06/2024

VERLAG
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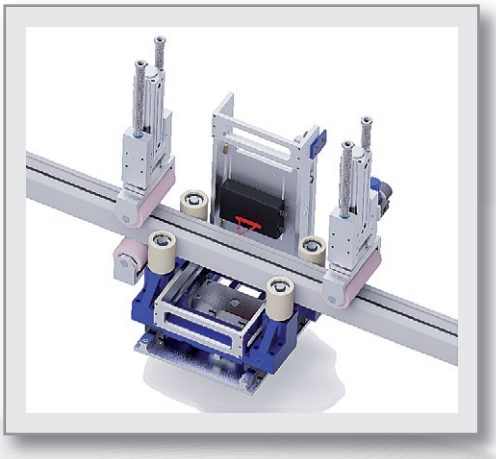
EXTRUSION INTERNATIONAL USA

STEIN BLUE-LINE
for a sustainable future

EXPERTS IN DOWNSTREAM

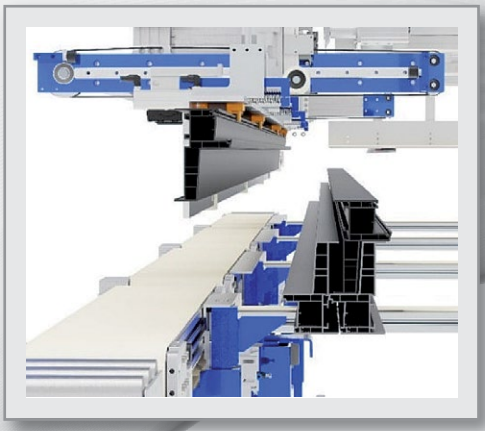
Stein Profile Stacker

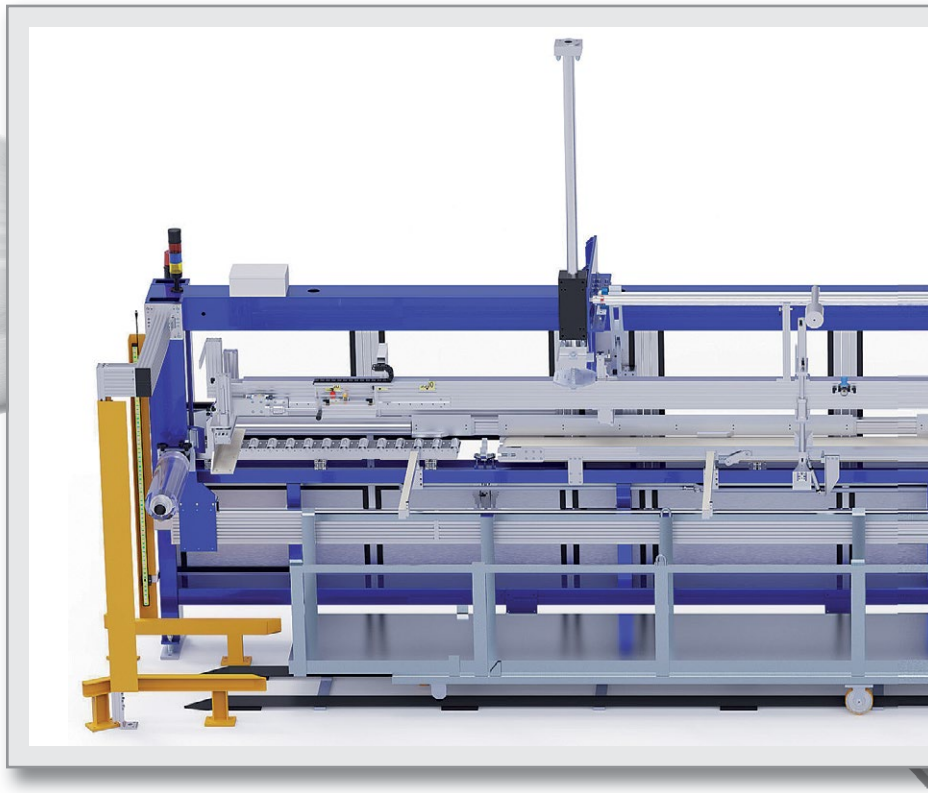


Profile length measurement during extrusion

Measuring sensors are used to determine the length of individual profiles before a profile layer is formed.

The measured length can be used to check and correct the cutting device of the extrusion line or for documentation (quality assurance) of the produced profile lengths.





Stacking of special profiles

Stein Maschinenbau offers technical solutions for stacking of heavy and large monoblock profiles.

Based on decades of experience, we can unusual profile geometries or special layer can be evaluated for their automated stacking.

Cassette spreader

With the help of a cassette spreader it is possible to realise the same packing density of the manual packaging.

Made in Germany

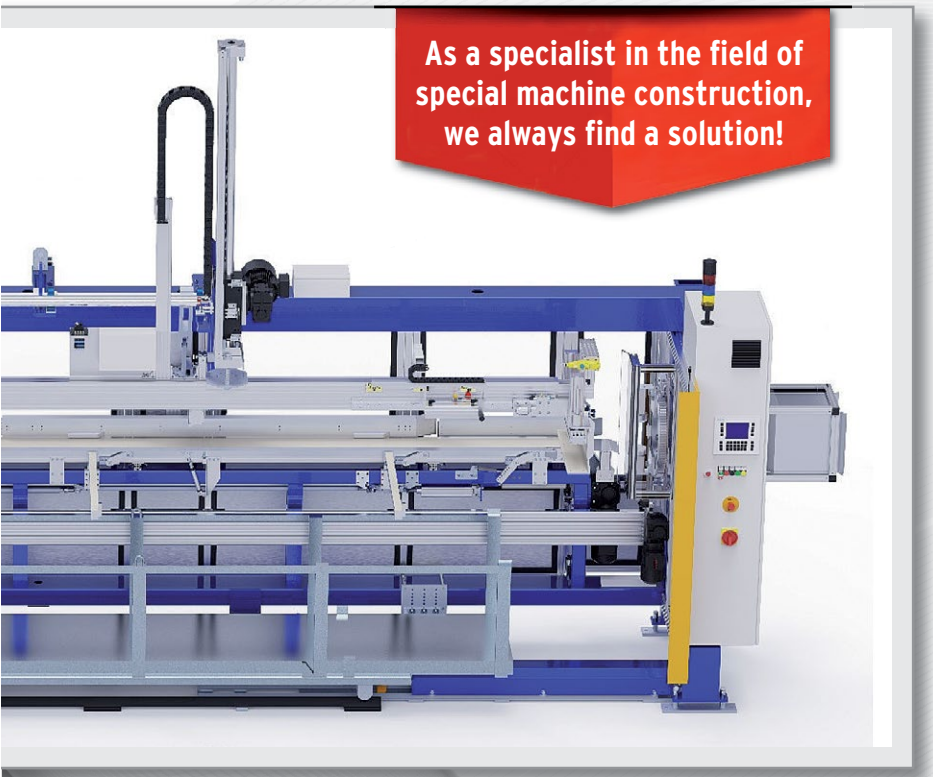
STEIN BLUE-LINE
for a sustainable future

EQUIPMENT FOR EXTRUSION

Stein Profile Stacker

Weight determination during extrusion

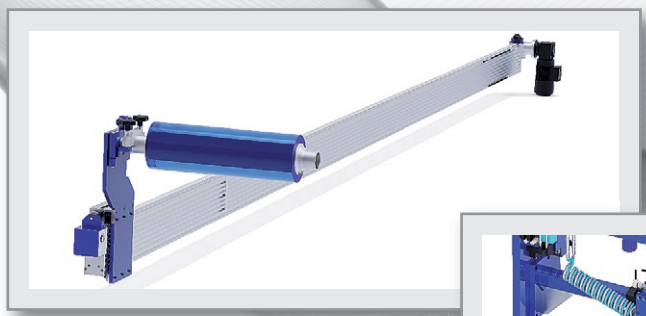
With the help of special weighing units, individual profiles can be weighed before a profile layer is formed.
The determined weight can be used to optimise the extrusion.

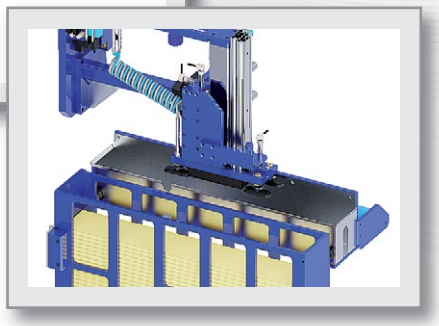


As a specialist in the field of special machine construction, we always find a solution!

Cassette handling

The handling system allows empty cassettes to be fed into the automatic stacker and the filled cassettes to be pushed out.





Profile interlayer

Endlessly laid as a foil between the profile layers or with individual strips laid on the layer.

STEIN

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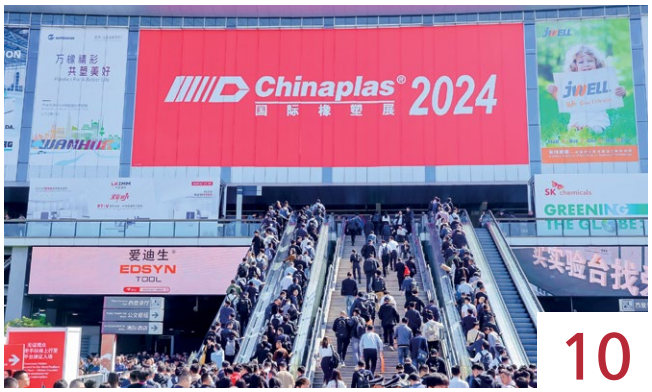

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As the global economy gradually recovers, China continues to be a crucial engine driving worldwide economic growth. In the new framework of dual circulation in the domestic and international markets, CHINAPLAS 2025 will be held in Shenzhen from April 15-18, 2025.

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"Customised models are standard for us," says Josef Dobrowsky, founder and owner of CONEXTRU GmbH from Austria. "To my knowledge, no other machine manufacturer builds single-screw extruders for pipe and profile production faster and more customised than we do."

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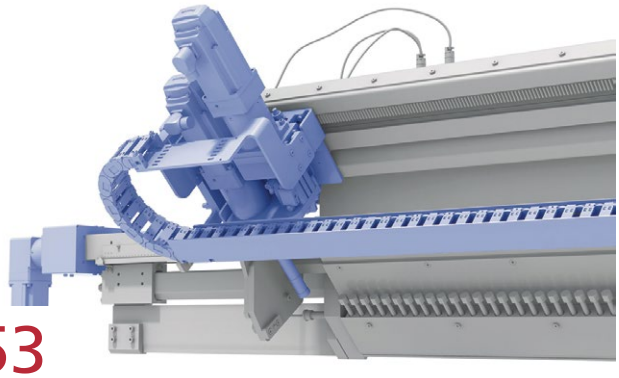
Project Re:Claim, a joint venture between the Salvation Army Trading Company and Project Plan B, has been nominated for the Plastics Industry Awards 2024 in the "Recycler of the Year" category. Using an ISEC evo system from PURE LOOP to process used garments and other textiles, the project is Europe's first polyester textile recycling system



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After extrusion machine specialist Reifenhäuser presented the automation system PAM (precise, autonomous, mechatronic) for flat dies and coextrusion adapters for the first time at the K 2022, the 150th system has now been installed on a customer line. The patented mechatronic control system has decisive advantages over conventional automatic thermal expansion bolt systems

The basic idea of nanolayer technology in stretch film production is to create thin, waffle-like structures by repeatedly layering the melt from at least two extruders. A central question arises in connection with the use of post-consumer resin (PCR): Does the use of PCR work when producing these layers? SML has made extensive trials to get the answer

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Tech Folien specified Vetaphone corona technology for the most recent of its five Hosokawa Alpine extruders located in its 40,000 sq/ft production facility in Speke. The company is a major supplier to the food industry, offering a wide range of transparent, white and coloured films that are single or double-side corona treated, as well as top-coated products, all of which are recyclable

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Index of Advertisers, companies and fairs referred in this issue

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Arabplast 2025
7 – 9 January 2025
Dubai / United Arab Emirates
https://arabplast.info/

wire and Tube Mexico
11 – 12 February 2025
Monterrey / Mexico
https://wire-tube-mexico.com/

ICE Europe 2025
11 - 13 March 2025
Munich / Germany
www.ice-x.com

PLASTIMAGEN
11 – 14 March 2025
Mexico City / Mexico
www.plastimagen.com.mx/es

CHINAPLAS 2025
15 - 18 April 2025
Shenzhen / P.R. China
www.chinaplasonline.com

T-PLAS 2025
14 – 17 May 2025
Bangkok / Thailand
www.tplas.com

Plastpol
20 - 23 May 2025
Kielce / Poland
www.targikielce.pl

Greenplast
27 - 30 May 2025
Milan / Italy
www.greenplast.org

K 2025
08 - 15 October 2025
Düsseldorf / Germany
www.k-online.de

Swiss Plastics Expo
20 - 22 January 2026
Luzern / Switzerland
www.swissplastics-expo.ch

K 2025 – The Countdown has Begun

The preparations for K 2025 are in full swing, the exhibition space is already fully booked. Numerous proven and new specials hone in on the motto "The Power of Plastics! Green – Smart – Responsible". The exhibitor database will go live in January 2025.

From 8 to 15 October the global plastics and rubber industry will come together for its internationally most relevant trade fair in Düsseldorf, Germany. Like no other trade fair of this sector, K 2025 will provide the complete overview of this industry's global ranges – once again guaranteed by the international origin of exhibitors. Enterprises from all continents have registered to offer trade visitors highest-level innovations. "Next year the Who's Who of the plastics and rubber industries will be back again in Düsseldorf. We are very pleased that even companies who had suspended their participation in 2022 as a consequence of the pandemic, are now back on board again," says Thomas Franken, Director K, Portfolio Plastics & Rubber. The conversations on stand space allocation are currently underway before the K 2025 exhibitor database goes live.

At K 2025 under the heading "The Power of Plastics! Green – Smart – Responsible" the focus will be just as much on trends and innovations related to the circular economy and digitalisation as on the responsibility for people and the planet. This is reflected by both proven and new specials: first and foremost, the official special show "Plastics shape the Future" organised by Plastics Europe Deutschland. Also presenting a comprehensive forum on the outdoor premises again will be the VDMA – this time entitled "The Power of Plastics".

The Start-up Zone successfully debuted at the last K. It will also be continued in 2025 and expanded to provide a dedicated presentation area for as many newcomers as possible who are particularly committed to the development of innovative products and solutions in the fields of plastics and rubber. Start-ups still now have the opportunity to register for the Start-up Zone.

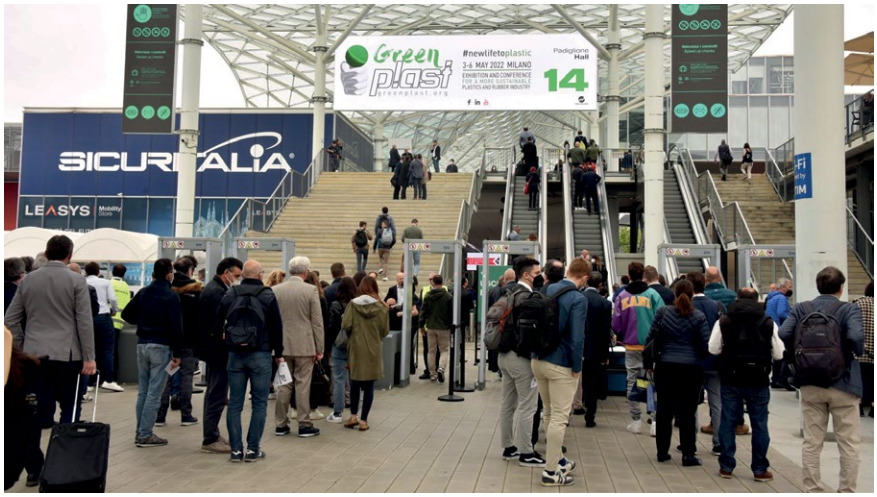
At the Science Campus universities, colleges and institutes will share the latest results of their plastics research. A new concept of the Science Campus allows exhibitors to optionally also take part in the Science Campus Center in addition to participating with their own exhibition stands.

In addition, a new offering is currently being developed for young visitors and career starters with a view to familiarising them with the diversity and appeal of the sector. Beyond this, a networking event will be organised specifically for women in the plastics and rubber industry to promote mutual exchange, strengthen professional networks and give visibility to female leaders in the industry. Both formats will celebrate their premiere at K 2025.

Messe Düsseldorf GmbH
www.k-online.com

GreenPlast 2025 – The Sustainable Future of Plastics in the Spotlight of New European Legislation

GreenPlast 2025, the international exhibition and conference dedicated to materials, technologies, and processes for plastics and rubber processing with a focus on environmental sustainability and energy efficiency, is set to return to Milan from 27 to 30 May 2025 at Fiera Milano, Rho Pero.



European Legislation: An Epochal Shift

Recent environmental and sustainability legislation is transforming the plastics sector, promoting a circular economy and reducing the environmental impact of plastic waste. Since 2018, the EU has set forth on a path toward greater sustainability and material circularity, imposing new regulations that will reshape the entire industry in the coming years. This historic transition marks an unprecedented shift toward ecological responsibility, in which the manufacturing sector must now adhere more closely to EU directives than market demands alone. The key pillars of the European plastics strategy include:

- Promotion of a circular economy for plastics;
- Designing more durable plastics and products to facilitate reuse and recycling;
- Initiatives to enhance the use of recycled materials and improve the separate collection of plastic waste;
- Increasing plastic recycling rates through advancements in production and design technologies;
- Actions to mitigate the prevalence of single-use plastics;
- Improved waste collection: strengthening infrastructure for the collection and recycling of plastic waste to promote the use of recycled plastic;
- Promoting innovation: funding and support for the development of advanced recycling technologies and research into alternative materials.

GreenPlast 2025 is set to be the premier event for professionals, businesses, and institutions interested in meeting the challenges posed by new environmental standards. The event will feature: Advanced Technological Solutions; Exclusive Presentations; B2B Meetings to create synergies and foster joint projects between companies, startups, and investors. In addition to visiting stands, attendees will have the opportunity to engage with experts and explore the latest advancements in the plastics and rubber industry, gaining valuable insights into topics of international relevance.

PROMAPLAST srl
www.greenplast.org

CHINAPLAS 2025 – Taking the Powerful International Buyer Appeal to the Next Level

As the global economy gradually recovers, China continues to be a crucial engine driving worldwide economic growth. In the new framework of dual circulation in the domestic and international markets, CHINAPLAS 2025 will be held in Shenzhen from April 15-18, 2025. After years of nurturing and accumulation, the exhibition has developed a strong appeal among global buyers. The return of CHINAPLAS to Shenzhen allows for the strategic leverage of favorable timing, geographical advantages, and abundant human resources, effectively anchoring both local and overseas markets.

The last edition of CHINAPLAS attracted 321,879 attendees from 171 countries and regions, including a record-breaking 73,204 overseas visitors, comprising 22.74% of the total number of visitors, showcasing its remarkable global appeal. What makes this mega event such a magnet for global buyers? Ada Leung, General Manager of Adsale Exhibition Services Ltd.: "Firstly, CHINAPLAS has been deeply rooted in the plastics and rubber industries for over 40 years, establishing a strong brand influence both domestically and internationally. As the show's scale expands, it generates significant traffic and amplifies its platform effect. Secondly, the exhibition is highly technology-driven, aiming to foster industry development with innovation. Our high-quality exhibitors stay ahead of industry trends, showcasing cutting-edge plastics and rubber technologies, which act like a huge magnet for buyers from around the world. Furthermore, CHINAPLAS has continuously expanded its international reach. We have established long-term cooperation with local and overseas trade associations, building an extensive network of buyer resources and greatly exploring user needs. In terms of buyer promotion, we leave no stone unturned, constantly launching new strategies and initiatives to draw more global attention."

CHINAPLAS 2025 will join hands with over 4,000 international exhibitors, unveiling the "New Productive Forces" of the plastics and rubber industries. As of now, over 1,300 of registered exhibitors are recognized as "Professionalization, Refinement, Specialization and Innovation (PRSI)" enterprises, account for one-third of all exhibitors. This will not only showcase China's robust capabilities in plastics and rubber technology but also enhance the exhibition's appeal to global buyers.

Stepping Further towards Internationalization

The global buyer appeal is not only driven by cutting-edge technology, but also by strong connections between exhibitions and buyers, along with effective global collaboration strategies. By fostering expansive global and multi-

channel collaborations, CHINAPLAS has been integrating platform resources and channels to further attract professional buyers on a global scale. Its buyer outreach extended to Thailand, Vietnam, Malaysia, Kazakhstan, Poland, Pakistan, the United States, Argentina, Mexico, Colombia, and Taiwan region, actively engaging in industrial networking events. CHINAPLAS has forged partnerships with local industry associations to recruit delegations and invite key enterprises, facilitating sourcing opportunities and technological exchanges at the exhibition. As of now, around 40 industry associations from 14 countries and regions have expressed their interest in organizing delegations to CHINAPLAS 2025. Targeting high-growth and high-potential markets like Southeast Asia, Türkiye, and Mexico, the exhibition made a full-force effort with intensive online and offline promotion.

Recently, the show organizer has officially announced the launch of "Spotlight on Malaysia: Buyer Program" for CHINAPLAS 2025 with Malaysian Plastics Manufacturers Association (MPMA) as the strategic partner, marking a significant milestone in a strategic move towards a global collaboration. This collaboration aims to leverage the reputations of both parties for strengthening international business connections, and for adhering to CHINAPLAS' mission in enhancing technological exchange and global trade cooperation.

Go Globally Together

The market landscape is witnessing a surge in competitiveness, urging enterprises to find ways to breakthrough. "Going global" has become a strategic option and the "second growth curve" for enterprises. Seizing opportunities and facing challenges directly, Chinese companies have sparked a trend of going global, especially in industries such as electronics, automotive, and new energy. Not only are their products selling well overseas, but they are also investing in setting up facilities abroad, transitioning from "exports" to "going global". From January to September 2024. household appliance exports reached 3333.79 million units, a year-on-year upsurge of 21.8%, while cumulative automobile exports reached 4.312 million units, with an impressive growth rate of 27.3%.

In the journey of Chinese enterprises venturing into overseas markets, innovation and technology play a crucial role. Chinese plastics and rubber materials and equipment, renowned for their exceptional cost-effectiveness and cutting-edge technological applications, empower global businesses to elevate product quality, value, and competitiveness on the international stage. CHINAPLAS 2025 will serve as a valuable platform for connecting upstream suppliers with buyers who are seeking innovative plastics and rubber technology solutions, assisting companies in better stepping out to explore new growth opportunities.

The online pre-registration for CHINAPLAS 2025 has started. For more information:

www.ChinaplasOnline.com
Chinaplas.pr@adsale.com.hk

Plastpol 2025 – The International Plastics Processing Industry is getting Ready to do Business in Kielce

Hundreds of companies from over 30 countries in Europe, Asia and the Middle East have already confirmed their participation in the 29th International Fair of Plastics and Rubber Processing. From 20 to 23 May 2025, companies will present the latest solutions for this industry; exhibitor registration is still open.

"Poland is Central Europe's centre of plastics processing, which is why our presence at Targi Kielce is a must," emphasised many company representatives at last year's Plastpol Expo. Preparations for the May 2025 event are already in full swing.

From 20 to 23 May 2025, Targi Kielce again turns into a working factory and the latest technologies and solutions are presented at the Plastpol Expo; plastic processing machines such as innovative injection moulding machines, extruders, blow moulding machines, recycling lines for the production of plastic packaging will work live.

Plastpol is also a presentation of companies involved in producing and distributing innovative raw materials whose expo stands offer visitors the possibility to learn about the range of polyethene and polypropylene granulates, regranulates, various dyes and additives for plastics – including ecological ones.

The agenda is enriched by conferences devoted to sustainable development and recycling in the plastics industry. The accompanying events lineup at the plastics processing expo includes the conference organised by the PlasticsEurope Polska Foundation. The Plastech Info Technical Seminar welcomes representatives of important companies, top-players on the global market; Tworzywa.pl in cooperation with Targi Kielce are the seminar organisers.

www.targikielce.pl/plastpol

Signs of Slowdown – for Italian Plastics and Rubber Machinery Manufacturers

ISTAT data for Italian foreign trade in machinery, equipment, and moulds for plastics and rubber in the first half of 2024 evidence a progressive drop in trade in both directions compared to the same period in 2023.

According to analyses by the MECS Study Centre of the trade association Amaplast, after positive consolidated year-end results for both imports and exports in 2023, imports were consistently lower in the early months of 2024 with respect to the same period a year earlier, with drops entering into the double digits in the second quarter. This is a symptom of lower propensity to invest within a context of contraction in the economy generally and in the industrial sector specifically. The period closed with a drop of 12 percentage points to a value of 483 million euros, with imports noticeably declining from all three main source countries: Germany, China, Austria.

The first half of 2024 closed with exports still in the positive range (+2.5% at 1.73 billion euros) but on a diminishing trend because of lower demand for a number of different types of machinery – including some making up a large share of the total – and moulds.

Exports to Germany – historical main partner of Italian manufacturers, currently grappling with an unfavourable economy and a complicated political situation – have been rather lacklustre while those to the United States (second largest destination market), while remaining high in recent years, have slowed somewhat.

If we stick to the ten most important target markets, we see diametrically opposed trends. Exports to the EU countries in this group – Spain, Poland, France – have dropped by 13% and 32% and remained substantially stable, respectively. Meanwhile, double-digit growth is recorded for a number of extra-EU markets: +26% for Mexico; +36% for China; +50% for Turkey; +22% for India; and +24% for the United Kingdom.

Looking at the principal macro areas, on average exports show significant growth towards the Far East, North America (excluding the United States), extra-EU Europe, and Sub-Saharan Africa.

The above-mentioned slump in trade between Italy and Germany is confirmed by the most recent data (January to July 2024) published by the local plastics and rubber machinery manufacturers association (VDMA), showing a 20-point drop in orders and a 9-point drop in revenues: in both cases the domestic market has suffered much more than sales abroad.

Italian companies thus express a certain amount of concern for the performance of their industry and are very cautious in expressing ex-

pectations for the coming months in light of the negative trend in macroeconomic indicators, turbulence in the markets, and contingencies that can affect the entire industrial sector, in particular those relating to progress towards energy transition.

Going beyond the statistics, orders are still showing a negative trend, but with differences, some quite large, among the different technologies. After a particularly negative first quarter, some faint signs of recovery were noted in subsequent months.

In parallel, the positive ISTAT export data still reflect orders for complex systems, with delivery times of 6-9 months or more, registered towards the end of the previous year.

In this situation, it is reasonable to expect the consolidated year-end results to show a contraction in revenues with respect to 2023.

In the meantime, Amaplast, by means of its service company Promaplast srl, has begun organizing the second edition of Greenplast – the international trade show and conference dedicated to materials, technologies, and processes for plastics and rubber, with a particular focus on environmental sustainability and energy efficiency. It will take place from the 27th to the 30th of May 2025 in the Fiera Milano fairgrounds in Rho Pero.

After the outstanding results from the first edition in 2022 – with 170 exhibitors (80% Italian and 20% from abroad) in a net exhibition space of 6,000 square metres, drawing in over 20,000 visitors from 55 countries – the new edition of the event will explore the latest innovations and best practices for the sustainable use of plastics.

Greenplast 2025 takes place within the framework of The Innovation Alliance: four fairs – Ipack-Ima, Print4All, Intralogistica Italia, and Greenplast – taking place simultaneously and occupying nearly the entire Fiera Milano venue in Rho Pero with free circulation of visitors in all sections of the fair.

AMAPLAST
www.amaplast.org

New Operational Management

At the end of this year, there will be a change in the management of the Swiss BUSS Group. On November 1, Holger Erhardt took over as Chief Operational Officer from Marko Stähler, who is retiring after around 30 years with the company. During this time, Marko Stähler has played a key role in shaping the development of the world's leading supplier of compounding solutions based on the kneader principle in various management roles.

As the new COO, Holger Erhardt will be able to draw on his many years of experience, including as COO and CTO at large machine manufacturing companies, to further optimize operational processes in the rapidly growing BUSS Group and to advance ongoing digitization projects. During his engineering career, he has already led teams in the fields of measurement and control technology, product development, and supply chain. His responsibilities ranged from customer care to the commissioning of complex machines and complex organizational issues, which fit well with the current and future challenges at BUSS.

"I am delighted to take on the role of COO at BUSS AG. BUSS stands for innovation and excellence in the industry. I am excited by the opportunity to work in an environment that continuously sets new standards and drives technological progress. I see it as my task not only to optimize existing processes but also to develop new, creative solutions that further strengthen the company's growth and competitiveness. In doing so, I am always aware of the responsibility that BUSS has to its employees, the industry and society, and in my new position I want to help ensure that our strategies and actions have a positive impact," says Holger Ehrhard, describing his motivation and anticipation of the new position at BUSS.

CEO Dr. Philip Nising is also pleased about the new addition to the company's top management: "A generational change is a major challenge for every company, but it is also an opportunity. With Marko Stähler, we are saying goodbye to a very experienced COO who has had a strong influence on the company and in particular on the COMPEO series in recent years. Fortunately, we were able to find an extremely promising successor in Holger Erhard at an early stage. He brings with him more than 10 years of management experience, including as COO and CTO at major Swiss and multinational engineering companies, as well as in-depth expertise in topics that will be immensely important for BUSS in the coming months and years. All of us at BUSS are great technology enthusiasts. Someone like Holger Erhard, who approaches his work with passion and a solution-oriented, straightforward attitude, is a perfect fit for us. I am excited about the momentum he will bring to BUSS and the new directions we will take together. I look forward to working with him."

Holger Erhardt

BUSS AG
www.busscorp.com

New U.S. Subsidiary

UTH, headquartered in Fulda, Germany, with subsidiaries in China and Japan, is deepening its global commitment by establishing a new location in the United States. "This strategic decision is driven by our deep understanding of our customers' growing needs and specific requirements, as well as our ongoing commitment to providing the best possible support as a reliable partner to the rubber and silicone processing industry," says Julia Uth, who, along with Manuel Bessler, is overseeing the U.S. project.

As a specialist in fine mesh straining, precise extrusion, and mixing, the family-owned company, with nearly 40 years of industry expertise, offers innovative solutions and intelligent technologies worldwide for the rubber, tire, silicone, sealant, and adhesive industry. Their product range includes high-quality serialized machines, customized system solutions, and specialized machinery. UTH's modular roll-ex® extrusion system is setting international standards for the particularly gentle and clean processing of rubber and silicone, "with a clear focus on sustainability and cost-efficiency," emphasizes Julia Uth. She adds, "A concrete example of this is our involvement with a leading tire manufacturer in the U.S. Through the use of our innovative and resource-saving TRP (Two-Roll Plasticizer) solution, based on the patented roll-ex® gear pump technology, our customer was able to reduce energy consumption in reprocessing by up to 50 percent." Additionally, approximately 98 percent of the process-related waste is returned to the tire manufacturing process.

"Having a local presence allows us to ensure immediate and personalized support. Through streamlined communication pathways in the North American region, we can make decisions more quickly and implement measures more efficiently," explains Julia Uth on the company's decision to open an additional location in Fort Mill, South Carolina. "Other reasons include the numerous tire and rubber companies located here and the excellent local infrastructure." Manuel Bessler also emphasizes the improved process reliability and service that the new U.S. location will bring, enabling more efficient maintenance and support for the international customers in North America who have increasingly acquired UTH machines over the past years.

As an established mid-sized company centrally located in the heart of Germany with existing branches in Asia,

The team from UTH North America Inc. discusses the economic and sustainable advantages of the modular roll-ex® system, which offers a wide range of individual application options

Julia Uth, Bill Bisson and Manuel Bessler of the newly formed UTH North America Inc. team stand proudly by the innovative TRP system, dedicated to supporting the rubber, silicone, adhesive, and sealant industry with sustainable technologies and exceptional customer service

UTH is further expanding the company's global market share and service network with their additional location in North America. "The U.S. market is one of the largest in the world, and we want to provide our new customers there with our advanced technology to enhance production and improve the quality," highlights Manuel Bessler. "However, manufacturing will continue to take place in Fulda."

"The decision to establish the new site focused on enhancing local support. This allows us to respond more quickly, improve spare parts procurement, and provide more efficient service to avoid costly production downtimes. Moreover, proximity to our customers strengthens relationships and enables us to provide even more targeted support tailored to their specific needs."

In the U.S., not only are large tire manufacturers and compounders key target groups, but the sealant and adhesive industry also offers potential for UTH's diverse solutions. The primary point of contact for customers – and a well-known figure in the industry – is the new General Manager of Sales & Service, Bill Bisson, who has been supporting UTH's U.S. team with extensive market knowledge since late August. Bill brings a wealth of experience in rubber extrusion and gear pump systems, as well as the North American market. He is passionate about providing tailored solutions, offering comprehensive service, and advising on the unique needs of each company.

"UTH's technology is impressive, and I want to share that with our customers," says Bill. Together with his colleagues, Bill will present the wide range of collaboration opportunities with UTH at industry events, like at the International Elastomer Conference that took place in Pittsburgh. "The U.S. boasts strong innovation, interesting business partnerships, and an economic environment that, despite fluctuations, can be considered relatively stable and robust," says Bill. "I look forward to contributing to growth in sales and expanding our portfolio of offerings while supporting our customers with spare parts, process improvements, and technical services with the U.S. team of UTH." northamerica.com.

UTH North America Inc.
www.UTH-northamerica.com

„Laying out and evaluating packaging made from mono-material“

11 March 2025, Online, English

Mono-materials are the trend in film packaging today. What are the reasons for this trend? The available materials for packaging made of monomaterials that are typically used for food packaging are examined.

The focus is on polyethylene (PE) and polypropylene (PP) as well as copolymers of polyolefins such as EVOH.

It shows which pitfalls need to be considered with monomaterials and which systems are already implemented on the market today, thus providing guidance to manufacturers of film packaging as well as buyers and brand owners.

Particular attention is paid to processability in the manufacturing process, but also in packaging and application.

www.innoform-coaching.de/webseminar/laying-out-and-evaluating-packaging-made-from-mono-material-from-film-structure-to-application-2025

Plastics and Rubber Machinery Manufacturing – *Incoming Orders have Still Not Bottomed Out*

The plastics and rubber machinery industry continues to experience challenging times, with the latest figures for incoming orders and sales also being in line with the recent slump in demand.

"We still have to wait a little longer for the turnaround," explains Ulrich Reifenhäuser, Chairman of the Board of the Plastics and Rubber Machinery Association. "From January to August, incoming orders are still showing a decline of 16 percent compared to the previous year. The weak demand is affecting all markets equally – but the European domestic market in particular. Major markets such as China and the US are also weakening considerably, although we are witnessing individual glimmers of hope at a lower level in Mexico and India."

Due to the fact that all existing orders have now been processed, the slump in orders is now also directly reflected in sales figures. From January to August, these were 7 percent down on the previous year. "This means that we have to revise our forecast downwards for the current year. The expected lowest point in terms of incoming orders has not yet been reached. We have to be prepared for a 10 to 15 percent drop in sales this year," explains Thorsten Kühmann, Managing Director of the VDMA Plastics and Rubber Machinery Association.

Orders could improve somewhat towards the end of the year, as the first central banks are currently initiating interest rate cuts, which will subsequently boost the capital goods sector. "However, due to the lag in production, it will take until the middle of next year for the positive impetus to be reflected in sales. For 2025, we therefore anticipate a sales growth of between 0 and minus 5 percent," Kühmann states. "Just in time for the K year, the downward trend is calming down, and companies in the plastics and rubber machinery industry can look forward with confidence to a successful K 2025."

VDMA Plastics and Rubber Machinery Association
vdma.org/plastics

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interpack and the World Packaging Organisation Expand Partnership

interpack and the World Packaging Organisation (WPO) are intensifying their long-standing cooperation. The aim of the strategic partnership is to promote innovation, sustainability and the global exchange of knowledge in the packaging industry even more strongly.

This cooperation has a long tradition: "We have been associated with Messe Düsseldorf for many years, and interpack has long since become a home for us in Germany. Together we want to achieve great things for the industry and support interpack with passion," says Luciana Pellegrino, President of the WPO.

The WPO and interpack share many common goals, particularly in the promotion of innovation, sustainability, education and global networking. The expanded cooperation will promote important topics such as circular economy, sustainability and resource conservation in the packaging industry even more intensively. „Our drive is to promote the development and progress of the processing and packaging industry and to ensure its success in the world's markets," says Thomas Dohse, Director of interpack, describing the trade fair's vision. „With the WPO, we have the ideal partner at our side to continue to fulfil these goals. Utilising our global network together is a great step."

The WPO organises one of the world's most prestigious packaging competitions with the WorldStar Global Packaging Awards. In 2026, the awards ceremony will once again take place as part of interpack, providing participants with a major international stage. The WPO itself will have a stand at the trade fair and take part in various

content formats at interpack, such as the TV studio and the Spotlight Forum. As part of a theme partnership, the WPO will also be involved in interpack channels such as Spotlight Magazine outside of the trade fair.

The WPO was already a strong partner for the premiere of 'Women in Packaging' in 2023, when interpack organised a networking event and panel discussion for women in the packaging industry on a global level for the first time. This initiative was groundbreaking and other players in the industry are now also increasingly focussing on this topic. The WPO will also be on board again at interpack 2026 and as part of the interpack alliance trade fairs, contributing with panel discussions and its global women's network.

Messe Düsseldorf GmbH
www.interpack.de
www.worldpackaging.org

Women In Plastics Italy is Born –
Women in rubber/plastics form an association

Women InPlastics Italy is the new association that brings together professional women who, with various roles and different skills, work within the plastics sector. After a first year of activities carried out informally in which the foundations for this new adventure were laid, the Association has now been formally established and has been provided with a Memorandum of Association and a Statute, as well as a Manifesto, Regulations and a Code of Ethics.

From female entrepreneurs to female employees, from managers to freelancers, members pledge to abide by the values and principles of the association to generate real and pervasive cultural, environmental and social change in an industry that, historically, has always been strongly "masculine." The primary goals of the association are to promote a culture of inclusiveness and social and environmental sustainability; to educate to improve the image of plastics through its most virtuous uses; and to foster contacts and relationships to create professional and supportive exchange networks among all those who will join the association and share its Manifesto.

On October 29, 2024, the first associative assembly was held in Cremona, Italy, attended by more than 50 new members: these are the first women who have already enthusiastically confirmed their willingness to be part of this newly formed Association and who will commit themselves to promoting participation in the life of the association and spreading the values of Women in Plastics Italy.

Individuals, as well as companies, associations and entities with legal personality can join the association as Supporting or Aggregate Members. All Members pledge to promote a culture of sustainability to spread a positive image of plastics by emphasizing its essentiality and value, and to create an inclusive and respectful work environment by ensuring equal opportunities for all.

The first assembly of Women In Plastics Italy was also the occasion for the election of members of the Board of Directors and other bodies , who will remain in office for the next term until 2028. The assembly elected: Miriam Olivi (President), Erica Canaia and Clelia Petri (Vice Presidents), Maria Elena Veronese (Secretary), Emanuela Balzanelli (Treasurer).

During the first assembly, the activities on which the group has excellently worked in 2024 and which WIP-IT will continue in the coming year were also illustrated: the focus will be on training and information initiatives, with the organization of events and courses that allow women to increase their talents, gain awareness, but also deepen their knowledge of plastics and technological innovations, guiding them to good practices of use and recycling. Special attention will be paid to support and training initiatives for the younger generation. The association will also work to intensify relationships among women, particularly in the plastics sector, as well as with institutions, public and private, to work together on the same goals. The event concluded with a postponement to the next event, in May 2025 in conjunction with the Greenplast fair.

Women In Plastics Italy Association
eventi@tecnoedizioni.com

Partnership Announced

W. MÜLLER, a global leader in mono and multi-layer EBM equipment and expertise to the blow molding industry, announced its new partnership with Feuerherm, also of Troisdorf, Germany, the leading manufacturer and supplier for radial wall thickness control systems in extrusion blow molding. This partnership is actually anything but new, as the two companies have been aligned for decades, sharing their expertise as well as an enduring friendship between the two family's founders and generational leadership teams. But the two pioneers in the blow molding industry have now made the partnership more formal by aligning their technologies for significant value to the blow molding market in North and South America.

Blow molders around the globe are facing considerable challenges to survive in a highly competitive market. These challenges include increasing material and energy costs, which make it imperative to improve the efficient use of the blow molding machines while also meeting the demands for sustainable production techniques. The patented Feuerherm Partial Wall Thickness Distribution Systems (PWDS®) offer blow molders flexible, reproducible and modifiable wall thickness control for maximum efficiency, improved cycle times and minimum material usage. This solution combined with their Static Flexible Deformable Ring (SFDR®) creates powerful radial wall thickness control with the ability of quick product changeovers.

This PWDS® system, available in hydraulic and electric options, allows for the energy-optimized production of blow molded parts with minimum material input and maximum production output and part quality. To achieve this, it is imperative to ensure an optimum wall thickness distribution in the blown part with a flexible, reproducible and modifiable radial die gap path that the PWDS® system provides.

The PWDS® system is available in different sizes and numerous options

Used with the flexible and adjustable SFDR® unit allows reproducible profile changes without having to dismantle the core tooling. The capability to undo a setting at any time enables fast product optimization. Since the ability for quick product changeovers are becoming the expectation, 95% of all SFDR® units are equipped with quick exchangeable inserts providing fast product changeovers within minutes.

Feuerherm is a family-run company in Troisdorf, Germany, founded in 1977 by Harald Feuerherm, who manufacturers their systems for many different markets worldwide. Their trademarks PWDS® and SFDR® not only stand for outstanding quality, but also have exemplified sustainable production with less material and energy consumption. By incorporating this premium technology

A longstanding friendship and cooperation is now a formal partnership. Photo of Christian and Brigitte Müller with Max and Rolf Feuerherm taken in 2019 at the K Fair trade show in Düsseldorf, Germany

The W. MÜLLER service staff was fully trained at the Feuerherm facility in Troisdorf earlier this year

into both existing and new W. MÜLLER extrusion heads, blow molding customers all over the world can reap these important benefits and cost savings. No matter how long the W. MÜLLER extrusion head has been operating in the field, this technology can be easily retrofitted. Also, any existing Feuerherm Systems can be integrated into new W. Muller extrusion heads.

W. MÜLLER, also a family run company headquartered in Troisdorf, with US headquarters in Agawam, MA, specializes in extrusion heads, accumulator heads, extruders, platforms, and extrusion control. The company was founded in 1976 and supports EBM operators in optimizing the extrusion blow molding process. A combined system, born from the same town in Germany, allows powerful unmatched wall thickness control in the blow molding marketplace. The partnership also allows a faster response time with regional, local service and support available around the globe, and a combined expertise to meet the blow molding demands of today. By creating a formal cooperation each company benefits from the synergies and market opportunities of the other. The W. MÜLLER service team has been fully trained at Feuerherm, and prepared for offering wall thickness optimization and any service requirements. The focus of this new partnership with Feuerherm extends to any blow molders within North and South America.

"We are excited to bring this technology to our existing and new customer base, offering up to 15% cycle time savings and material reductions on their applications," says Jens Schlueter, President, W. MÜLLER USA. "With thousands of these systems proved out within the market the return on investment has been a simple equation."

W. MÜLLER USA, Inc.
www.mullerheads.com/

Expansion in the European Market Announced

Guill Tool, global leader in extrusion tooling, recently announced their expansion in the European market with the creation of Guill Tool Europe. They will offer a full line of Guill products, as well as sales and engineering support throughout Europe. Padric Lunn will continue to represent Guill in the UK.

From concept design to engineering, manufacturing and supporting client processes, Guill has more than 60 years of experience in regular extrusion, multi-layered applications, jacketing, multi lumen, rubber, silicone and much more. The company maintains the highest quality standards regardless of application.

Padraic Lunn Enterprises Ltd offers a full range of extrusion machinery and consultancy for all extrusion processes with a strong emphasis on tubing, wire, pipe and profile applications. The firm represents extrusion equipment companies in the UK, Ireland and other parts of Europe.

With local sales representatives in each country, Guill looks forward to establishing a strong presence on the European continent.

Guill Tool & Engineering Europe
Gerjan ter Wal, Sales Manager, Europe
Gerjan.terwal@guill.eu
www.guill.com

Gerjan ter Wal, Sales Manager, Europe

Exhibitors from Europe present themselves at Chinaplas 2025

On 15 April Chinaplas 2025 opens its doors in Shenzhen next year. It is roughly halfway to the K-show next October. China remains one of the most important sales markets worldwide for European plastics machinery manufacturers, alongside Europe and the USA. The members of the umbrella organisation of European manufacturers of plastics and rubber machinery EUROMAP, sponsor of the event organised by Adsale since the early 1980s, are looking forward to this trade fair with great anticipation. The EUROMAP partners will once again be represented at the trade fair with national pavilions from Germany, Italy, Austria, Switzerland and the UK and with numerous exhibitors. The German joint participation alone will feature 80 exhibiting companies and 20 sub-exhibitors on an area of 3,000 square metres.

EUROMAP
c/o VDMA Plastics and Rubber Machinery
www.euromap.org

Operational Management Taken Over

Josef Hochreiter, shareholder and CEO of the NEXT GENERATION GROUP, is assuming the role of Managing Director of Next Generation Recyclingmaschinen (NGR), a key member of the group, effective immediately. Hochreiter has previously led the company and is now returning to its operational management. He takes over the position from Gerhard Ohler, who has led NGR in recent years and will be leaving the Feldkirchen-based recycling machinery manufacturer.

Josef Hochreiter stated, "I would like to thank Gerhard Ohler for his dedication and contributions to NGR. Diverging perspectives on the company's future direction have led to this decision. I will now take responsibility and, together with our strong team, help shape NGR's future. Our mission to develop innovative plastic recycling solutions for a sustainable future remains unchanged."

Josef Hochreiter will continue in his role as CEO of the NEXT GENERATION GROUP, overseeing both the strategic direction of the entire group and the operational management of NGR.

Josef Hochreiter, new CEO at Next Generation Recyclingmaschinen

Next Generation Holding GmbH
www.ngr-world.com

Founder has Died

The EREMA Group mourns the loss of Helmut Bacher. The co-founder of Austrian plastics recycling machine manufacturer EREMA and former managing partner, passed away on 20 September at the age of 81.

Helmut Bacher is regarded as a pioneer of plastics recycling. Together with his two colleagues Georg Wendelin and Helmuth Schulz, Helmut Bacher founded EREMA Engineering Recycling Maschinen und Anlagen Ges.m.b.H. in Linz, Austria, in 1983. Their life's work was acknowledged in 2008 when the three founders received the Golden Award of Honour from the Province of Upper Austria.

Helmut Bacher displayed visionary foresight and open mind in playing a key role in shaping the plastics recycling industry. Following his training as a fitter and completing his schooling as a mechanical engineer, he worked in various technical positions before moving to a mechanical engineering company for plastics processing in the early 1970s. Helmut Bacher shared with his two colleagues a belief in the potential of plastics recycling. During countless trials, he searched for the right solution - until he found it. Despite initial adversity, the three founders remained convinced of the idea of a cost effective recycling machine for plastic waste and started up their own company in 1983.

At the K trade fair in Düsseldorf in 1983, EREMA presented a simple, robust, reliable and economical recycling system, signalling the start of a success story. The young company produced its first orders in modest premises in Leonding with two small workshops and a double garage. Today, the plants and components supplied by the EREMA Group achieve recycling capacities of over 25 million tonnes of plastic per year worldwide.

Up until his retirement from company management in 2004, Helmut Bacher was a driving force behind the company and remained closely associated with the EREMA Group until his death. His technical ability, coupled with solution-orientated thinking and genuine appreciation of his employees, have left a lasting impression and continue to shape the company to this day.

The EREMA Group mourns the loss of co-founder Helmut Bacher, who passed away at the age of 81 (Photo credit: EREMA Group)

EREMA Group
www.erema.com

Field Service Operations Strengthened

Reifenhäuser Group announced a significant expansion of its field service operations across the Middle East and Africa (MEA) region. Building on a longstanding presence in the region, which includes a sales office established in United Arab Emirates five years ago, Reifenhäuser is now taking a major step forward to enhance its local customer support and service capabilities.

With the establishment of a new Service Hub for the MEA, UAE and GCC regions Reifenhäuser encourages its strategy to strengthen comprehensive and responsive service solutions. The hub will include extended premises and the establishment of a highly specialized service team on site to encompass a full spectrum of field-engineering services, covering the installation of machinery, commissioning, and ongoing service support.

This expansion is driven by Reifenhäuser's commitment to being "Close to our customers," a philosophy that prioritizes proximity to customers to better understand and meet market demands. The new hub will enable Reifenhäuser to offer enhanced local support, ensuring faster problem resolution and improved accessibility for businesses operating in the MEA region.

Bharath Yalla, Managing Director of Reifenhäuser MEA

In line with this growth, Reifenhäuser has also expanded its facilities in Lagos (Nigeria), with plans to further expand its presence. The MEA market is recognized by Reifenhäuser as a very important and rapidly growing region.

Bharath Yalla, Managing Director of Reifenhäuser Middle East & Africa, commented on the expansion: "Our strong dedication to local markets is now embodied in UAE and Lagos. We promised, and we delivered. This is just the beginning of bringing our global expertise closer to our customer needs."

Reifenhäuser's investment in the MEA region underscores its commitment to delivering exceptional service and support, reinforcing its position as a trusted partner in the plastics extrusion industry.

Reifenhäuser
bharath@reifenhauserindia.com
www.reifenhauser.com

Showcasing advanced EV Solutions

Syensqo, previously part of Solvay Group and a leader in advanced performance materials and chemical solutions, is proud to announce that its innovative Ajedium™ PEEK e-motor slot liners have been named a finalist for the 2025 Automotive News PACE pilot Awards.

"Our cutting edge technology enables more efficient, powerful, durable, lighter and sustainable electric powertrains as we collaborate with partners in the value chain to deliver innovative, environmentally responsible, and circular battery solutions," explains Brian Baleno, Head of Marketing – Automotive at Syensqo Materials. "Our polyetheretherketone (PEEK) film has been successfully tested with 800-volt systems, demonstrating superior copper fill and heat dissipation capabilities compared to traditional aramid paper alternatives, enabling manufacturers to downsize e-motor and battery designs while eliminating the need for conventional moisture management systems."

Ajedium™ PEEK slot liners have been showcased at The Battery Show North America 2024 at the beginning of October in Detroit, Michigan, where Syensqo will highlight its expertise in next-generation electric vehicle solutions.

Syensqo also continues to invest in PVDF production capacity all over the world. Solef® polyvinylidene fluoride (PVDF), a highly non-reactive thermoplastic fluoropolymer, has become the industry standard for high-performance cathode binders, maximizing energy density and extending battery life, even at high voltages. Additionally, Syensqo's booth will highlight the new Solgain™ PVDF process technology, which enables cost-efficient dry cathode production while eliminating hazardous solvents.

Brian Baleno, Head of Marketing Automotive at Syensqo, shows a sample of an Ajedium™ PEEK film slot liner, which was named a finalist for the 2025 Automotive News PACE Pilot Awards (Photos: Syensqo)

Syensqo
syensqo.com

Sales Director Appointed

Nordson Corp.'s Polymer Processing Systems division has announced the appointment of Julian Kätzlmeier as Sales Director EMEA for its BKG® product line. Kätzlmeier's EMEA team will benefit from the addition of experienced sales leadership.

"Julian's extensive background makes him an ideal candidate for this new position," stated Andreas Wenzel, Vice President of Nordson Polymer Processing Systems. "I am looking forward to Julian leveraging his expertise and bringing new skills to our BKG team while spearheading efforts to serve our customers better."

"I can't wait to further establish our high-quality melt delivery and pelletizing solutions in the region and offer our customers the opportunity to differentiate against their competitors through our high-performance technologies," said Julian Kätzlmeier. "It is an exciting opportunity to work with our highly skilled team to develop and implement solutions that meet the diverse needs of our markets in Europe, the Middle East, and Africa. "We aim to support regional growth and establish long-term, mutually beneficial partnerships."

Julian Krätzlmeier

Nordson Polymer Processing Systems
www.nordsonpolymerprocessing.com

Chief Technology Officer Announced

Orion a announced that Natalia Scherbakoff has been appointed the company's new chief technology officer. She will succeed David Deters, who for nearly a decade led a global innovation program that made Orion a leader in developing sustainable materials, battery additives and other technology in the carbon black industry. Deters announced his retirement earlier this year and will remain with Orion through the end of 2024 to ensure a seamless transition.

Scherbakoff joins Orion from Trinseo, where she served as the vice president of Technology & Innovation, overseeing global research, development and technology innovation with sustainability and circular solutions being a key underlying focus. She also supported key growth initiatives as well as mergers and acquisitions. Scherbakoff was a member of Trinseo's Corporate Environmental, Social and Governance Council.

"Natalia has broad global experience, a track record of moving ideas through the development process to successful product launches and commercial savvy. She combines strong people skills with a passion for driving innovation and achieving tangible outcomes," Orion CEO Corning Painter said. "She is arriving at an exciting time here at Orion, and I am looking forward to her building on the success we have had under David's leadership in batteries, circular products, coatings and other customer applications."

Natalia Scherbakoff

Natalia Scherbakoff holds a Ph.D. and M.Sc. in Macromolecular Science from Case Western Reserve University (U.S.), a Chemical Engineering degree from Mauá Engineering University (Brazil) and an MBA from Getulio Vargas Foundation (Brazil). She is fluent in English, French, Portuguese, Italian and Russian.

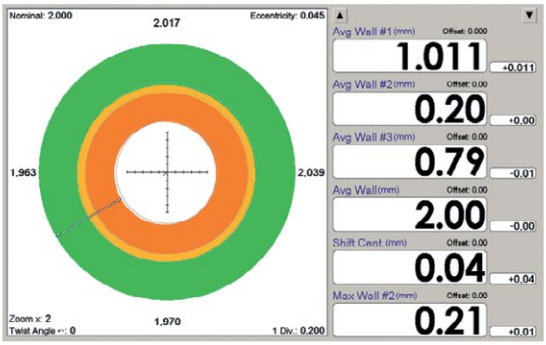
Scherbakoff will be based at Orion's main innovation hub in Cologne, Germany, and will also oversee the company's technical centers in China, South Korea and the U.S. She will continue to build Orion's innovation capabilities, including leveraging our new Battery Innovation Center in Cologne with a full array of production, testing and diagnostic equipment. She will also oversee Orion's €12.8 million investment – which includes €6.4 million in funding from the German government and European Union – to further develop and demonstrate a climate-neutral process for producing carbon black from alternative carbon sources. The technology is designed to improve Orion's yield and throughput in the production of carbon black using circular feedstocks.

Orion S.A.
orioncarbons.com

Advanced Techniques for Measuring Medical Tubing Solutions

Zumbach

SWISS PRIME MEASURING SINCE 1957



UMAC®

In the highly regulated field of medical tube manufacturing, precision and quality control are paramount. Consistent wall thickness and accurate diameters help maintain the desired flow rates of fluid or gases through the tubes, where any irregularities can lead to complications like blockages or improper medication dosages, potentially endangering patients' lives. ZUMBACH Electronics' advanced measurement and control systems play a crucial role in enhancing the efficiency and reliability of the production of the highest quality medical tubes.

ZUMBACH has over 30 years of experience in the development of ultrasonic measurement systems used in the measuring of wall thickness and concentricity of medical tubes. The UMAC® utilizes ultrasonic measuring techniques that outperform alternative technologies and is the only solution able to measure and recognize materials as individual layers in co-extrusion applications.

The UMAC® provides accurate in-line measurements for ultra-thin tube walls down to 0.08mm and can handle product diameters ranging from 0.2mm to 350 mm. Integrated into the UMAC® is the System on a Chip (SoC) unit called UMAC® CI. This expands capabilities with recipe-based operation (without requirement of manual setting manipulations based on the echo signal display), provides a 1kHz sample rate and integrated webserver. It also offers numerous industrial communication protocols for expansive integration with PCs and PLCs utilising Profinet IO and Ethernet TCP/IP, amongst others. The A-Series transducer holders allow the use of 4 or 8 measuring transducers. The top transducer, when in place, is removable, allowing for easier machine setup, while integrated guide solutions ensure product centralization. An optional height adjustment solution allows for under-bath or over-bath adjustment in vacuum or open-bath extrusion situations. An integrated water flow distribution is standard and ensures air and gas bubbles are removed from the measuring area, for greater accuracy and measuring reliability.

The ZUMBACH USYS processor complements this advanced ultrasonic measuring solution by running the highly specialized WALLMASTER software. This software can manage recipes for different products, save measured data and offers statistical calculations and reporting functionalities. Its real-time capabilities include greater control of the extrusion process, as well as automatic compensation of the wall-thickness based on auxiliary diameter measurements. It also enables further expansion of the overall measuring solution through the integration of other measuring ZUMBACH solutions, such as ODAC® laser measuring heads and KW fault detectors.

Key Features of the UMAC® Range:

- Ultrasonic Multi-layer Measurement: Utilizes ultrasonic technology to accurately measure wall thickness and concentricity of up to 5 layers simultaneously. Ideal for complex multi-layer products.
- In-line & Real-time Monitoring: When integrated with the USYS WALLMASTER software, the system allows for continuous in-line measurements and real-time control of the extrusion process, ensuring consistent quality.
- Economically & Technically Advantageous: Offers reduced setup times, raw material savings, scrap reduction and fully automated control, whilst providing complete process transparency.

ZUMBACH Electronic AG
www.zumbach.com

New Degree Program in Blown Film Extrusion

The Materials, Compounding and Extrusion department of the SKZ Plastics Center in Würzburg is expanding its range of modular training courses to include "Specialist in Blown Film Extrusion". Blown film extrusion has become indispensable in today's world and requires extensive know-how to control the sometimes very complex processes. Depending on the area of application, certain film properties are essential, for example, to ensure gas-tightness in food packaging.

This qualification – like all others offered by SKZ – is divided into compulsory and elective modules. This ensures that participants can select the appropriate dates depending on their time constraints. The courses in the compulsory module provide a comprehensive overview of the topics of blown film extrusion. In addition to the material plastic and the material types relevant for blown film production, the course also covers the process structure and, in particular, the process sequence. Particularly in the case of multi-layer films, there is a significantly higher level of complexity here compared to other extrusion processes.

Particular attention is paid to process control and error analysis. In the in-house technical center, the knowledge gained can be put into practice on a laboratory-scale blown film line, and training can be provided in the start-up and shutdown and optimization process. The main topics are rounded off by the elective modules, which can be chosen according to individual requirements. At the end, the knowledge imparted is confirmed by a written examination.

Blown film line at SKZ (Photo: Luca Hoffmannbeck, SKZ)

SKZ Plastics Center
Christian Emmerling, c.emmerling@skz.de,
www.skz.de

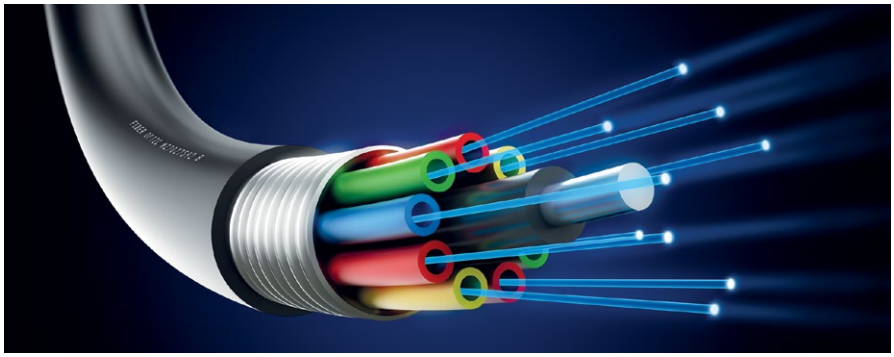
"Micro Medical" Extrusion Tooling

Guill Tool & Engineering introduced the new Micro Medical, an extrusion crosshead that uses micro-fine adjustment screws for precise concentricity adjustment. The precision of concentricity reaches 0.008" or finer per revolution. This single point concentricity adjustment is a unique Guill innovation for the extrusion of thin-walled and precision ID/OD medical tubing. One adjustment bolt controls 360° of adjustment.

Features of the Micro Medical crosshead include a patented cam-lock deflector for quick change-overs, with a residence time of one minute at .5 lb/hr material flow, optimized usage with extruders measuring ½" and ¾", and a max die ID of .250."

Additionally, the Guill Micro Medical crosshead offers great flexibility to its users. It not only accepts both vacuum and micro-air accessories, but is also ideal for pressure and sleeving applications. Fluoropolymer designs are available upon request.

Guill Tool & Engineering
Bill Conley, Sales Manager
www.guill.com



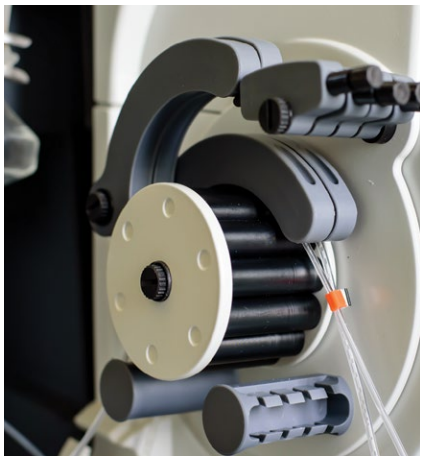
New Medical Grade Thermoplastic Elastomers (TPEs) Introduced

Teknor Apex announced the expansion of its medical-grade thermoplastic elastomer (TPE) portfolio with new grades specifically designed for biopharmaceutical tubing applications. Medical device manufacturers choose thermoplastic elastomers (TPEs) for applications that require flexibility or rubber-like elasticity. They turn to Teknor Apex to deliver high quality, regulatory-compliant Medalist® TPEs with a proven track record.

Teknor Apex is celebrating its 100th year in 2024. The family-owned company continues to innovate and deliver solutions to meet the evolving needs of the healthcare market. These innovative Medalist® Series are tailored to address the unique challenges associated with the continuous processing of biopharmaceuticals through roller pumps.

Teknor Apex's new Medalist® TPE grades offer a compelling combination of performance benefits, including:

- Enhanced Clarity: Improved transparency for visual inspection of fluid flow and potential particle contamination.
- Reduced Spallation: Minimized material loss and contamination risks during extended pump operation.
- Extended Pump Life: Increased durability and longevity of tubing, reducing maintenance requirements and downtime.



Medalist® MD-90000 Series Thermoplastic Elastomers were uniquely designed to address spallation issues with existing products in pump segment tubing applications

These advanced materials are ideal for a wide range of biopharmaceutical applications including single-use systems, bioreactors, filtration systems and fluid transfer lines.

Teknor Apex Gruppe
www.teknorapex.com

First 7,5 Million Drinking Straws in the US to be Made of Compostable Material from Biomaterials

American sustainable serviceware producer Evanesce is just about to start producing the first 7.5 million drinking straws made from Biodolomer, a compostable material based on limestone. Biodolomer is developed and manufactured in Sweden by Gaia Biomaterials.

"The US market is 500 million straws – per day, and we offer a material that gives the feeling that customers want. The potential is enormous," says Gaia Biomaterials CEO Peter Stenström. "We offer a compostable material that gives the customer the experience and feeling they want from a drinking straw. And no taste of paper!" says Peter Stenström

The straws will be produced by Evanesce – a leading force in the American transition away from disposable plastic service ware, focusing on compostable alternatives. At the company's South Carolina production facility, extensive trials have been conducted with the Swedish limestone-based Biodolomer material. Now, production of the first batch of some 7.5 million straws is about to start.

"There is a strong demand from consumers and brands for affordable, sustainable solutions," says Douglas Horne, CEO of Evanesce. "Out of the materials we have tested, Biodolomer is the only one that has lived up to our quality expectations while also being a competitively priced premium product."

Biodolomer is developed and manufactured by Gai Bioomaterials in Sweden. It is certified for industrial composting by both BPI in the US and DinCertco in Europe and has received FDA authorization for the safe use of food-contact substances. It leaves no micro plastics during composting process.

"We are convinced that the new straws will make even more companies choose a solution that allows their customers to enjoy their favourite beverages without being left with a bad aftertaste in their mouth; both literally and figuratively," concludes Peter Stenström.

GAIA Biomaterials
www.gaiabiomaterials.com

Op-ed: „Limiting plastic production leads us backwards“

Manufacturing Dive has featured an op-ed written by Plastics Industry Association's President and CEO, Matt Seaholm. The piece highlights manufacturing month and how the White House's recent decision to support limits on plastic production would be detrimental to U.S. manufacturing and the economy.

"In just the past ten years, plastic has become a bit of a political football, targeted by fringe activist organizations as a public enemy. Interestingly, and perhaps as an election-year gesture, the White House recently and somewhat quietly, announced its support for limiting the global production of this material – one that is essential to practically all American manufacturers. For over three years, leaders within this administration have rightly emphasized the importance of preserving and growing U.S. manufacturing jobs. However, support for manufacturing and the limitation of an essential material for the industry cannot go hand-in-hand."

Plastic resin pellets, which are used in a variety of goods (aydinmutlu via Getty Images)

To read the full op-ed:
https://www.manufacturingdive.com/news/op-ed-plastic-industry-association-ceo-matt-seaholm/729563/

25 Years in the North American Market Celebrated

Smiling faces on the company tour

WEIMA America marked a significant milestone, celebrating its 25th anniversary in the North American market with a two-day event at its Fort Mill, SC headquarters. The occasion was attended by team members, partners, and esteemed guests, including Peter Rössler, founder of WEIMA, and Managing Partner, Martin Friz, who traveled from Germany to join the festivities. The Carolina fall provided a welcoming atmosphere, adding to the celebratory spirit.

Founded in 1999 in Fort Mill, South Carolina, WEIMA America, Inc. was the vision of Peter Rössler, who saw immense potential in the North American market. Rössler, having established WEIMA Maschinenbau, GmbH in Germany nearly two decades earlier, recognized Fort Mill's strategic location near East Coast ports and major interstates as ideal for importing and distributing large machinery.

Since then, WEIMA has grown to serve a broad range of industries, providing shredders for plastics, paper, waste-to-energy, metals, and more. With the addition of briquette and drainage presses, WEIMA has solidified its global leadership in size reduction technology.

Ahead of the celebration, an international sales meeting was held,

fostering collaboration and discussing recent projects and global applications of WEIMA's machinery. While the celebration was primarily in honor of the growth the company has seen in North America, this gathering of team members from around the world highlighted WEIMA's commitment to innovation and growth on a global scale.

The event commenced with a day of live demonstrations at the North American headquarters, attracting vendors, dealers, OEMs, business partners, and prospective clients. Ten live demonstrations showcased WEIMA's versatile machinery, including applications such as aluminum can compression, wood dust briquetting, and bathtub shredding. Approximately 45 guests attended, gaining valuable insights into the functionality and efficiency of WEIMA's technology.

Evening's festivities, including a photo booth and souvenirs, fostered a sense of camaraderie among WEIMA employees and attendees. Madison Burt, CEO of WEIMA America, Inc., expressed gratitude for the ongoing support and dedication of the WEIMA team and partners, emphasizing the strength of the extended WEIMA family.

Machine demonstrations demonstrate the wide range of applications

The anniversary celebration concluded on Friday evening with a formal dinner, where current and former employees gathered to commemorate this momentous achievement. WEIMA's founder, Peter Rössler, shared stories from the company's early days in the North American market, while Managing

Partner Martin Friz reflected on the past 25 years and expressed optimism for the future. The walk down Memory Lane was accompanied by good food and lots of laughs. Madison Burt, CEO WEIMA America, Inc.: "We are so proud of the accomplishments we have achieved in the first 25 years of our existence in North America. With the solid team we have in place, the future is unlimited and exciting!"

WEIMA America, Inc.
www.weima.com

WEIMA Management with partners

Expansion in the U.S.

The Polymers Center in Charlotte, North Carolina, now provides an exceptional opportunity for international companies in the plastics industry to showcase and test their technologies and products in the U.S. market. Through a specially designed "Nesting" program, foreign manufacturers can present their equipment in a state-of-the-art facility spanning approximately 130,000 square feet and benefit from comprehensive support services. Sesotec is proud to be the first Nesting partner, leveraging the Polymers Center to establish a direct connection with end-users and Original Equipment Manufacturers (OEMs) in the U.S.

Patrick Sommers, Sales Manager at Sesotec Inc., highlights the value of this new program: "We are thrilled to collaborate directly with end-users and OEMs, bringing our expertise to the table in a focused manner. The Nesting program enables us to cater to the industry's unique demands while efficiently supporting processes and applications."

Established in 1999 by the State of North Carolina, the Polymers Center is dedicated to driving technological innovations in the plastics industry and attracting new businesses to the region. As a non-profit organization, the center provides targeted support to help companies establish their technologies in the U.S. market. Each year, over 1,400 participants engage with the Polymers Center's diverse testing, training, and educational offerings. With the new "Nesting" program, the center expands its capabilities, offering six specially equipped spaces for international companies to present their technologies directly in the U.S. market. The program is particularly geared toward companies with proven technologies in plastics processing and production.

Charlotte is an ideal location for companies seeking to establish a presence in the U.S., offering proximity to major industrial hubs and excellent connectivity, making it a perfect launchpad for market entry.

The Polymers Center boasts a cutting-edge infrastructure tailored to the plastics industry. Companies participating in the Nesting program benefit from an extensive range of equipment: six extruders, three injection molding machines from various manufacturers, and a variety of auxiliary devices, including pelletizers, mixers, feeding systems, and filtration units. Additionally, tenants have access to a fully equipped laboratory capable of analyzing the physical properties, flow characteristics, and composition of plastic compounds.

Another advantage for Nesting partners is the Polymers Center's ability to present equipment to potential customers on their behalf, even if the partner company cannot be on-site.

Patrick Sommers, Sales Manager at Sesotec Inc., is convinced of the advantages that the Polymers Centre in Charlotte, North Carolina offers Sesotec (Photo: Sesotec GmbH)

At its new North Carolina location, Sesotec offers various training sessions, test runs, and customer events.

The Polymers Center also provides Nesting partners with office spaces, each fully furnished (3x3 meters), along with storage rooms for products and testing equipment. Additionally, there is a conference room for up to 45 people, suitable for training sessions, virtual meetings, and product presentations. Partners can also enhance their visibility with company signage at the facility.

The Polymers Center also supports Nesting partners with various services, including administrative support, marketing assistance, and event planning. These services encompass organizing seminars and customer meetings, providing catering, and creating marketing materials such as brochures, LinkedIn posts, blog articles, and mailings.

To fill the remaining five spaces in the Nesting program, the Polymers Center is initially targeting companies from Europe, particularly Germany, Switzerland, Austria, and Italy. The center's staff has extensive experience and strong connections in these regions, facilitating market entry for international businesses. Bill Murphy and Phil Shoemaker, the center's director, both have held leadership roles in European companies and are well-connected in the industry.

Sesotec Inc., Sesotec GmbH
www.sesotec.com

Prestigious SPE Innovation Awards North America 2024 Won

Syensqo has won the Safety category at the 2024 SPE Innovation Awards North America. Recognized for its pioneering contribution to electric vehicle (EV) safety, the award-winning part is an advanced busbar cable support bracket, utilized in the 2025 Cadillac CELESTIQ, a flagship EV in General Motors' lineup.

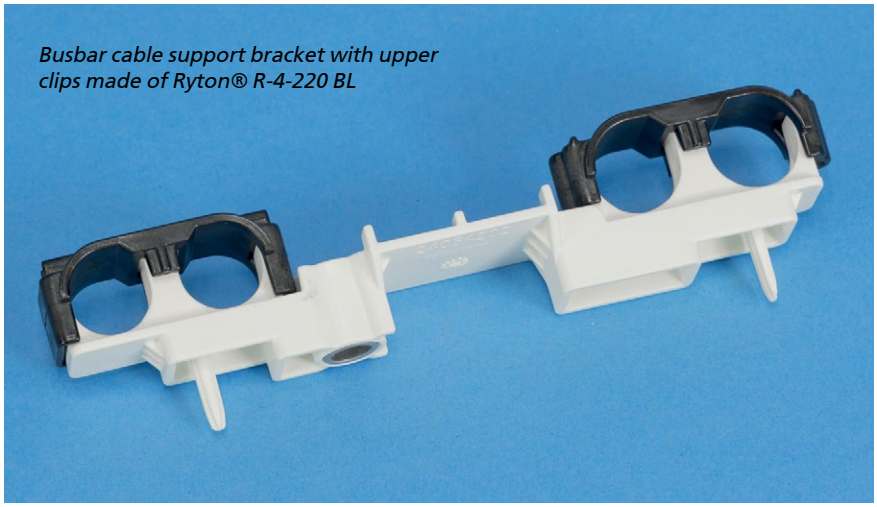
The award was presented at the 53rd Annual Automotive Innovation Awards Program on November 13, 2024, in Detroit, Michigan. This event, established in 1970, is the oldest and largest recognition ceremony in the automotive and plastics industries.

The bracket, injection molded by Grand Traverse Plastics, is engineered to prevent thermal runaway and high-voltage arcing by minimizing cable motion through the use of high-performance, V0-rated PPS and PBT materials. The upper clips, made from Syensqo's Ryton® R-4-220 BL PPS, provide a rigid and secure connection to the busbars, meeting stringent retention requirements while also optimizing assembly efficiency. Unlike metal brackets, this design delivers exceptional durability and thermal stability ensuring the 15kg busbar remains isolated without damaging its insulation.

The Syensqo team receiving the safety category award at the 2024 SPE Innovation Awards North America on November 13, 2024, in Detroit, Michigan. From the left: Gregory Poterala, Rik LaBelle, Laura Hirschhorn, Gill Biesold, Alyssa Arend, Patrick Rodgers, and Geoffrey Lindberg (Photos: Syensqo)

"We are proud to celebrate this significant achievement with our partners at General Motors," said Laura Hirschhorn, Executive Key Account Manager at Syensqo. "Our collaboration and the use of advanced Ryton® PPS have led to a component that sets a new benchmark for safety and production efficiency in the EV industry. This recognition highlights our commitment to innovative solutions that mitigate critical risks and accelerate the transition to electric mobility."

The Cadillac CELESTIQ, featuring this award-winning technology, began production in December 2023. Both the vehicle and its components are available worldwide, continuing to push forward the boundaries of EV technology.



Busbar cable support bracket with upper clips made of Ryton® R-4-220 BL

Ryton® is a registered trademark of Syensqo.

Syensqo
www.syensqo.com

New Plant and High-Performance Portfolio Spotlighted at 2024 Compounding World Expo North America

At the 2024 Compounding World Expo North America at November 13-14 in Cleveland, global specialty chemicals company Orion spotlighted its new acetylene-based conductive additives plant. In addition, Orion showcased its premium, acetylene-based PRINTEX kappa 100 BEADS, new circular carbon blacks and its new high-jet PRINTEX® chroma 500 BEADS for engineered plastics that require the highest aesthetic quality.

Orion broke ground in April 2024 on a plant in La Porte, Texas, that will be the only U.S. facility producing acetylene-based conductive additives. When the site begins operation, expected in the second quarter of 2025, it will increase the availability of acetylene black for use in wire and cable, lithium-ion batteries and other applications.

"We will equip North American manufacturers with a consistent supply of domestically produced acetylene-based conductive additives," said Jennifer S. Stroh, Ph.D., Orion vice president of sales and marketing Americas. "We look forward to customizing solutions for customers, developing new conductive products and continually innovating on their behalf."

Orion conductive additives boost polymer performance in injection molding, wire-and-cable and other applications. High-jet PRINTEX chroma 500 BEADS imparts a luxury look to engineered plastics that require a high aesthetic quality (Courtesy of Orion)

Orion's premium, acetylene-based PRINTEX kappa 100 BEADS offers excellent dispersibility, exceptionally high cleanliness, purity and conductivity, making it ideal for use in high-voltage (HV) electric transmission cables. PRINTEX kappa 100 BEADS and other conductive additives produced at the La Porte plant are a more sustainable option, with only one-tenth of the carbon footprint of other commonly used materials.

Further demonstrating Orion's commitment to sustainability, the company's new circular grades are produced from end-of-life tire pyrolysis oil. Testing shows the same conductivity properties, high purity level, jetness and tinting strength as regular specialty carbon blacks.

Orion's latest innovation is PRINTEX chroma 500 BEADS, the first in a series of new higher-value specialty grades for the polymers market. Designed for engineered plastics that require high-quality aesthetics, PRINTEX chroma 500 BEADS features an excellent balance of high jetness and dispersibility for a shiny, glossy finish.

In La Porte, Texas, Orion broke ground on a plant that will be the only facility in the U.S. producing acetylene-based conductive additives for lithium-ion batteries, wire & cable and other conductive applications. Above, a rendering of the completed facility (Courtesy of Orion)

Orion S.A.
orioncarbons.com

New Vice President Sales Appointed

Reifenhauser Incorporated, the U.S. subsidiary of the German extrusion machine manufacturer Reifenhäuser Group, has appointed Matthew Banach as the new Vice President Sales Cast Sheet Coating (CSC). Effective September 2, Banach has assumed responsibility for the further expansion of Reifenhäuser's North American flat film and sheet extrusion business. With decades of experience and a proven track record in the extrusion industry he will support Reifenhäuser customers in setting up successful production lines.

Steve DeSpain, Vice President Reifenhauser Inc., says: "We are pleased to have Matt on our team as it shows the continued commitment that Reifenhäuser has in the North American market. Matt is an industry veteran and has experience in leading positions both on the processing and machinery side."

Banach adds: "With a career dedicated to the plastics industry, I am thrilled to step into a leadership role at Reifenhäuser, a true global pioneer in extrusion technology. I look forward to contributing to Reifenhäuser's renowned legacy of engineering, innovation, and manufacturing excellence as we push the boundaries of technology and shape the future of the industry together."

In his new role as Vice President Sales CSC, Banach will focus fully on Reifenhäuser's Cast Sheet Coating technologies and make their advantages visible in the market. Reifenhäuser CSC systems are consistently designed for maximum OEE (Overall Equipment Effectiveness) and enable the efficient processing of recycled material. A particularly unique selling point are the Value PET lines, for example, featuring a co-rotating twin-screw extruder and a high-performance vacuum system for the direct extrusion of recycled PCR-PET material. The FDA/EFSA certified process allows the production of food-safe sheet without the need for an upstream cleaning and drying process.

Matthew Banach, Vice President Sales CSC, Reifenhauser Inc. (Picture: Reifenhäuser)

Reifenhauser Incorporated
https://reifenhauser.com

Biomass Balanced LCP for ReducO_2 Emissions and Improved Renewable Content Launched

Polyplastics has announced the launch of LAPEROS® bG-LCP, a sustainable solution based on biomass-derived materials (mass balance approach) which reduces CO_2 emissions and improves renewable content ratio. The introduction expands the company's DURACIRCLE® initiative which already includes DURACON® bG-POM.

LAPEROS® bG-LCP, slated for commercialization in spring 2025, is manufactured like conventional products and exhibits the same chemical and physical properties. Polyplastics plans to expand this new solution to all grades of LAPEROS® LCP. The mass balance approach combines raw materials derived from biomass with those derived from fossil resources. By combining them into resin manufacturing processes a portion of the resulting product can be considered to be biomass-derived, according to the volume of biomass raw material input.

This sustainable option eliminates the need to produce biomass-derived and fossil resources-derived products separately. Users also have no need to re-evaluate performance and quality for each separate grade. Thus, the approach effectively helps to more quickly achieve carbon neutrality and a circular economy.

LAPEROS® LCP delivers thin-wall and high flowability characteristics along with superior heat resistance and strong mechanical performance. It also possesses higher strength per unit area at reduced thicknesses, along with a low linear expansion coefficient close to that of metal. It is used in many ultra-small precision connectors and other parts of cutting-edge IT devices that are becoming increasingly compact, including tablets and smartphones.

DURACIRCLE® is an initiative that encompasses the use of renewable feedstocks, resin recycling and re-compounding operations aimed at generating higher performance and value. This includes biomass balanced products such as LAPEROS® bG-LCP and DURACON® bG-POM, expanding the use of post-consumer recycled (PCR) sources, chemical recycling, and the development of raw material technology that reuses CO_2 emissions.

(Source: Polyplastics Co., Ltd.)

Polyplastics Co., Ltd.
www.polyplastics.com

America Recycles Day Celebrated

The Plastics Industry Association (PLASTICS) released the following statement celebrating America Recycles Day, the official national observance dedicated to promoting recycling across the United States:

"For the plastics industry, every day is America Recycles Day," said PLASTICS President and CEO Matt Seaholm. "Our industry is dedicated to advancing recycling, which is why we continually work to improve recyclability and invest billions in innovative technologies to make a real difference. Recycling is real, and the plastics industry is proud to be part of the solution. However, to increase recycling rates, we need strong partnerships. We look forward to collaborating with the new administration, Congress, and governments across the country to expand recycling efforts and recover more valuable materials every day," Seaholm concluded.

PLASTICS launched a video featuring recycling efforts taking place at Eastman in Kingsport, Tennessee, as part of its advocacy campaign, Recycling is Real. The campaign provides content to help elected officials and policymakers understand that recycling is a vital link in the sustainability and circularity chain, enabling them to make more well-informed decisions about recycling resources for their constituents.

Matt Seaholm

https://recyclingisreal.com/

Recycling Champion Award

In celebration of Recycling Week and the Congressional Recycling Caucus, the PLASTICS presented the 2024 Congressional Recycling Champion Award to Senator Tom Carper, a retiring Co-Chair of the Congressional Recycling Caucus. This award recognizes Senator Carper's longstanding commitment to sustainability and his significant achievements in advancing recycling policy. His leadership has been instrumental in driving progress on recycling initiatives, leaving a lasting impact on Capitol Hill.

"I believe we have a responsibility to leave our planet in better shape than we found it. By promoting recycling in America, we can serve as faithful stewards of our planet and fight climate change, while also investing in American manufacturing and jobs.

That's a win-win," said Senate Environment and Public Works Committee Chairman Senator Tom Carper. "Thank you to the Plastics Industry Association for this recognition."

"Acknowledging the vital role recycling plays in supporting a circular economy has been a constant theme that Senator Carper has carried throughout his career. Through Senator Carper's leadership roles, he has always believed that material should be kept in in our economy and out of our environment," said PLASTICS President and CEO Matt Seaholm. "We are proud to present Senator Carper with the 2024 Congressional Recycling Champion Award."

Founded in 2006, the Congressional Recycling Caucus aims to educate Senate and House members and staff on the benefits of recycling to the U.S. economy and environment, and supports public policies aimed at increasing recycling across the country.

Statement Ahead of INC-5 Negotiations Released

PLASTICS has issued the following statement ahead of the fifth session of the Intergovernmental Negotiating Committee (INC) on plastic pollution, taking place in Busan, South Korea: "Plastic is an essential material that improves our quality of life in countless ways," said PLASTICS President and CEO Matt Seaholm. "However, it must be kept out of the environment—a goal shared by our industry and the attendees of these negotiations. We strongly support the creation of an ambitious global plastic pollution agreement. At the same time, we are concerned about a number of the provisions that have been proposed that far exceed the scope of the original intent of the process to create an international agreement – including the idea of capping production of plastic, which would harm nearly all U.S. manufacturers without reaching our shared sustainability goals. Moreover, these types of approaches make it unlikely that the bipartisan support needed in Congress would be secured to approve a final global agreement. "

„As an industry, we remain committed to collaborating with all levels of government to combat plastic waste. Ensuring that the U.S. economy thrives while responsibly using our resources is a bipartisan priority. We will continue working with anyone who shares our commitment to reducing plastic waste and advancing sustainable practices," concluded Seaholm.

https://www.plasticsindustry.org/

Analysis Released: Third Quarter GDP Report's Impact on Plastics Industry

The Plastics Industry Association (PLASTICS) has released an official analysis of the third quarter GDP report's impact on the plastics industry, authored by PLASTICS Chief Economist, Dr. Perc Pineda. Dr. Pineda writes, "This broad-based increase in economic activity includes a 3.1% rise in real household spending and a 3.3% increase in business investment, supporting a favorable outlook for the plastics industry. With an estimated 87.6% of plastics products directed toward personal consumption expenditures in 2023, the growth in household spending is positive news for the plastics industry."

To read the full analysis on the PLASTICS blog page.

https://www.plasticsindustry.org/blog/u-s-economic-growth-persists-is-a-plastics-industry-rebound-on-the-horizon/

Dr. Perc Pineda

Global Trends Report Released – U.S. Plastics Trade Returns to Surplus

The Plastics Industry Association (PLASTICS) released its annual ‚Global Trends' report during the Association's inaugural National Plastics Conference in Houston, Texas. The report notes a U.S. plastics trade surplus after a three-year deficit.

"Plastics manufacturing is a global industry, and the over $1.5 trillion trade volume between countries in 2023, as highlighted in the Global Trends report, clearly demonstrates the industry's capacity to meet global consumer demand across various end markets, including healthcare, transportation, construction, and consumer goods," said PLASTICS Chief Economist, Dr. Perc Pineda. "The U.S. plastics industry's position as a leader in the global plastics trade underscores the essential role of plastics and its importance across multiple industries," said PLASTICS President and CEO, Matt Seaholm. "Our members are consistently innovating and investing in new technologies to enhance sustainability and efficiency while continuing to supply critical materials that improve lives worldwide."

Among the highlights found in the Global Trends report:

- The U.S. plastics industry's trade balance turned positive in 2023, with a $958 million surplus.
- The U.S. resin industry had a $23.8 billion surplus in 2023, up 3.3% from the $23.0 billion surplus in 2022.
- China was the industry's third largest export market in 2023, with exports totaling $7.3B, a 6.3% increase from 2022. However, the U.S. plastics industry had its largest trade deficit with China – $11.4 billion in 2023, down from $16.5 billion in 2022.
- Mexico and Canada remained the largest export markets for the U.S. plastics industry in 2023, with exports totaling $19.5 billion to Mexico and $14.4 billion to Canada.

Interested parties will find the Global Trends report and its accompanying dataset provide a uniquely comprehensive account of U.S. plastics exports and imports worldwide in each of the four categories of the plastics industry – resin, products, machinery and molds. The report is also the only plastics trade report that includes trade analysis outlining the movement of resins and plastics that are embedded in goods that the U.S. both exports and imports.

An executive summary and the full PLASTICS' ‚Global Trends' report are available to Plastics Industry Association members online at:

https://www.plasticsindustry.org/data-report/global-trends-2024/

Fakuma 2024 – *A Family Celebration for the Plastics Industry*

The 29th Fakuma international trade fair for plastics processing closed in Friedrichshafen as a great success. 1639 exhibitors presented their innovations in the fields of efficiency, sustainability and circular economy in twelve almost fully occupied halls and nearly booked-out foyers from the 15th through the 19th of October, 2024. The 5-day trade fair on Lake Constance was characterised by bustling activity, in-depth discussions and a programme packed with highlights.

Fakuma is becoming increasingly international. With 47.5% of the exhibitors coming from outside of Germany (previous year: 44.0%), this year's trade fair for the plastics processing industry once again occupied a leading position throughout the world. From a total of 1639 exhibitors (3 more than in 2023), 778 travelled to Stuttgart from many different countries – including 170companies from China, 142 from Italy, 81 from Switzerland, 77 from Austria and 51 from Turkey. For manufacturers and users, topics such as increased efficiency, process stability, reproducibility and minimised setup times are at the top of the agenda. Consequently, plastics processors are implementing all conceivable technical and organisational measures, as well as investments, to ensure that they remain competitive … because they're being forced to produce more and more economically.

Roundtable Discussion

The highly specialised expert community was presented with lots of attractive highlights as part of this year's trade fair programme. Initially, the second edition of the Fakuma Round Table was held during the afternoon of the first day of the trade fair, this time addressing the topic of "Digitalisation – Top or Flop?" The panel of experts included Professor Dr. Michael Braungart, founder and scientific director of BRAUNGART EPEA, Miranda Burtscher, head of corporate operations controlling at ALPLA, Guido Frohnhaus, managing technology director at Arburg, Professor Dr.-Ing. Hans-Josef Endres from the Institute for Plastics and Recycling Technology at Leibniz University Hannover and Professor Dr.-Ing. Thomas Seul from the Schmalkalden University of Applied Sciences. The panellists, moderated by Markus Lüling, Editor-in-Chief of K-Profi, examined the extent to which digitalisation offers solutions to the issues of sustainability and the shortage of qualified personnel. The prominent panellists arrived at a conclusive verdict: digitalisation is tops. It's a necessity. It's a tool for achieving effectiveness, which in turn leads to greater efficiency, emphasised Thomas Seul. There are plenty of examples from numerous sectors indicating that digitalisation has helped us to move forward. Hans-Josef Endres also made his case for "tops", because digitalisation offers many opportunities and practical advantages throughout the entire process chain – for example in order to make the flow of materials transparent by collecting and using the relevant data, in order to be able to reuse materials. Michael Braungart stressed that the prerequisites for closed loop processes can only be fulfilled by means of digitalisation. However, digitalisation should not be taken to absurd extremes. "We shouldn't focus attention on irrelevant aspects," says Braungart. "Always take a careful look at what you want to digitalise first." The panellists agreed in this regard: simplify and improve processes first, then digitalise them. This is the only way to ensure meaningful and effective digitalisation. Miranda Burtscher pointed out an important task: digitalisation also results in large amounts of data that require the use of appropriate analysis tools. However, the interfaces must first be equipped with a common language because networking would otherwise be doomed to failure.

New Talent Recruitment on Career Friday

Career Friday was a special highlight this year: The trade fair promoters, the exhibitor advisory board and the exhibitors jointly organised a campaign for pupils, students and entry-level employees in keeping with the motto "Mould Your Dreams, Mould Your Future". The objective was to inform young people about career opportunities in the plastics industry and, at the same time, impart knowledge in the field of plastics. The campaign was very well received – many exhibitors organised shuttle services, activities, tours of the trade fair booths and glimpses behind the scenes of plastics processing. More than 400 highly interested young people took advantage of this opportunity and joined the various guided tours.

Positive Verdict

"Fakuma 2024 was once again a great family celebration for the plastics industry," says Bettina Schall, managing director of trade fair promoters P. E. Schall, in summing up the 5 successful days of the event in Friedrichshafen, which attracted 36,675 visitors. "Already at the opening press conference, Professor Dr. Michael Braungart inspired us with his approach which holds that 'everything can serve as a nutrient'. This was followed by countless discussions and meetings in the highly frequented exhibition halls and conference rooms. The Startup Area enjoyed lively interest at its trade fair booths. And the expert forum was once again a central meeting place for the expert community for gathering in-depth technical information." Bettina Schall is optimistic about the industry's future. "Although the current situation is challenging and we have to deal with numerous highly complex issues simultaneously, the concentrated innovative power experienced at Fakuma 2024 is a strong indication that we're tackling the issues with determination and confidence," says the managing director. "The last several days at the trade fair have helped to make it possible to implement constructive approaches, step by step. I would like to thank all of the exhibitors and visitors for their active contribution and for their participation. All industry stakeholders are cordially invited to the 30th Fakuma in Friedrichshafen from the 13th through the 17th of October, 2026!"

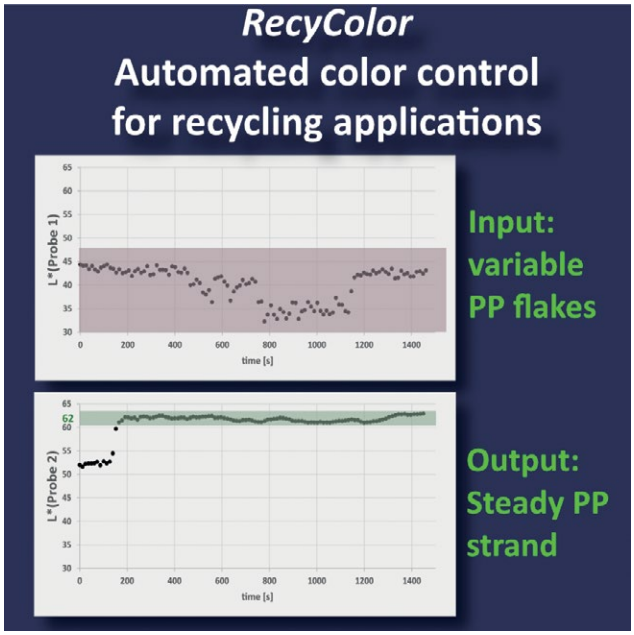
www.fakuma-messe.de

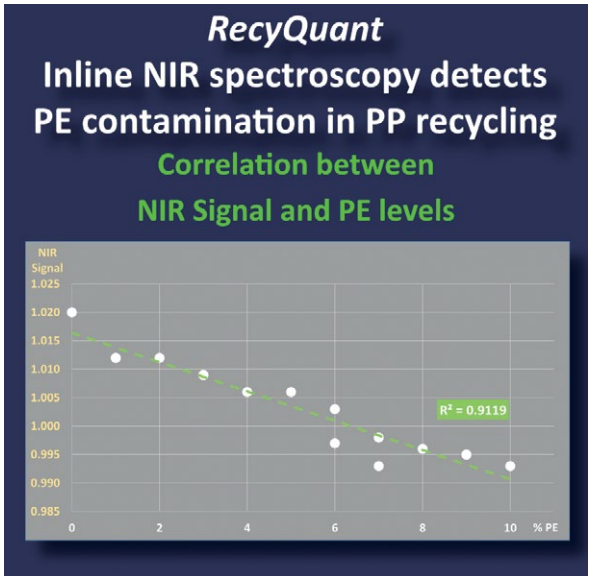
Real-Time Measurements in the Polymer Melt –

No Sampling and No Waiting Time

ColVisTec from Berlin, the world's leading specialist for inline process monitoring in the extrusion of polymers, exhibited its InSpectro series at Fakuma. This is a proven spectroscopic technology used internationally in compounding and recycling in three variations: UV/Vis, NIR and Raman.

In addition to the classic real-time 24/7 process monitoring in extrusion, ColVisTec exhibited two important tools, specially developed together with SKZ, Würzburg, for the use in mechanical recycling (post consumer and industrial).





The first is automated color control to a predefined target color value with RecyColor. Regardless of the fluctuations in the input material, a predetermined color value is maintained reliably and constantly by controlling the dosing unit for the pigment addition (Picture 1).

As a second tool, ColVisTec offers the new product RecyQuant based on near-infrared spectroscopy, which enables the determination of the contaminant polymer content in the polymer melt during operation (Picture 2). Furthermore, the residual moisture can also be detected and quantified directly.

ColVisTec AG
www.colvistec.de

Optimised Sliding and Abrasion Behaviour without PFAS

Lubmer UHMW-PE grades from Mitsui Chemicals offer high-performance solutions where applications for engineering plastics place increased demands on sliding, abrasion and wear behaviour. In many cases, these materials, which are suitable for both injection moulding and extrusion, can replace the previous standard solution PTFE, which will no longer be produced in Europe in the future, if its high heat resistance is not required. In addition to their excellent tribological properties, they are characterised by good chemical resistance, low density, very low water absorption and high flexibility and impact strength at low temperatures. Another advantage is the low noise development during sliding movements. Dreyplas, Meerbusch, is the distributor for Lubmer materials in the DACH region.

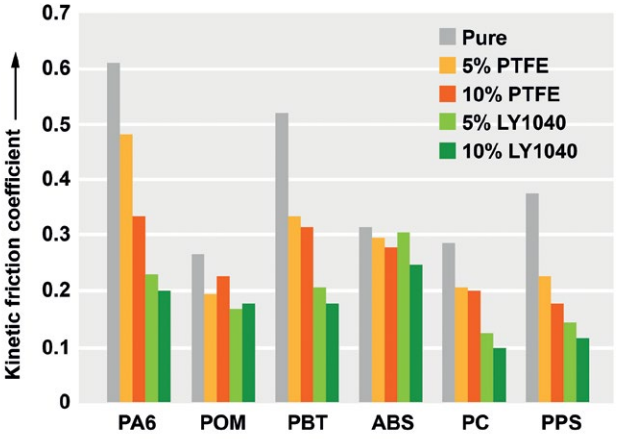
The Lubmer granulate range includes the highly abrasion-resistant types L3000, L4000 and L5000, which differ in terms of their molecular weight. In addition, the special

grade L5220, which contains a low oil content, offers self-lubricating properties. Lubmer TM-80B is a weather-resistant grade that was specially developed for glass running channels (GRC) in motor vehicles. These granules are the only UHMW-PE products in the world that are suitable for traditional thermoplastic processing methods. They allow the use of hot runner technology and tunnel sprue systems for injection moulding technical parts, and they are also suitable for the extrusion of sheets, profiles and hoses. In both cases, their opaque, light inherent colour facilitates colouring with masterbatches.

Unlike the granules suitable for direct processing, Lubmer LY1040 is a masterbatch based on the standard grades that is compatible with most engineering plastics and can replace PTFE as an additive. As a PFAS-free engineering plastic modifier, it exhibits better sliding properties than PTFE or molybdenum disulphide even at low addition levels of 3 to 5 %. It can also significantly improve the wear resistance of PA6 and many other materials without affecting the substrate properties. Typical applications include bearings and gear parts for electrical equipment and automotive interior parts as well as mechanical components for lifts and escalators.

Mitsui Chemical has developed the PA Lubmer alloys LS4140 and LS4120 for applications that require increased mechanical strength. The PA masterbatch LY4100, which can be added during extrusion or injection moulding without compounding, rounds off the portfolio.

At their end of life, all Lubmer product types can be returned to the PE recycling loop thanks to their thermoplastic processability. Another plus in terms of sustainability is the fact that injection moulding produces little to no waste, unlike the machining of conventional



Even at a low dosage of 5 %, UHMW-PE Lubmer reduces the friction coefficient of engineering plastics much more efficiently than PTFE (© Mitsui Chemical)

UHMW-PE products. And due to its density, which is half that of PTFE, LUBMER has proven to be advantageous for use in lightweight components with increased durability.

Together with customers, Dreyplas and Mitsui Chemicals Europe develop solutions for the substitution of PTFE as well as special grades with application-specific properties that go beyond those of the standard grades available.

MITSUI CHEMICALS EUROPE GmbH
https://eu.mitsubishi-chemical.com

DREYPLAS GmbH
www.dreyplas.com

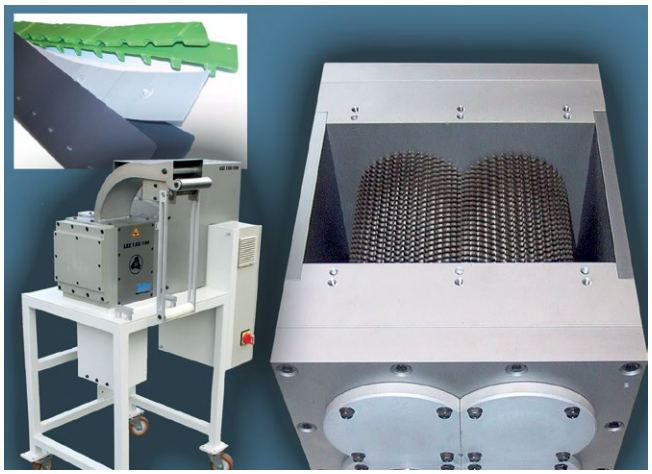
Reliably Feeding and Shredding Edge Strips from Trimmed Film Webs

At Fakuma, Hellweg Maschinenbau showcased its solution for reliably, continuously and uninterruptedly shredding profiled edge strips. The more pronounced the profiling, the more often granulators with a conventional feed and chop configuration fail to perform because the strips are then difficult to grip and convey. Such problems are a thing of the past for operators of Hellweg Maschinenbau's completely redesigned LSZ 150/100 edge strip shredder that feeds and shreds the strips in a single step with no blade, no screen, no infeed device, and no resharpening of the toothed rollers. Years of low-maintenance and trouble-free operation combined with low cleaning requirements mean the shredder is also economic to run.

The key elements behind these advantages are the four hardened toothed rollers machined from solid tool steel billet. Mounted in pairs in a steel housing, these provide a working width of 150 mm. Thanks to not requiring a separately driven, failure-prone infeed device, they forcefully guide the edge strips away from the sheet material during production while keeping them under tension, regardless of strip geometry. An infinitely variable roller speed enables feed speeds of between 0.8 m/min and 6 m/min, so allowing granulation to be perfectly adapted to the production process.

Due to their optimized arrangement and shape, the rollers' teeth shred the edge strips without interruption into a readily flowable, uniform regrind with an edge length of around 5 mm to 10 mm. This can then be added directly to virgin material. As a result, there is also no need for a separate screen as required by other systems for separating over- or undersized regrind.

Profiled edge strips are typical in the manufacture of sheet webs that, following extrusion, are thermoformed into products such as dimpled sheet or green roof matting. This results in projections on both edges that not only interfere with feed but also delay feed operations during intermediate thermoforming operations.



Four toothed rollers made of hardened tool steel, arranged in pairs one above the other, reliably feed even heavily profiled edge strips and shred them in a single step (© Hellweg Maschinenbau)

The system's approx. 600 mm long, rotatably mounted probe arm oscillates to compensate for such variations. An integrated momentary-contact switch that switches the unit on and off prevents the edge strips from being ripped apart. The machines can be equipped with an optional integrated extraction system.

In addition to the LSZ 150/100 edge strip shredder, Hellweg Maschinenbau also offers the servomotor-driven R 200/20 Servo edge trimming system for continuously pre-shredding one or two edge strips from film or sheet production. Also known as a chipper or guillotine, it is designed for a working width of 200 mm with cutting thicknesses of up to 20 mm. The resulting chips, which are some centimeters in size, are further processed by a downstream granulator into millimeter-size regrind or flakes as required. Hellweg's portfolio includes granulators for every plastics application, from small machine-side granulators for sprues up to high-performance systems for solid parts, film and sheet with throughputs of five metric tons per hour and above.

Hellweg Maschinenbau GmbH & Co. KG
www.hellweg-maschinenbau.de

Tailored Glass Fiber Package and 360°-Service

A highlight at this year's Fakuma was the new Fiber Package for NGR's shredder-feeder-extruder combination, which integrates shredding, feeding, and extruding into a single process with NGR's proven ONE-STEP technology.

The new Fiber Package, specifically developed for processing glass fiber-reinforced plastic waste, optimizes the machine to meet the unique material requirements, ensuring highly efficient efficient wear-resistant processing.

"Our goal is to provide application-oriented solutions that focus on our customers' needs and deliver the best possible results," explains Creighton Varney, Product Manager for PIR at NGR. "The new Fiber Package includes key components such as specially adapted screws, barrels, and shredder rotor configurations. Additional features like optimized dust reduction and integrated strand pelletizing complete the package."

The Fiber Package is the first of several planned option packages that NGR has newly developed. These packages enhance the base machine with proven, application-specific components that have been shown to be highly efficient in many installations. This allows customers to easily and quickly adapt their machines to their specific requirements, increase productivity, minimize wear costs, reduce maintenance, and sustainably optimize their investment by improving operational efficiency.

Next Generation Recyclingmaschinen GmbH (NGR) showcased its latest developments in plastics recycling at Fakuma. The focus was on the new Glass Fiber Package, a specially designed solution for processing glass fiber-reinforced injection molding production waste

In addition, NGR presented an expanded 360°-Service offering in Friedrichshafen, covering the entire lifecycle of its machines. From commissioning and regular maintenance to upgrades, spare parts supply, and customized training, NGR ensures that its customers' machines deliver peak performance at all times. The 360°-Service ensures that the equipment stays up to date with the latest technology and its efficiency is maximized throughout its operational lifespan.

NGR – Next Generation Recycling Machines
www.ngh.at

Revolutionizing Efficiency and Cost Savings

Maguire Products debuted its advanced technologies at Fakuma in Friedrichshafen, Germany. Known for driving innovation in plastics manufacturing, Maguire highlighted a series of products designed to dramatically enhance efficiency, reduce costs, and deliver unparalleled precision for plastics processors.

Maguire's Gravimetric Batch Blenders, the world's most popular blenders worldwide with over 70,000 units sold, were a key highlight. Engineered for precise dosing, material traceability, and rapid material changes, these blenders offer the flexibility to handle small and large-scale production needs. Attendees could see models WSB MB Micro and WSB 240R on the stand, both of which ensure quick returns on investment through operational efficiency and precise material control.

The ULTRA Vacuum Dryer, a game-changing solution for materials drying, was on full display. Renowned for its energy efficiency and drying speed, the ULTRA dryer offers savings of up to 80% in energy costs, drying materials up to six times faster than traditional desiccant drying methods. Visitors to the stand could interact with the featured ULTRA 150 and ULTRA 300 models and explore potential cost savings using Maguire's interactive Savings Calculator.

The MGF Feeder Family, recently expanded to over sixty models, provides unmatched dosing accuracy for additives and masterbatch, with 20 to 30% savings over volumetric systems. Featured models, including the MGF and MGF+100X-3 with integrated extrusion control, demonstrated enhanced precision for both extrusion and molding applications.

Maguire Products demonstrated its state-of-the-art ULTRA Vacuum Dryers at Fakuma, spotlighting their unmatched energy and cost savings, drying speed, and sustainability benefits for the plastics industry

Maguire also spotlighted its FlexBus Central Conveying System, designed for seamless plant-wide material handling control. Compatible with various equipment, FlexBus offers intuitive touchscreen interfaces, while the FlexBus Lite version provides a streamlined solution for smaller-scale operations. Both systems are easily retrofittable to third-party equipment, allowing processors to upgrade their systems efficiently without major overhauls.

Maguire Products, Inc.,
www.maguire.com

Property-Enhancing Additives and Eco-Friendly Solutions for Plastics

At Fakuma , Tosaf presented its latest developments in the field of property-enhancing masterbatches for the plastics industry. One focus was on the optimisation of products made from PET and rPET in particular. The international company also presented its new PPAX colour masterbatches for colouring PPA, PFAS-free processing aids for film extrusion and halogen-free flame retardants for PP. Examples of Tosaf's commitment to sustainability include the CO_2 footprint calculator, bio-based materials, recyclates and biodegradable plastics.

As to be shown at Fakuma, Tosaf offers a wide variety of solutions for PET and rPET that help to optimise quality, efficiency, sustainability and costs during processing and recycling. With regard to the aesthetics and functionality of PET packaging, additives are available that correct the colour and gloss of rPET or prevent wa-

Additives from Tosaf help to give containers made from virgin PET and rPET the best possible properties in terms of aesthetics and functionality (© shutterstock/Dan Kosmayer)

ter droplets from depositing on the inner walls of packaging. Additives for absorbing and eliminating oxygen from the headspace of packaging, UV protection additives and – especially for milk containers – ultra-light-proof white masterbatch help to extend product shelf life. Acetaldehyde scavengers prevent changes in the flavour of water in rPET bottles.

Processing aid additives prevent electrostatic charging or change the surface properties of PET to prevent blocking and reduce the coefficient of friction. Special IR absorbers facilitate thermoforming with uneven wall thicknesses without impairing clarity.

Additives are used to improve the properties and quality of rPET by linking shortened PET polymer chains and thus increasing the molecular weight. Compatibilisers enable the recycling of PET-PCR blends that are contaminated with polyolefins or barrier plastics such as PA and EVOH. An NIR-reflective black masterbatch facilitates sorting during recycling.

FR8719PP is an innovative, halogen-free flame retardant (HFFR) from Tosaf for PP pipes or moulded parts that are used, for example, for laying and fixing cable conduits and for conducting liquid media. Even in low concentrations, it makes it easy to comply with strict fire protection criteria and thus enables a switch to a more sustainable solution without the products losing any of their flame retardancy and properties. Processing advantages are the good dispersing behaviour in the melt and the very low formation of dye build-up during extrusion. If halogen-free is not a priority, brominated flame retardants such as FR6413PE and chlorinated, low-cost grades such as FR0049PE from Tosaf offer high thermal stability and fire protection without compromising the product properties.

Tosaf's PFAS-free processing aids for the extrusion of polyolefins can be used without restriction instead of conventional formulations for film production. They meet the FDA and EFSA food contact requirements and, depending on the grade, are optimised in terms of either their rheological or their optical properties such as light transmission, haze and clarity. The unproblematic behaviour of PFAS-free monomaterial PE films in recycling is an advantage.

With PPAX, Tosaf Color Service has developed a new colour masterbatch carrier system that is based on the high-performance plastic PPA (polyphthalamide) and is combined with specially selected pigments that allow high processing temperatures. This makes it possible to produce products made with it in brilliant and varied colours without reducing the high heat resistance, very good strength, stiffness and toughness, low moisture absorption and high chemical resistance. It can also be used to laser mark coloured parts.

Tosaf is leading the way on the 'green path'. It quantifies and reports on its carbon footprint down to product level, utilises solar energy and offers a portfolio of products based on renewable sources or recyclate. Thus, the company is already prepared for a further tightening of regulations. At the same time, Tosaf is fulfilling its customers' desire to maintain relationships with environmentally conscious partners. The company has already undergone global validation for the ISO 14064 standard for quantifying and reporting greenhouse gas emissions in 2021. This now covers the entire life cycle of a product and does not end at the factory gate. Tosaf calculates its carbon footprint for the production facilities as a whole as well as for the products themselves and makes the results available to customers on request to calculate their own sustainability figures.

Tosaf is also continuously expanding its portfolio of sustainable solutions. Options include bio-based concentrates that use coffee grounds and eggshells as fillers, polymers from renewable sources and recycled polymers. These are supported by a collaboration with recycling plants for various polyolefins and polystyrene.

Tosaf Compounds Ltd.
www.tosaf.com

EXTRUSION

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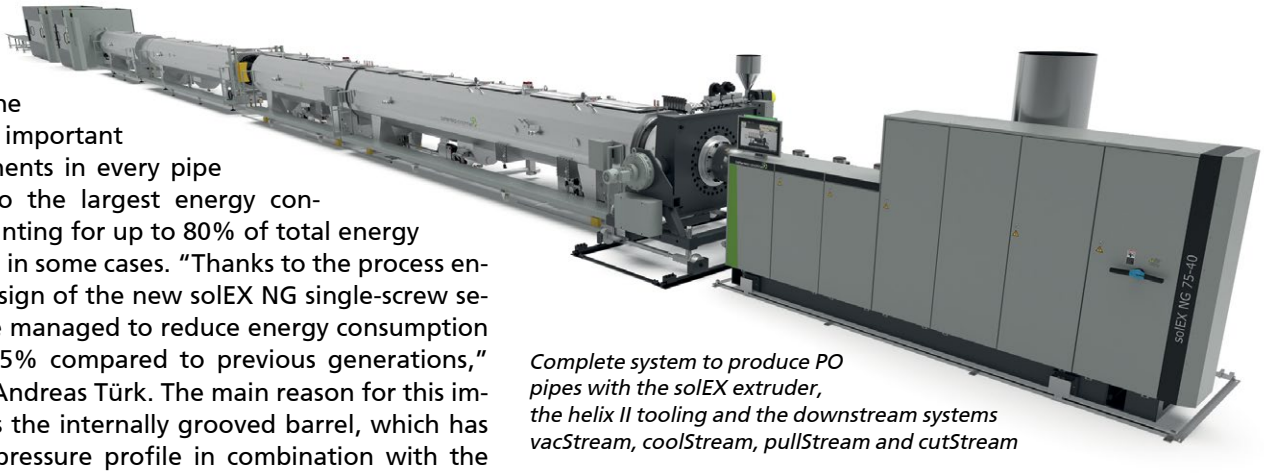
Minimize Energy and Raw Material Costs in PO Pipe Production

"The investment costs for complete pipe extrusion lines quickly pay off thanks to us," Andreas Türk, Director Sales Infrastructure at battenfeld-cincinnati GmbH, Bad Oeynhausen, is certain. After all, the components of a complete system are not only perfectly matched to each other but are also technically designed to save both energy and raw material costs compared to similar systems. Thanks to minimized production costs, the investment costs are amortized after just three to four years. This means that the pipe manufacturer saves money during the entire service life of a pipe line of around 15 years or more and benefits from the high end product quality and a reduced CO2 footprint.



Complete system to produce PO pipes with the solEX extruder, the helix II tooling and the downstream systems vacStream, coolStream, pullStream and cutStream

The extruder is not only one of the most important core components in every pipe line, but also the largest energy consumer, accounting for up to 80% of total energy consumption in some cases. "Thanks to the process engineering design of the new solEX NG single-screw series, we have managed to reduce energy consumption by around 15% compared to previous generations," emphasizes Andreas Türk. The main reason for this improvement is the internally grooved barrel, which has a low axial pressure profile in combination with the matching screw geometry. This leads to both reduced energy consumption and less machine wear. At the same time, the new processing unit ensures a very gentle and homogeneous melting performance at around 10 °C lower temperatures.

The second core component of every pipe line is also indispensable: the helix dies from battenfeld-cincinnati not only score points with the unique and patented process engineering combination of screen basket distributor and spiral mandrel, but due to their design also with 10% lower energy costs for the heating capacity compared to conventional pipe heads. In addition, the screen basket homogenizes the melt thermally and mechanically, which leads to a further improvement in product quality. The third important factor influencing the overall energy consumption of a pipe line is the cooling and therefore the downstream units, consisting of vacuum tanks and spray baths. The green line concept works with frequency-controlled pumps and a very efficient water supply, both of which help to reduce energy costs.

With an energy-efficient complete system setup consisting of solEX NG, helix die and green line downstream equipment, around EUR 85,000 in energy costs can be saved per year, calculated with 7,000h production p.a. and 12 Eurocent per kWh, when producing a 250 mm PO pipe with SDR 11 and an output of 1,000 kg/h. With a conventional energy mix, this corresponds to a CO_2 equivalent of 315,000 kg.

As with the energy costs of the extruders, material consumption is the main factor influencing production costs: around 85% of production costs are attributable to the raw material used. "For ecological and economic reasons, we have to make sure that little scrap is produced, and that the production of good products is carried out within the narrowest tolerances," says Andreas Türk, explaining that the line components from battenfeld-cincinnati are designed precisely for this purpose. Thanks to the combination of the screen basket distributor and the spiral mandrel of the helix pipe heads, the melt is distributed more precisely, which is particularly evident with thicker wall thicknesses. Due to the improved melt quality, the tolerance ranges of the wall thicknesses in the pipe can be significantly reduced. In addition to the gravimetric dosing system, which ensures exact quantity dosing, and the extruder, which works with a minimum throughput fluctuation, the inline wall thickness control and the centering aid inside the die head are also responsible for exact wall thickness distributions and low tolerances in the pipe lines.

Precise wall thickness distributions in turn minimize material consumption. Here is an example: If the target wall thickness of 6.2 mm of a 200 mm PO pipe with SDR 33 varies within a narrow tolerance range between 6.22 and 6.48 mm instead of the usual up to 7 mm, around 1 million euros in raw material costs can be saved per year at a throughput rate of 1,000 kg/h and calculated with 1.50 Euro per kg/HDPE and 7,000h production p.a. Due to the design of the tools fast color change times support the raw material savings.

In large-diameter pipe production, the so-called sagging effect is particularly important for the economic efficiency of a line. If this can be prevented as far as possible, it makes a decisive contribution to the efficiency of the line. Here, too, considerable improvements have been achieved in recent years through new developments in the area of the pipe head.

"Thanks to the combination of minimized energy and raw material costs, our pipe lines are economically very attractive. The process engineering design of the NG series also increases product quality and minimizes scrap and overweight. A win-win solution, both economically and ecologically," summarizes Andreas Türk.

battenfeld-cincinnati GmbH
Grüner Weg 9, 32547 Bad Oeynhausen, Germany
www.battenfeld-cincinnati.com

Customised Extruders for All Cases

"Customised models are standard for us," says Josef Dobrowsky, founder and owner of CONEXTRU GmbH from Austria. "To my knowledge, no other machine manufacturer builds single-screw extruders for pipe and profile production faster and more customised than we do." The reasons for this, lie in the extrusion expert's more than 40 years of experience as well as in short decision-making processes and perfectly coordinated production steps.

Author
Josef Dobrowsky

Since its foundation in 2008, CONEXTRU has developed from a pure consulting and service company into a machine manufacturer for extruders. Almost 50 machines have already been installed worldwide, and many process units of third-party extruders have been replaced and optimised. The company attaches great importance to every component, from the motor and gearbox to the processing unit with barrel and optimised screw design through to suitable wear protection and control systems.

The arguments why even large processors opt for extruders from a small, specialised extruder manufacturer are many: short delivery times and expertise that deviates from the standard and results in extruders with high performance and low energy consumption, an optimum price/performance ratio and simple operation. CONEXTRU C series extruders are ideally suited to produce profiles made of ABS, PC, PS, PPS or PA, for the extrusion of single-layer pipes made of PE or PP and as coextruders for multilayer pipes. A machine portfolio with different screw diameters and process lengths of 25, 30, 37 and 40 L/D for output rates between 10 and 2,000 kg/h is available for all these applications.

Individuality begins with the drive

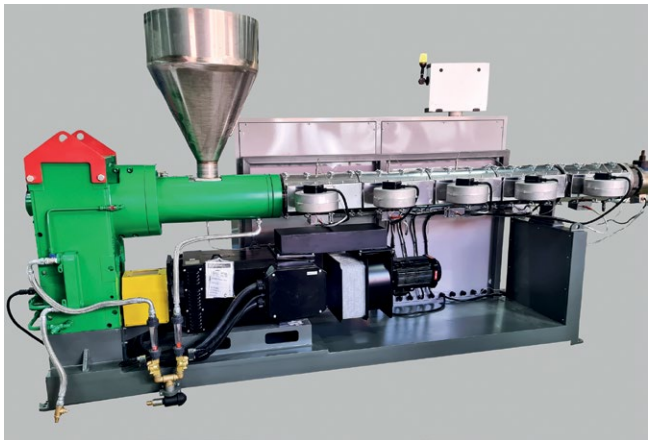
"Of course, we also work with a certain standard, but only when it makes sense for the customer's application," explains Josef Dobrowsky. After a detailed consultation, the customised design of his extruders begins

with the selection of a suitable drive. Depending on the customer's energy consumption requirements, CONEXTRU extruders are equipped with an energy-saving, gearless torque motor or a conventional motor-gearbox design with an AC motor.

The customised drive concept even includes the combination of the motor with single-stage, two-stage or three-stage gearboxes. Their shortest design is the three-stage gearbox motor combination. The frame design is also customised, with an extruder platform and a slim version for small available space in addition to a low boy version for overhead arrangements.

Process understanding facilitates design

The processing unit is the centrepiece of every extruder. When designing, CONEXTRU's fundamental aim



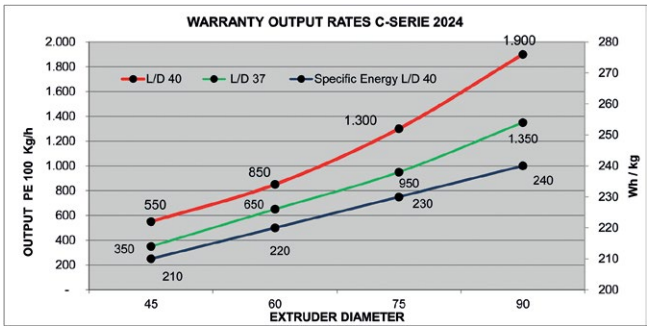
is minimising the energy input into the polymer during plasticising, increasing melt homogeneity with an optimum temperature profile and maintaining the polymer's property profile.

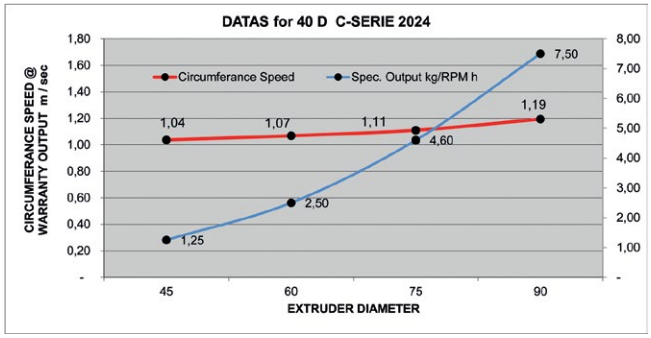
"A fundamental understanding of the processes in the feed zone of the extruder where the polymer granulate is still solid is essential for correct design," explains Josef Dobrowsky, who has acquired his knowledge with partners during many years of process consulting and screw design. Based on the desired specific output, the ratio of motor power to screw speed is first defined. The aim is to keep the specific output constant regardless of the melt pressure. "We use a calculation model and take the results to define the motor power, the screw speed and the design of the feed zone. These are either smooth, grooved or spiral-grooved."

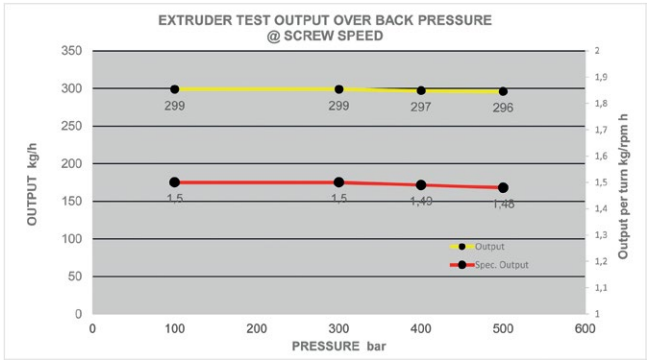
Once the choice has been made, further parameters such as the L/D ratio and the geometry of the barrier section as well as a calculation of shear energy, rate and length of the maddock section is done. The shortest possible mixing section with the option of dynamic mixing must also be determined. "Optimising the processing unit is never just one big development step, but rather the combination of many small steps to achieve the optimum process." It goes without saying that each processing unit is tested before delivery using a defined method that delivers comparable and reproducible results. CONEXTRU uses a test tool with a valve to adjust back pressure and simultaneously extrude a flat profile. Output, energy consumption, linearity at low and high back pressure over screw speed and melt quality of the extrudate are recorded. The test results are documented in diagrams which give input for further changes - if needed. Another use of individual design is the construction of screws as an exchange for the original screw supplied by a third-party extruder. This can improve the output and melt quality.

Customised wear protection as a matter of course

Advising a customer on extruder design also includes size advice and ultimately the level of investment. Here Josef Dobrowsky is eager to clear up some misconceptions: "It is neither correct that the next largest extruder model should be selected at higher speeds, nor is it the case that a longer processing unit consumes more

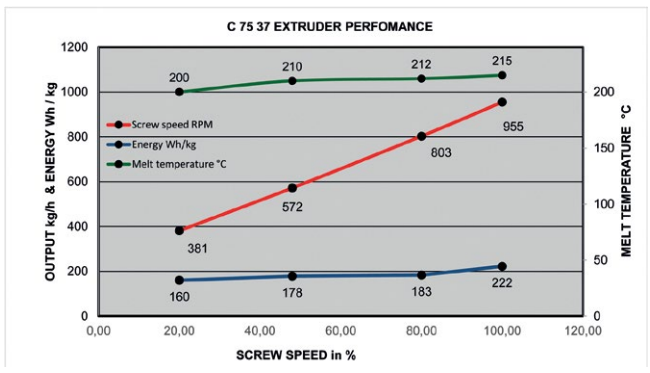






energy." For example, a 40D machine requires less energy than a 37D extruder with the same screw diameter. CONEXTRU helps customers make exactly the right choice for each specific task.

If a high-speed extruder is required, CONEXTRU has a solution: their high-speed extruder with a screw diameter of 65 mm, achieving 600 rpm with an output of 1,200 kg/h. Last but not least, extruder choice includes the appropriate wear protection, orientated towards the task at hand. If only virgin materials and few regrind and colour batches are used, standard equipment suffices; if more abrasive materials are used, different setups are possible. For high regrind content and highly filled poly-



	Standard execution	Wear resistance execution	Corrosion resistance execution
Screw Base steel Feed section unit end of feed zone Remaining body Option	1/8509, 38CrMoAla, Quenching and tempering HB260~290 Hard facing on screw flights with Colmonoy#56 nitride, alloy depth 1.0mm~1.5mm, about HRC60 full chrome plated	34CrAlNi7, 1/8550, Quenching and tempering HB260~290 Tungsten carbide coating, at root and flight diameter on top of flight nitride, alloy depth 1.0mm~1.5mm, about HRC60	1/4542, stainless steel hard able or as alternative 2/7819 Hastelloy - Nickel-Chrome-Molybdenum-alloy with Wolfram Hard facing on screw flights with Colmonoy#56
Feedbush Feedbush housing Grooved feedbush	1/8509, 38CrMoAla, Quenching and tempering: HB260~290 nitride layer: 0.4-0.7mm, hardness: HV950 1/8509, 38CrMoAla, Quenching and tempering: HB260~290	1/8509, 38CrMoAla, Quenching and tempering HB260~290 nitride, nitrating layer: 0.4-0.7mm, hardness: HV950 1/2344 - X40CrMoV5-1 - H13 - T20813, SDK 62 , Quenching and tempering HB260~290, nitride, Hardness: ≥900HV	1/8509, 38CrMoAla, Quenching and tempering HB260~290 nitride, nitrating layer: 0.4-0.7mm, hardness: HV950 1/2344 - X40CrMoV5-1 - H13 - T20813, SDK 62 , As an alternative 2/4856 – INCONEL
Barrel Base material Liner	1/7225, 40Cr, Quenching and tempering: HB260~290 Bimetallic liner 3mm, Hardness: 58~62HRC	1/7225, 40Cr, Quenching and tempering: HB260~290 Bimetallic-liner 3 mm, Nickel based Tungsten carbide, 25% tungsten carbide, HRC58~63	1/7225, 40Cr, Quenching and tempering: HB260~290 2/4856 Bimetallic-liner 3 mm, INCONEL, With option to add 5 – 25% Tungsten carbide

mers, regardless of whether they are filled with talcum, barium sulphate or fibres such as carbon or glass fibres, a special wear protection finish makes sense. CONEXTRU offers a wide range of metal variants, as shown in the table. For corrosive melts with fluoropolymers or polyamides, additional corrosion protection is recommended, which is usually achieved by a stainless-steel screw with a nickel-chromium-molybdenum coating in combination with a bimetallic cylinder.

Individuality right to the end

CONEXTRU also offers several options for controlling the extruder. Relay control remains available, which may be sufficient for colour strip extruders. Alternatively, microprocessor-controlled equipment exists with hardware and software components from ABB. CONEXTRU made a conscious decision in favour of ABB, as worldwide service is guaranteed for all customers. The complete package from ABB includes an air-cooled frequency inverter, motor, the CP 610 PLC with 10.1" touchscreen and HMI.

Simplicity is ensured by clear design and limitation to the basic functions of operation, heating programme, production memory and energy measurement. The heating of the pipe head is visualised using CAD drawings and integrated into the control system, preventing incorrect assignments. If required, additional functions can be integrated into the control system. These additional functions include: the gravimetric dosing device with output or weight per metre control; synchronisation with coextruders in multilayer systems; vacuum control for cross extrusion heads; melt pump control; vacuum and temperature control of the vacuum tank (for single and double strand extrusion) and finally the integration of haul-offs and saws from other manufacturers. Needless to say, CONEXTRU control solutions are Industry 4.0-compatible and integrable into the processor's own structures.

Replacing processing units as a good alternative to new investment

In addition to its own C-series extruders, CONEXTRU offers processors the opportunity to optimise existing extruders, regardless of the machine manufacturer, with new processing units. To do this, the expert views existing solutions on site and records technical data of the extruder in order to measure all relevant dimensions so that he can precisely design and build the new plasticising unit. "We have already carried out this type of optimisation many times. We use the frame, the existing motor-gearbox installation and rebuild the entire processing unit according to the processor's individual specifications. The focus is usually on saving energy or increasing performance." In some cases, new processing units also make sense if a processor wishes to expand the extruder's area of application or switch to a different material. Josef Dobrowsky believes in the increasing importance of AI-supported models and their assistance in extruder design, where he looks forward to contributing his expertise.

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Creating New from Used – *Which Technologies Are Key for High-Efficiency Plastics Recycling*

Over 180 participants from 25 nations accepted the invitation from Coperion and Herbold Meckesheim to attend the Recycling Days² in the newly opened Recycling Innovation Center in Weingarten, Germany, on November 6 and 7, 2024. In keeping with the theme of "Experience A New Dimension of Plastics Recycling," the two-day conference featured a variety of presentations and live demonstrations, allowing participants to gain insights into various technologies designed to enhance the efficiency of the plastics recycling process.

Internal and external experts from the industry, including researchers, shared insights on how the right equipment can save resources and costs without compromising the quality of the recycled compound. Practical examples from successful recycling plants also significantly enhanced understanding of the topic. Achim Ebel, Head of Sales at Herbold Meckesheim, and Kürşat Başdemir, Company's Founder and Project Director at Ekosistem Ltd., presented the latest advancements in Herbold washing lines, focusing on the impact of water treatment on the quality of the recycled compound. Martin Müller, CEO at Polymetrix, and Sabine Schönfeld, Sales Manager at Coperion, gave a joint presentation on a bottle-to-bottle recycling plant. This system of Indian preform and plastic packaging manufacturer Magpet Polymer Pvt Ltd. produces rPET granulate approved for direct food contact by both the European Food Safety Administration (EFSA) and the U.S. Food and Drug Administration (FDA). Furthermore, it is brand owner approved.

Spotlight on extrusion: The impact of various technologies on the process

Coperion leaders Frank Mack, Head of Process Technology Engineering Plastics, and Jochen Schofer, Head of Sales Recycling, presented a lecture on the range of possible extruder types for plastics recycling, demonstrating how the choice of extruder technology can impact both the overall process efficiency as well as end product quality.

The live demonstration on a ZSK 58 MC¹⁸ recycling extruder impressively demonstrated how rPE flakes can be processed into rPE compounds at extremely high throughputs despite their low bulk density thanks to innovative equipment design (Photos: Coperion, Stuttgart Germany)

Coperion and Herbold Meckesheim welcomed more than 180 guests to a conference in the newly opened Recycling Innovation Center in Weingarten on November 6 and 7

One unique feature of twin screw extruders is their especially high output capacity. Coperion developed the ZS-B MEGAfeed to complement its ZSK twin screw extruders. This side feeder compresses recyclates with primarily very low bulk density, such as flakes and fibers, enabling them to be introduced into the recycling extruder in large quantities while leveraging the equipment's optimal performance.

A further advantage of twin screw extruders touched upon by Mack and Schofer is their flexible configuration, adaptable to a variety of recycling applications. This flexibility makes it easy to incorporate additives, glass fibers, and fillers commonly needed in high-value recompounds into the process. Coperion ZSK recycling extruders feature a modular design: The co-rotating twin screws are comprised of various screw elements that perform specific tasks to achieve the desired effects. Depending on the recycling application, intensive mixing, plastification, or shearing can be achieved. Moreover, the continuous surface renewal caused by the rotation of the twin screws re-

sults in an especially high devolatilization capacity in this type of extruder.

Live demonstrations: Insights into the details

On both days of the conference, guests could witness the newest developments in action during live demonstrations in the Recycling Innovation Center. The added value of individual technologies was demonstrated on running systems, along with their impacts on the entire recycling process.

The processing of PCR film flakes with a bulk density of 30 kg/m3 into rPE compounds was demonstrated live during the event. The interplay of the ARW discharge agitator and the Smart Weigh Belt (SWB) feeder provided even feeding of fluffy and voluminous raw materials. The ZS-B MEGAfeed side feeder compacted the film flakes so they could be fed into the ZSK 58 MC[18] recycling extruder at a very high throughput to be compounded. The melt was then filtered and processed into rPE granulate in an underwater pelletizer.

Attendees had the opportunity to see the benefits of Coperion's twin screw extruders' self-cleaning screw profiles and mixing properties by observing an STS 25 twin screw extruder in operation. Fillers and reinforcing materials were added to the recyclate in varying quantities, demonstrating how quickly recipe changes can be implemented on Coperion extruders without cleaning effort or product loss.

Attendees asked a range of questions following the presentations and engaged in lively discussions during breaks and live demonstrations, illustrating the need for information in the field of plastics recycling. Participants

Jochen Schofer, Head of Sales Recycling at Coperion, demonstrated how the choice of extruder technology can impact both the overall process efficiency as well as end product quality in plastics recycling

repeatedly expressed amazement at the wide range of opportunities available, even within their own companies, to increase the efficiency of plastics recycling, with short-term ROI and increased quality consistency.

"The Recycling Days[2] exceeded our expectations. The interest and the atmosphere were both outstanding. These two days made it clear that we are on the right track and are sustainably driving the rate of plastics recycling forward as we continue to make adjustments to further increase the efficiency of the process and the attractiveness of plastics recycling," said Massimo Serapioni, General Manager of the Recycling Business Unit at Coperion.

Coperion
www.coperion.com
Herbold Meckesheim GmbH
www.herbold.com

Europe's First Polyester Textile Recycling System Realised

Project Re:Claim, a joint venture between the Salvation Army Trading Company and Project Plan B, has been nominated for the Plastics Industry Awards 2024 in the "Recycler of the Year" category. Using an ISEC evo system from PURE LOOP to process used garments and other textiles, the project is Europe's first polyester textile recycling system.

The UK produces more than half a million tonnes of polyester textile waste every year. Project Re:Claim aims to recycle post-industrial and post-consumer clothing and textiles. The focus is on the recycling of post-industrial polyester from contract textiles for hospitals or hotels (e.g. bed and table linen), workwear and school uniforms, as well as promotional banners (e.g. printed sports banners). The fabrics and textiles come from controlled material streams (closed-loop systems), ensuring minimal impurities. The recycling technology used is an ISEC evo 302 E from PURE LOOP. This innovative technology, developed by the EREMA Group's member, enables efficient production of high-quality rPET from textile waste.

The ISEC evo produces high-quality rPET from used polyester textiles, which can be spun into yarn for use in textiles along with other industrial applications

Manfred Dobersberger, Managing Director of PURE LOOP, in front of the recycling plant at SATCoL's processing centre in Kettering, UK (Images: SATCoL / Project Re:Claim)

Europe's first polyester textile recycling system

The plant, installed at a Salvation Army Trading Company (SATCoL) processing centre in Kettering in early 2024, represents Europe's first commercial scale polyester textile recycling system specialising in post-consumer polyester. SATCoL is the trading arm of The Salvation Army and UK's largest charity owned textile collector.

Together with Project Plan B, a specialist in garment design with a focus on design for recycling, PURE LOOP optimised its integrated shredder-extruder combination ISEC evo for the specific requirements. "Plan B has a vision, and we are convinced something great can come out of it," emphasises Manfred Dobersberger, Managing Director at PURE LOOP. Thanks to the configuration of shredder and extruder on one drive shaft and the patented double feed ram system, the ISEC evo 302 E gently processes discarded polyester into rPET, which can be reused for new yarns and other products. "Up until now, polyester that had no useful life left would have been disposed of," explains Tim Cross, CEO of Project Plan B. "With the ISEC evo, we can now return textile waste as a valuable material back to the supply chains. It's a carbon saving solution, and it plays a significant role in helping our collective journey to Net Zero."

Textile recycling: an industry with growth potential

The plant aims to recycle 2,500 tonnes of polyester in its first year, doubling this amount in the second year. In addition to the environmental benefits such as diverting unwearable textiles away from landfill, initial estimates indicate that the production of pellets from Project Re:Claim uses only one-tenth of the energy compared with pellets produced from virgin polyester. One prerequisite for this is an energy-efficient recycling machine such as the ISEC evo.

The recycling of post-consumer and post-industrial textiles presents immense potential for the circular economy, according to Dobersberger: "It is evident to me that textile recycling will become a fundamental aspect of the industry's future. Design for recyclability is the key to success, and pioneers like Plan B and SATCoL are essential. Our recycling system stands as a versatile material processor, particularly proficient in effectively handling fibres and textiles made from PE, PP, PA, and PET in forms such as fibre bales, ropes, filaments, textiles, and non-wovens. We are proud to be part in such pioneering projects within the textile industry as Project Re:Claim."

Recognition for shared ambitions

Project Re:Claim has been nominated for the Plastics Industry Awards 2024 in the "Recycler of the Year" category. The award ceremony will take place on 22 November in London. "We are delighted with this nomination," says Mark Richardson, Sales Manager at Eurograv Limited, who has been driving the project forward from the outset. "It underlines the innovative strength of the technology and recognises the collective efforts of all companies and individuals involved." Eurograv is the authorised representative of PURE LOOP in the UK.

Project Re:Claim has been nominated for the Plastics Industry Awards 2024 in the UK (Image: Plastics Industry Awards)

PURE LOOP GesmbH
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www.pureloop.at

Sustainable Packaging with Recycling Technology

Ester Industries is planning to install Gneuss OMNI 200 system to boost sustainable BOPET film production, aligning with India's 2025 recycling goals and regulatory requirements.

India has set a goal to reduce plastic waste and promote a circular economy. Comprehensive waste collection systems and recycling infrastructure will be in place by 2025 to increase the amount of recycled material in packaging. The Indian government is strengthening its Extended Producer Responsibility (ERP) regulations, with a particular focus on mandatory recycling quotas. Companies must ensure that a certain percentage of their packaging is made from recycled material. The quotas vary depending on the type of material and packaging and include both post-industrial and post-consumer waste. The recycling quotas are intended to increase the demand for recycled raw materials and strengthen the market for recyclates.

OMNI 200 Recycling System with 3C Rotary Feeder, MRS extruder, water ring pump vacuum system, twin RSFgenius screen changers and pelletising line

Ester Industries is a leading global manufacturer of polyester (PET) film, specialising in value-added and speciality products. Established in 1985, the company operates state-of-the-art manufacturing facilities in Khatima, Uttarakhand, and Hyderabad Telangana India, and is known for producing high quality BOPET film. Ester serves a global market with exports to over 85 countries and offers an extensive product portfolio.

Ester Industries is committed to sustainability, as demonstrated by its development of post-consumer recycled (PCR) PET film. The company continues to expand its operations with significant investments such as a new production facility in Telangana, India, to increase flexible packaging production capacity.

To further enhance its technological capabilities, Ester Industries has chosen to install a Gneuss OMNI 200 recycling system at its new Hyderabad facility, enabling efficient processing of bottle flakes into food-grade pellets for use in BOPET film production. Gneuss, known for its advanced recycling technologies, is supplying this state-of-the-art system that processes 2,000 kg/h of bottle flakes collected from India and the surrounding regions. These bottle flakes are directly converted into food grade pellets without the need for pre-drying or crystallisation. The pellets produced by the OMNI 200 Recycling System will be used in Ester's BOPET film production lines.

The OMNI Recycling System consists of a 3C Rotary Feeder, which ensures constant feeding of the extruder for maximum process stability, even with fluctuating bulk densities. It also includes an MRS extruder, which is based on conventional single-screw technology but incorporates a multi-screw devolatilisation section. This design enables highly efficient and gentle decontamination of the polymer melt, ensuring that the material meets the stringent standards for direct food contact applications. The OMNI Recycling System for Ester Industries uses an MRS 200 extruder that degasses the melt at an absolute pressure of 25 mbar, allowing the use of a robust water ring pump vacuum system.

A unique feature of this OMNI 200 recycling system in Ester's new production hall is the dual filtration process, which allows fine filtration down to 16 to 20 µm. This quality is essential for the efficient processing into BOPET film. It is made possible by two RSFgenius filtration systems that provide maximum filtration quality with minimal material loss. These fully automatic filtration systems operate with integrated backflushing systems, providing self-cleaning without process interruptions or pressure fluctuations.

This OMNI 200 recycling system is without pre drying which significantly reduces the amount of time the material is exposed to heat, allowing for more gentle processing. Another key factor is the advanced filtration technology, which enables fine filtration with exceptionally long screen life, even when processing post-consumer materials. In addition, the system offers both economic and environmental benefits, including significant energy savings and minimal material loss, making it a highly efficient and sustainable solution.

The new OMNI recycling line is expected to be operational by mid to late 2025.

Gneuss Kunststofftechnik GmbH
Mönichhusen 42, 32549 Bad Oeynhausen, Germany
www.gneuss.com

Remanufacturing of Used Machines

Herbold Meckesheim has been thinking about the circular economy from the very beginning. When the special machine builder offered its first solutions for plastics recycling some 40 years ago, not everyone understood its mission. Today, a world without plastics recycling is hard to imagine – and certainly not the future. From the very beginning, Herbold Meckesheim's recycling solutions also took into account the life cycle of the machines themselves. They should not only contribute to a functioning circular economy, but also be part of it.

With increasing scarcity of resources, rising energy costs, and growing environmental awareness, this perspective may become even more important in the upcoming years. Herbold Meckesheim had durability and sustainability in mind when considering its machine design four decades ago. Examples: From the beginning, no machines were made of cast iron because the material could break. The insides of the welded steel housings are covered with replaceable plates to protect the frame. And the diverse rotors used in the various shredders, mills, and granulators are equipped with screwed-on cassettes for the knives. The latter protects the rotor and makes hard facing obsolete.

The bolted-on cassettes represent two essential aspects of sustainable machine design: a substantial degree of wear protection and ease of maintenance. While Herbold Meckesheim was developing its first machines, the company was already trading in used granulators from other suppliers. The Herbold designers took this as an opportunity to focus on durability and accessibility for easy repair and maintenance. In principle, leaders of the Meckesheim-based company believe it is possible to put a reconditioned machine back into operation with virtually no loss of performance – regardless of the application. Some customers have their machines overhauled every twelve months. In cases when a customer wants a larger model, Herbold Meckesheim provides a buy-back offer for the previous, smaller machine, refurbishes it, and then sells it again.

Whether it is a small pulverizer or a modular plant solution for washing and recycling lines with several tons of throughput, the principle is the same. The Herbold Meckesheim focus remains on ease of maintenance, wear protection, and a long service life as well as low energy and resource requirements. This approach considers the growing importance – and necessity – of a functioning circular economy, not only with regard to the reprocessing of plastics.

One thing must not be forgotten: Focusing on the restoration of saleable machines is not only a promising concept for the future, it is good business.

Rotor of a single-shaft shredder 60/210 with bolted-on knife cassettes (All photos: Herbold Meckesheim)

Herbold Meckesheim GmbH
Industriestr. 33, 74909 Meckesheim, Germany
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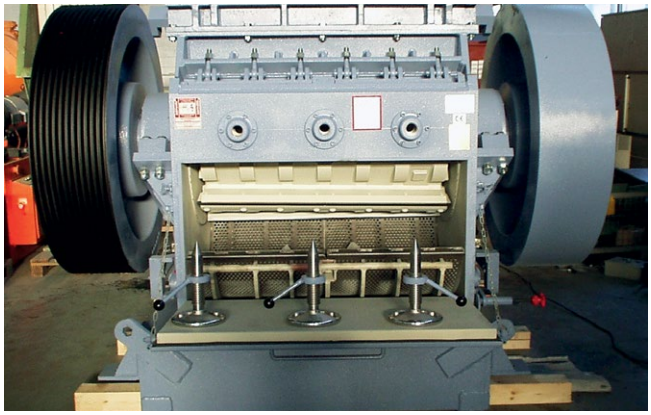
A granulator SMS 80/120 before refurbishment

A granulator SMS 80/120 after refurbishment



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Production of Flexible Monomaterial Packaging – *MDO Plant in Latin America*

The Colombian packaging manufacturer Microplast Coldeplast, based in Medellín, has invested for the first time in a 5-layer blown film line with inline MDO from Hosokawa Alpine. The plant went into operation in 2023 and produces PE and MDO-PE films for various laminating films, which are then used in flexible packaging solutions. This not only increases the company's production capacity, but also contributes to the circular economy in the packaging industry.

Susanne Schwenk,
Project Manager Marketing,
Business Unit Blown Film,
Hosokawa Alpine AG

Monomaterial packaging – i.e. packaging that consists only of polyethylene – has a decisive advantage over plastic packaging that combines different materials such as PE, PET, PP or PA: it is much easier to recycle and can be reused for end products after the recycling process without any loss of material. This makes full PE packaging a much more sustainable solution than other packaging materials and also complies with the principles of the circular economy. The desire for more recyclable packaging solutions also drove the Colombian company Microplast Coldeplast: "In many markets, the demand for recyclable packaging has risen sharply or is even encouraged by laws and government regulations. To remain competitive in the long term and open up new markets, we need to adapt our technology," says Lina Fajardo, Head of Technical Marketing and Sustainability at Microplast Coldeplast.

Hand in hand for more sustainability

The company has been producing flexible packaging solutions at two production sites in Medellín since 1956, including for food, pet food, household and care products and building materials. Microplast Coldeplast mainly processes PE, PET, BOPP, PA, aluminium and paper and supplies its customers with rolls and bags. In line with its corporate strategy and global market trends, the company needed to increase its production capacity and make its products more recyclable. Al, PET and BOPP should therefore be replaced by PE monomaterial solutions in some laminations. In search of a partner to realise this project, Microplast Coldeplast turned to Hosokawa Alpine. The decisive factor in this decision was the global experience that the Augsburg-based machine and plant manufacturer has in the field of full PE packaging solutions. "As a pioneer in MDO technology, we have been working with monoaxial stretching of blown film for over 25 years. Over 100 of our systems are in use around the world," says Marcelo Gräf, Senior Sales Manager at Hosokawa Alpine. The company relies on customised systems that are developed and adapted specifically for the customer's product.

Optimised film properties and reduced material consumption

The MDO process begins with a heating phase: here, the film is conveyed on heated rolls and brought to the ideal temperature. In the following stretching phase, the film is stretched between two rollers to achieve the desired stretching ratio. At the same time, the film thickness is reduced, while optical and mechanical properties such as transparency, rigidity and barrier properties are improved. "The thinner film thickness reduces the amount of material required. This not only conserves resources, but also saves on material costs," explains Gräf. Temper rollers then reduce the stresses created during stretching. The film then runs over two chill rollers and is brought to a suitable temperature for winding. Depending on the application, the film runs over a total of eight to

Microplast Coldeplast produces full PE films for various flexible packaging solutions on a 5-layer blown film line from Hosokawa Alpine

The inline MDO is the centrepiece of the blown film line at Microplast Coldeplast. The monoaxial stretching of blown film improves the film properties and reduces material costs

twelve rollers in this process, two of which are stretch rollers.

In addition, the MDOs from Hosokawa Alpine are equipped with three unique features: TRIO technology (Trim Reduction for Inline Orientation) for optimised flatness and significant material savings when trimming edge trim, flexible adjustment of the stretching gap to reduce necking and the unique vacuum technology for optimum flatness and outstanding process stability.

Solution for full PE and HDPE

Microplast Coldeplast uses a 5-layer blown film line from Hosokawa Alpine with inline MDO and a layflat width of 1600 mm. The company then produces full PE films, which are further processed into various flexible packaging solutions.

A particular challenge in the development of the system was, in addition to some specific technical features, the process stability with a low film thickness of 25 µm. The extensive experience of the Augsburg team helped here: "Throughout the entire process, Hosokawa Alpine provided us with excellent technical service and support - from the purchase to the installation and commissioning of the system," says Jorge Diaz, Operations Director at Microplast Coldeplast. The new plant has enabled the packaging manufacturer to increase its production capacity to over 400 million linear metres per year. This is another reason why Microplast Coldeplast is optimistic about the future. "We can well imagine developing more products with Hosokawa Alpine," says Diaz.

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Peter-Doerfler-Str. 13 – 25, 86199
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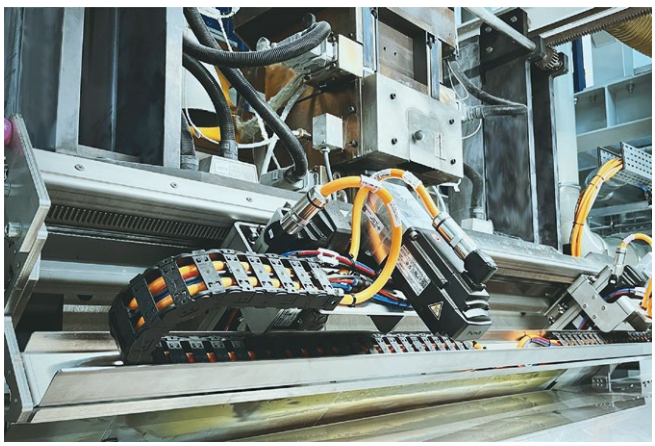
150th Mechatronic Flat Die Automation System Delivered

After extrusion machine specialist Reifenhäuser presented the automation system PAM (precise, autonomous, mechatronic) for flat dies and coextrusion adapters for the first time at the K 2022 plastics trade fair, the 150th system has now been installed on a customer line. The patented mechatronic control system has decisive advantages over conventional automatic thermal expansion bolt systems.

PAM uses high-precision electric actuators to automatically control the adjusting screws for setting and regulating the flexible die lip. Depending on the die design, it is also possible to autonomously adjust the dust bar, the width adjustment and the lip opening by adjusting the lower die lip. PAM is available for all new Reifenhäuser flat dies and as a retrofit for dies from all third-party manufacturers.

The 150th unit was delivered to a customer in Germany who has automated his PET thermoforming sheet line with PAM. The system is characterized by its simple design and handling. At the same time, the sophisticated control works with absolute reliability and precision. In addition to the increase in efficiency, the system is now much easier, more convenient and safer to operate. Once settings have been saved, they can be called up via the system HMI and PAM delivers perfect and reproducible film quality at the touch of a button. Processors are there-



The 150th PAM automation system was delivered to a customer in Germany for a PET thermoforming sheet line (Pictures: Reifenhäuser)

fore less dependent on the qualifications and experience of the system operators, achieve a faster start to film production, higher output and consume significantly less energy. This is because the motorized actuators only need to be supplied with power for a short time during adjustment and not permanently, like conventional thermal expansion bolts. The overall equipment efficiency (OEE) improves significantly overall.

Tim Bänsch, Product Manager at Reifenhäuser Extrusion Systems, explains: "With PAM automation, we can offer our customers a unique system that offers decisive competitive advantages thanks to the patented mechatronic control system and has proven itself in every respect with 150 systems on the market."

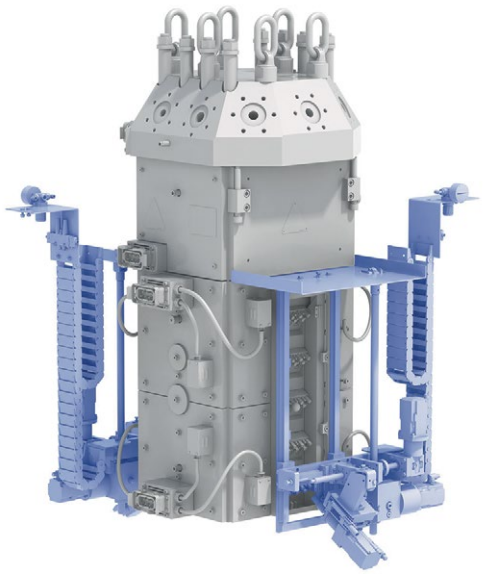
The technology was developed by maku AG, which was founded by Robert Maeder in 1983. In 2022, Reifenhäuser Extrusion Systems (RES) - the Reifenhäuser Group's business unit specializing in extrusion components - entered into a strategic partnership with maku to jointly develop the PAM system further and market it worldwide. Reto Maeder, the current managing director, co-owner and son of the company founder, continues to be active in the development and customer support of the PAM system and is available with his many years of expertise in the field of mechatronic die control.

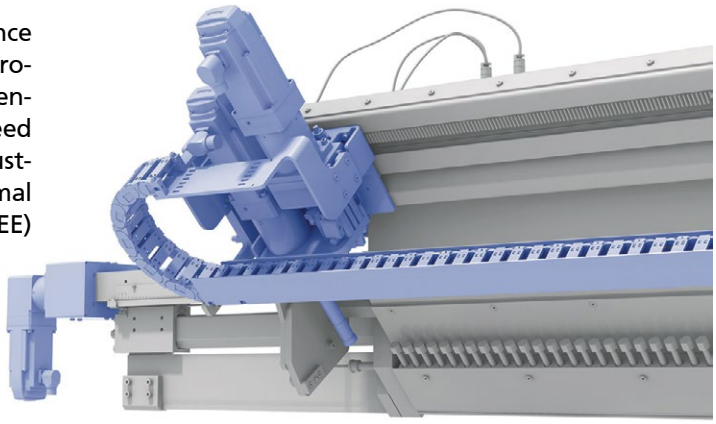
Simple operation and high work safety make producers less dependent on highly qualified personnel

Usually, starting up an extrusion line or changing products requires many skilled operations. Producers are therefore dependent on well-qualified machine operators, which is a huge problem in times of a shortage of skilled labour and high staff turnover. With PAM, producers become more independent, as the system itself can restore the optimum die setting at any time.

Another decisive advantage of PAM automation is the increased work safety. With a manually controlled flat film line, the machine operator works directly on the so-called hot part of the line. When using PAM, the operator does not have any contact with hot metal elements of the line or with the hot melt itself. Burns or other injuries caused by working on the running extrusion line are therefore ruled out. In this way, producers can easily fulfil the mandatory occupational safety requirements in high-tech markets, such as North America or Europe, and protect their employees in the best possible way.

In combination with the Reifenhäuser Coextrusion Adaptor Pro, PAM enables the individual film layers to be profiled while the line is running





Movable mechatronic actuators precisely set the adjustment screws of the die

PAM for coextrusion adapters

The PAM control system is not only available for flat dies but also for the Reifenhäuser Coextrusion Adaptor Pro. This feedblock is the only coextrusion system on the market that enables the profiling of individual film layers while the system is running. Unlike conventional solutions, the elements in the adapter do not have to be removed, processed and reinstalled in a time-consuming manner. Instead, profilers can be flexibly controlled individually or together during operation via a central adjustment.

With the PAM option, Reifenhäuser goes one step further and automates the setting of the layer distribution and simplifies adjustments and optimizations thanks to integrated recipe management. This is particularly worthwhile for manufacturers of films with many layers and many product changes.

While the coextrusion adapter for simple 3-layer laminates can be set in a few simple steps, up to 70 profilers need to be adjusted for barrier laminates with 11 layers, for example. Compared to manual adjustment by a machine operator, automation saves around half an hour of changeover time, depending on the number of profilers to be adjusted.

Reifenhäuser is one of the few machine manufacturers on the market that produces all hot part components itself – extruder, coextrusion adapter and die. Thanks to this hot part expertise within the group, all process-related interfaces can be perfectly designed to work together. PAM takes the whole package to a new level.

Reifenhäuser Group

https://reifenhauser.com/en/lines-components/pam

Inspection and Measuring Systems Ensure the Highest Quality for HV and EHV Cables

HV and EHV cables place the highest demands on their function and their production. As submarine and underground cables, they ensure that electricity is reliably transported to where it is needed. A recent report identifies cable failures as one of the biggest challenges for offshore wind power in the future and predicts about 3,600 cable failures between 2024 and 2035, which could potentially cause costs of around 61.5 billion euros (1). This makes it even more important to ensure the quality of these cable types at the highest level.

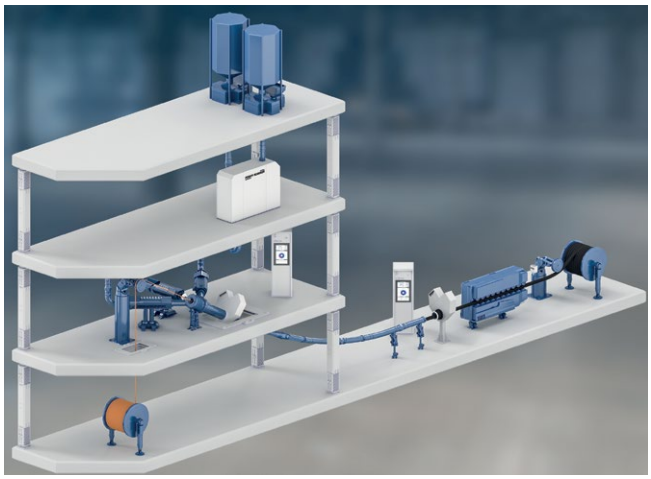
For this reason, cable manufacturers rely on the latest inspection and measuring technologies from SIKORA, which monitor the plastic material for the insulation as well as the cable dimensions at crucial positions in the CV lines.

The purer the XLPE material used, the lower the risk of cable breakdown and the higher the life expectancy of the cable. In particular, when manufacturing long cable lengths, manufacturers aim at using as few cable connectors (joints) as possible, which is why material purity plays a crucial role. In addition to using melt screens after the extruder, the testing and sorting of the pellets before extrusion is of central importance.

The PURITY SCANNER ADVANCED ensures seamless inspection: it inspects 100 % of the material for purity already before extrusion and automatically removes contaminated pellets, for example those with metallic impurities from 50 µm. This ensures that only high-quality, pure material enters the extruder.

Another crucial factor is the melt temperature of the XLPE material during extrusion. The right temperature ensures a homogeneous polymer melt and prevents premature cross-linking. This is where the ULTRATEMP 6000, which is used in the flow channel between the extruder and crosshead, plays a central role. It continuously measures the melt temperature, thus ensuring an optimum temperature and enabling an optimization in extruder output of up to 15 %. In addition, a CV line has to be stopped after a certain production time to clean the extruder, screens and extrusion tools. Due to the optimized output of the ULTRATEMP 6000, the production length can be increased by up to 115 % before cleaning is necessary. This not only leads to higher efficiency, but also reduces the number of cable joints – which optimizes both cable quality and costs.

Directly after the crosshead, another SIKORA system is used: the X-RAY 8000 ADVANCED X-ray measuring system precisely records the dimensions of the cable, including wall thickness, eccentricity, diameter and ovality, directly in the CV tube. Visualized in real time, the measured values enable quick centering of the extrusion tools and distortion-free control to the nominal dimension. At the end of the CV line, the X-RAY 8700 NXT measuring system also ensures precise measurement of the "cold values" of the cable. In combination with the X-RAY 8000 ADVANCED at the beginning of changed, which is an important information during the cross-linking process in the CV tube.



The intelligent integration of SIKORA inspection and measuring systems along the entire CV line ensures continuous quality of HV and EHV cables

Finally, the LM SMART length measurement system at the end of the CV line ensures that the required cable length is precisely maintained – a further contribution to quality assurance and resource conservation.

The intelligent integration of inspection and measuring systems along the entire CV line ensures the continuous quality of HV and EHV cables. From material purity and optimum melt temperature to precise monitoring of cable dimensions: A comprehensive quality approach ensures maximum reliability, safety and cost efficiency – all of which are indispensable for modern energy infrastructures.

SIKORA AG
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www.sikora.net

(1) https://www.4coffshore.com/news/new-report-highlights-cable-failure-as-a-major-future-challenge-in-offshore-wind-nid30070.html, 08/10/2024.

Performance Test: *PCR and NanoLayer in Stretch Film Production*

The basic idea of nanolayer technology in stretch film production is to create thin, waffle-like structures by repeatedly layering the melt from at least two extruders. A central question arises in connection with the use of post-consumer resin (PCR): Does the use of PCR work when producing these layers? SML has made extensive trials to get the answer.

Nanolayer technology entered the market some years ago. The centrepiece of this technology is a feedblock which enables a significantly higher number of layers than conventional feedblocks. Together with Cloeren, SML has successfully installed feedblocks for up to 67 layers. So which effects has the use of PCR in combination with nanolayer technology?

Two identical PowerCast XL test lines

To answer this question, SML teamed up with Brazilian resin manufacturer, Braskem, and devised a practical test plan to compare the use of PCR with conventional and nanolayer technology in regular production conditions. In the next step, SML set up two identical PowerCast XL, 9 up cast stretch film lines with 7 + 1 extruders in the Technology Centre of its headquarters in Austria. The only difference between the two lines: The number of layers on the feedblock. The conventional extrusion line was designed for 13 layers, whereas the line with the nanolayer feedblock produced 67 layers.

Extrusion runs with a multitude of different parameters

The trial plan involved various recipes, line speeds, types of PCR, as well as a multitude of other parameters. Finally, more than 100 different test runs had been done, but the proportion of PCR always remained at 30% altogether. An in-depth analysis of more than 1,000 lab tests followed the test runs.

The Result: No limits

"We did not see or detect any aspect which would restrict the film performance or production parameters using the same amount and quality of PCRs on nanolayer equipment compared to conventional co-extrusion. As you can see from the charts, the ultimate elongation and tear propagation are at the same level," SML Product Manager Thomas Rauscher sums up the test.

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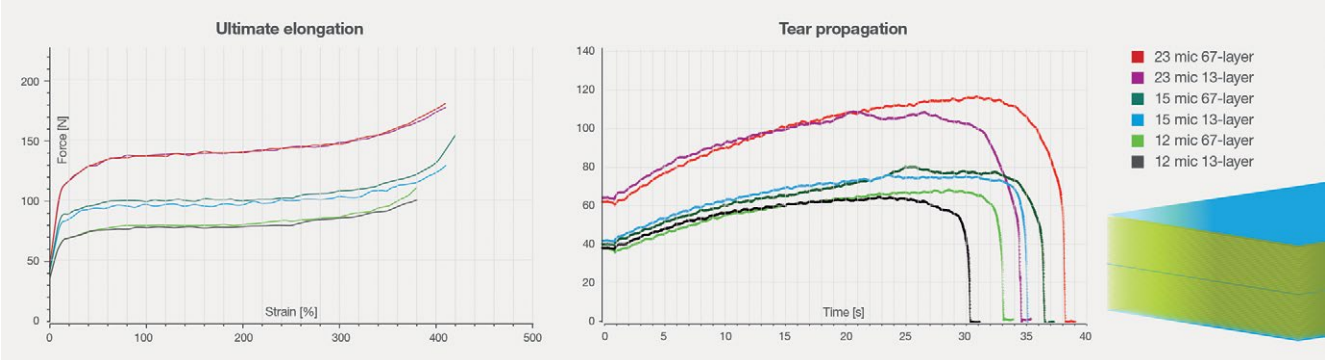

Corona Treatment Technology to Handle a Wide Range of Film Thicknesses

Part of the Polyart Group and a leading UK niche manufacturer of PE, PP and other co-extruded blown films, Tech Folien specified Vetaphone corona technology for the most recent of its five Hosokawa Alpine extruders located in its 40,000 sq/ft production facility in Speke, a suburb of Liverpool. The company, which is BRCGS Packaging Materials and ISO 9001:2015 certified is a major supplier to the food industry, offering a wide range of transparent, white and coloured films in thicknesses from 10 to 600-micron that are single or double-side corona treated, as well as top-coated products, all of which are recyclable.

Previously a user of US manufactured corona technology, the company's introduction to Vetaphone was unusual, as Maintenance Manager Dave Churm explained: "We have had a Vetaphone corona treater running off another manufacturer's generator for around 20 years and it's done us proud. So, when we came to specify the new Alpine in 2023, we looked at what the Danish company had to offer as a complete package."

Vetaphone 1920mm VE2C-B stations are fitted to the latest Hosokawa Alpine blown film extruder at Tech Folien

The result was a project costing £1.5m that saw two 1920mm double-sided Vetaphone VE2C-B stations with segmented electrodes fitted to a Hosokawa Alpine HX75 Flex Mono Extruder. The Alpine has a 75 mm screw, a maximum working width of 1800 mm and can produce 10 – 200-micron LD, LLDPE, and HDPE at up to 150 m/min. The Vetaphone iCorona generator 2UL has an 8kW rating and the whole system is controlled by an iCC7 panel with Profinet interface. The 90-degree extraction blower has a 2.2 kW motor capable of venting 32 m3 air per minute.

"From our investigations it quickly became obvious that Vetaphone sets the standard in the corona treatment market. Our requirement was for a system that could handle a variety of work and their response to our enquiries and specific requirements was first class.

Maintenance Manager Dave Churm rates the Vetaphone corona technology for its reliable performance and controllability

Most of all, we feel that Vetaphone technology is the best value for money on the market," commented Andy Lester, Operations Director.

Tech Folien's production plant in Speke has five Alpine extruders, varying in size from 1000 to 2000 mm width in lay-flat terms. Most production these days is LD film like PP with little demand for HD films anymore. Known for its specialist approach to niche products, Tech Folien has an extensive knowledge of modifiers and additives that allows it to develop films for specific applications in today's sophisticated and demanding markets.

Segments served include self-adhesive laminators, silicone coaters, food contact and packaging films, narrow web labels and tags, graphics, automative construction and mail-order and security work. Andy Lester explained: "If you need a film with distinctive or special features or are searching for a partner with whom you can develop new markets Tech Folien is well set up. In partnership with our coating and converting group companies we can provide a solution, not only for a base film, but also for a distinctive surface requirement and any print technique."

With an eye on the future of packaging in the environment, Tech Folien is actively researching recyclable alternatives to laminates and PPs, with pressure from the retail sector and end consumers accelerating the drive. Committed to developing new films that meet the criteria of these projects, the company has developed Satinex HLS2 to replace direct thermal paper/PP laminates with a fully recyclable alternative for fruit net labels and is working on various forms of new food and hygiene packaging.

In all this research and development, the precise controllability of Vetaphone corona technology will play a vital role and Dave Churm is delighted with the performance of the corona system on the new extruder. "It's their wealth of knowledge and expertise that you buy into with Vetaphone technology, which is ideal when you are looking to research and develop new products – they make the perfect partner."

Vetaphone A/S
www.vetaphone.com

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