be sent to Lou Reade: lou@filmandsheet.com

For information on advertising in these issues, please contact:
Claire Bishop: claire.bishop@amiplastics.com Tel: +44 (0)1732 682948

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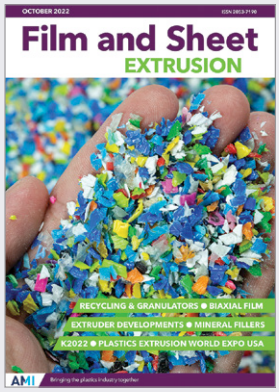

Film and Sheet
October 2022
The October issue of Film and Sheet Extrusion takes a look into the world of plastics recycling technology, with other features covering extrusion machinery and biax film. Plus there are previews of K2022 materials and AMI's Plastics Extrusion World Expo North America.

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Film and Sheet
September 2022
The September 2022 edition of Film and Sheet Extrusion provides an update on thermoforming developments and explores innovations in plasticisers, multi-layer film recycling, and lab extruders. Plus, we preview some of the new machinery to see at K2022.

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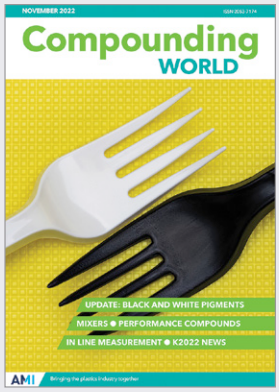

Compounding World
November 2022
The Compounding World November issue has a cover feature that looks at black and white pigments and how they must meet demanding regulatory, environmental and performance needs. Plus features on high-performance compounds, inline measurement and mixers.

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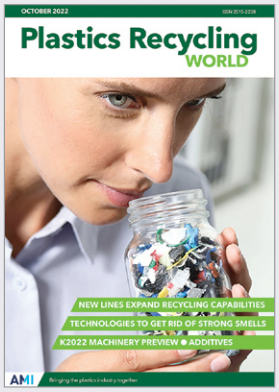

Plastics Recycling World
October 2022
The October 2022 edition of Plastics Recycling World looks at the latest technologies for removing odours from recycled plastics. This issue also explores the latest developments in recycling extrusion lines and additives. Plus, we preview the US Plastics Recycling World Expo.

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Pipe and Profile
October 2022
The October edition of Pipe and Profile magazine looks at the latest advances in pipe inspection. This issue also explores new developments in material handling equipment and PVC-O pipe technology. Plus, a preview of some of the new material introductions to see at K2022.

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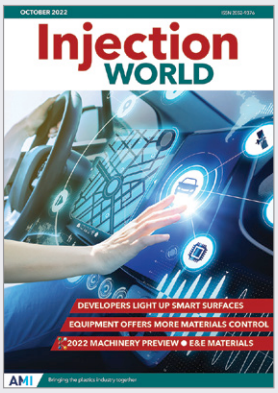

Injection World
October 2022
The Injection World October issue contains features covering surface technologies including integrated electronics, new equipment for materials handling and new E&E materials, plus there is a machinery preview of K2022.

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Injection WORLD
Plastics Recycling WORLD

GLOBAL EXHIBITION GUIDE

2022	**9-10 November**	Plastics Extrusion World Expo North America	https://na.extrusion-expo.com/
	23-26 November	PlastEurasia, Istanbul, Turkey	https://plasteurasia.com/en/
	29 Nov-1 Dec	Plastic Print Pack West Africa, Accra, Ghana	www.ppp-westafrica.com
2023	**17-19 January**	Swiss Plastics Expo, Lucerne, Switzerland	www.visit.swissplastics-expo.ch
	1-5 February	PlastIndia, New Delhi, India	www.plastindia.org
	28-30 March	Plastic Print Pack Nigeria, Lagos, Nigeria	www.ppp-nigeria.com
	28-30 March	Expo Plasticos, Guadalajara, Mexico	www.expoplasticos.com.mx
	17-20 April	Chinaplas, Shenzhen, China	www.chinaplasonline.com
	4-10 May	Interpack, Dusseldorf, Germany	www.interpack.com
	23-26 May	Plastpol, Kielce, Poland	www.targikielce.pl/en
	30 May-2 June	Equiplast, Barcelona, Spain	www.equiplast.com
	5-8 September	Plast 2023, Milan, Italy	www.plastonline.org/en
	26-28 September	Interplas, Birmingham, UK	www.interplasuk.com
	17-21 October	Fakuma, Friedrichshafen, German	www.fakuma-messe.de
	7-10 November	Plastimagen, Mexico City, Mexico	www.plastimagen.com.mx

AMI CONFERENCES

7-9 November 2022	Waterproof Membranes Europe, Cologne, Germany
15-17 November 2022	Multilayer Flexpack Europe, Vienna, Austria
30 Nov-1 Dec 2022	Stretch & Shrink Film North America, New Orleans, USA
6-7 December 2022	Thin Wall Packaging Europe, Cologne, Germany
6-7 December 2022	Specialty Packaging Films Asia, Bangkok, Thailand
13-14 December 2022	Recycling Flexible Packaging, Cologne, Germany
31 Jan-2 Feb 2023	Polyethylene Films North America, Orlando, FL, USA

For information on all these events and other conferences on film, sheet, pipe and packaging applications, see

www.ami.international

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