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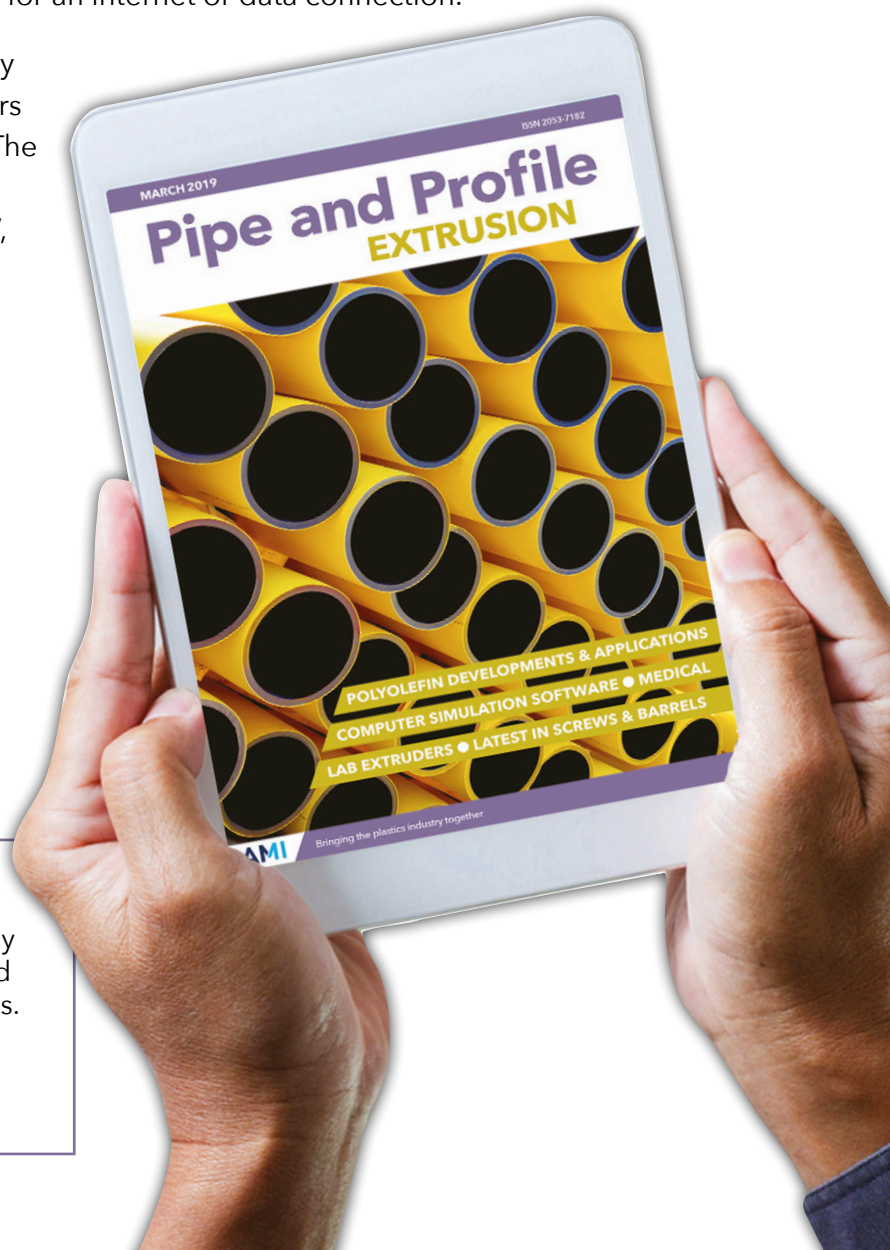
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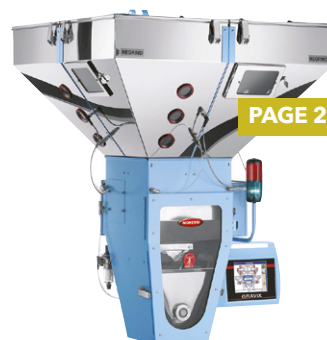
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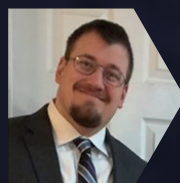
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Georg Fischer sales dip 14% despite "resilient" pipe market

Georg Fischer says that a "resilient" pipes market helped it to limit its sales decline to around 14% in 2020.

Overall, the company's sales fell to CHF3.2 billion (US\$3.4bn) in 2020. At the same time, profitability (EBIT) declined by 30% to CHF166m (US\$176m).

Sales in the piping systems division declined by just over 5%, to exceed CHF1.7bn (US\$1.8bn). The company said that "negative currency effects" pulled sales down by CHF103m (US\$109m). Profitability (EBIT) dipped 10% to CHF193m (US\$205m).

Sales were also strong in Asia – especially in China, Korea and Japan – while in the Americas, sales were affected by low activity in the utility business.

GF Piping Systems has also continued to expand its global presence. In South America, it acquired FGS, a piping systems manufacturer based in Cajamar. With two production sites now in the country – and an existing partnership – GF Piping Systems says it can "benefit not only from the government initiative to improve water and gas distribution across Brazil, but also from growth opportunities in neighbouring markets".

The company reported a recovery in the second half of 2020 – and particularly in the final quarter.

"We are well positioned to continue our recovery trend in 2021, building on the positive momentum of the last quarter of 2020," said the company. "The current year already saw a good order intake and a promising rebound in key markets, especially in China."

The company expects sales growth in the "mid to high single digits", plus an increase in profitability "barring unforeseen circumstances".

➤ www.georgfischer.com

Pexco buys into fluoro-polymers

North American plastics extruder Pexco has acquired Altaflo, a producer of fluoropolymer extrusions for a variety of industries.

Altaflo has a reputation for developing fluid handling solutions for aggressive applications, delivering high purity levels.

"The acquisition of Altaflo expands our high-performance polymer capabilities and technical expertise and brings a proprietary suite of highly sought after branded products," said Sam Patel, CEO of Pexco.

The purchase of Altaflo is Pexco's eighth acquisition under the ownership of AEA Investors.

➤ www.pexco.com

VinylPlus Med targets PVC recycling in hospital sector

A new project called VinylPlus Med is bringing together hospitals, waste managers and recyclers across Europe to increase recycling of single-use PVC medical devices. The collaborative project is led by VinylPlus, the European PVC industry's voluntary commitment platform.

The project will focus on sorting and recycling of non-infectious PVC waste and builds on the success of the VinylPlus-funded RecoMed recycling scheme for PVC masks and tubing. "Starting with a pilot project in Belgium, we are excited to make medical plastics more circular together with our partners," said Brigitte Dero, Managing Director of VinylPlus.

The Belgian project is a partnership with the Europe



Above: VinylPlus Med will recycled single-use medical devices such as dialysis bags

Hospitals group in Brussels and will focus on high-quality PVC waste of three dialysis facilities. Partners also include Renewi waste management group and PVC recycler Raff Plastics based in Houthulst in western Belgium.

All Belgian VinylPlus Med partners are located within a radius of 120 km to minimise transport distances and mitigate the project's carbon footprint.

➤ www.vinylplus.eu

➤ www.renewi.com

➤ www.raffplastics.be

PEM moves production to Kansas

Plastics Extrusion Machinery (PEM), a US manufacturer of downstream extrusion equipment for PVC pipe and profile, is to close its facility in Tumwater, Washington in April.

The decision comes after being told that the lease on the facility would not be renewed. PEM will now move all operations to a new plant in McPherson, Kansas – which is not expected to be complete until the autumn.

“The decision to make the Washington move during the same year that we are moving to our new facility was not ideal timing – but is the best solution from a long-term perspective,” said Nathan Spearman, CEO of PEM.

PEM says it is working with customers to minimise the effect of interruptions to its production schedule.

➤ www.pemusa.com

Sales and profits down at UK-based Eurocell

UK-based profiles manufacturer Eurocell has reported an 8% decline in sales for 2020.

The company posted sales of nearly £258 million (US\$354m) for the year.

At the same time, pre-tax profits of nearly £23m (US\$32m) in 2019 turned into a loss of £1.5m (US\$2m).

Despite the losses, the company said that the second half of 2020 had been strong, with all the company's sites open since July.

“This year has started well, with sales to the end of February up 8% on 2020,” said Mark Kelly, CEO of Eurocell.

For the first half of the year, sales were down by 31% compared to 2019, due to a shutdown between March and May.

However, sales bounced back in the second half, recording a 15% rise



IMAGE: EUROCELL

Kelly: “Sales exceeded our expectations and gross margins improved as volumes increased”

compared to the equivalent period in 2019.

The company added that ‘like for like’ sales – that is, sales per actual trading day – actually rose by 6% for the whole year.

In its Profiles division, the company reported sales of nearly £100m (US\$137m), a fall of 14%. Operating profit also declined – from £18m (US\$22m) in 2019, to a loss

of £1m (US\$1.4m) in 2020. In Building Plastics – which includes PVC foam products – sales fell 3%, while profits fell by about two-thirds.

Although the company recycled less PVC in 2020 – using 12,400 tonnes, compared to 13,400 in 2019 – it represented a larger share of the final product. Recycled PVC accounted for 25% of overall material consumption, up from 23%. Overall equipment effectiveness improved from 73% to 75%.

“The repair, maintenance and improvement market was stronger than we anticipated throughout the second half,” said Kelly. “Sales exceeded our expectations, particularly in the branch network, operating efficiencies were good and gross margins improved as volumes increased.”

➤ www.eurocell.co.uk

Kenya gears up for new pipe factory



Megapipes will make Weholite pipe at a new factory in Kenya

Kenya will soon have a new producer of Weholite pipes – in the shape of a company called Megapipes Solutions.

The company is building a factory in Ruiru, 25km from the capital, Nairobi. It will make solid-wall and double-walled HDPE pipe for drainage and sanitation projects in Kenya and neighbouring countries. Construction is expected to last for around 12 months.

“We are going to create more than 100 direct and 1,000 indirect jobs,” said Simon Thomas, a director of the company. “The purpose of this project is to have local manufacturing of innovative, state-of-the-art products.”

When completed, the 4000 sq m factory aims to make Weholite pipes of 800-3000mm in diameter. Megapipes is a sister company to Plasco, which makes plastic pipes in Tanzania.

➤ www.megapipes.com

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Sales fall at Polypipe despite strong second half of 2020

An “unprecedented trading environment” caused an 11% dip in sales at UK-based Polypipe last year.

Sales declined to just under £399 million (US\$548m), while pre-tax profits fell 60% to around £24m (US\$33m).

Despite these results, the company reported a strong second half to the year – which have continued into 2021.

“Trading conditions since the end of the year, together with the structural growth markets we are aligned to, provide confidence in the outlook for the current year and over the medium term,” said Martin Payne, CEO of Polypipe.

Sales in the residential systems market – which comes mainly from the UK – fell by 14% to £224m (US\$308m). Profits in this division fell by around 40%, to around £30m (US\$41m). Results in the commercial and infrastructure sector also



IMAGE: POLYPIPE

Sales at Polypipe fell to £399m in the face of “unprecedented trading”, said the company

declined: revenue fell almost 7% to £175m (US\$240m) while profits halved to around £12m (US\$16m).

Exports from this division, which accounts for around 20% of its overall revenue, was nearly 6% lower than the previous year, as many foreign markets were similarly affected by Covid-19. One exception was its recent acquisition Permavoid, which grew by 30% with contracts in the green roof, podium deck and sports pitch markets.

Polypipe has made three

acquisitions in 2021, including pultrusion and compression moulding firm Plura Innovations.

The move will see Plura integrated into Polypipe’s Infrastructure & Landscape division to boost manufacturing capabilities and broaden its product offer to include access chambers and specialist ducting systems, plus landscape solutions for urban and suburban environments.

Polypipe also boosted the amount of recycled material it uses in its products to

nearly 46% (compared to 42% in the previous year). The company has set a target of 62% by 2025.

“Our businesses have started the new year strongly with no discernible impact on demand from the current lockdown,” said Payne. “We believe we are in a strong position to deliver an improved performance in 2021.”

The company will change its name to Genuit from 6 April 2021 – though will retain its Polypipe branding.

➤ www.polypipe.com

Dyka helps lift performance at Tessenderlo

Dyka Group – the extrusion division of Belgian industrial group Tessenderlo – helped to raise performance within its industrial solutions division.

Full-year sales in this part of the business fell by around 3% to €509 million (US\$597m). However, the second half revenue increase in Dyka Group – due mainly to a newly acquired production plant in France, helped to offset a decline in the first half of the year.

Elsewhere, the Coronavirus pan-

demic affected production at another plant in France, and a number of its JDP sales branches in the UK were closed temporarily.

Despite the sales decline, the industrial systems division reported an EBITDA of €53m (US\$62m), an increase of almost 30%.

Reduced first-half profits for Dyka were offset by an improved result in the second half of the year, mainly thanks to a volume increase.

“The favourable development of

input costs, as well as cost saving measures taken to mitigate the Covid-19 impact, further positively impacted 2020 profits,” said the company.

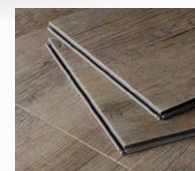
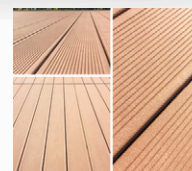
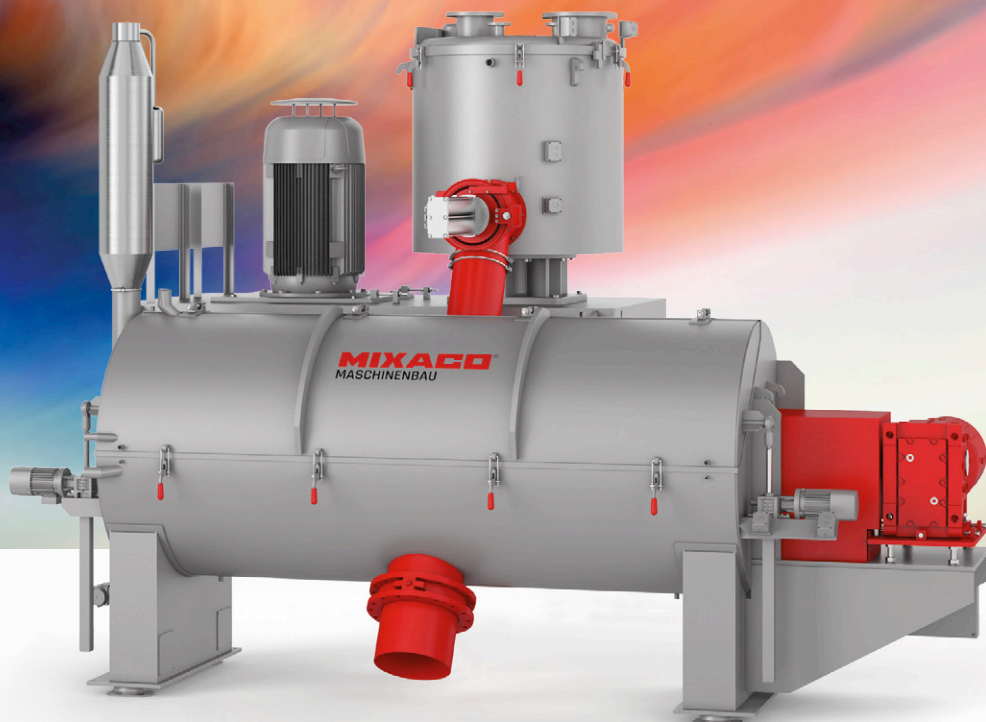
Despite continuing uncertainty in the first half of this year, Tessenderlo expects this year’s profits to be in line with those of 2020. This takes into account the expected negative foreign exchange effect in 2021, following the weakening of the US dollar, it said.

➤ www.dyka.com

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Italian machinery sales fall 11% in 2020, but 2021 holds promise

Sales of Italian plastics and rubber machinery fell by more than 11% last year – but have begun to recover in 2021.

Amaplast, which represents machinery manufacturers, said that sales in 2020 fell to €3.9 billion (US\$4.6bn).

These figures include an 11% fall in exports, a 14% decline in imports and a fall of around 13% in the value of the domestic market. Exports declined to just over €2.7bn (US\$3.2bn), while the domestic market fell below €2bn (US\$2.3bn).

An analysis of exports in 2020 shows a rise in sales in Europe – which represents more than 58% of the total. There was particularly good performance in markets outside the European Union, said Amaplast.

The proportion of sales to Asia fell slightly, from 17.5% to 16.7%, with a similar situation in North America (from 15.2% to 14.6%). Many of the 10 leading export destinations saw double-digit drops – though exceptions included Russia (a 42% increase) and Turkey (up 14%).

Italian market for plastics and rubber machinery, equipment and moulds (% value change 2019/2020)

Production	-11
Exports	-11
Imports	-14
Domestic market	-13
Trade balance	-10
Source: Amaplast	

"Overall, 2021 began in an encouraging manner," said Amaplast. "A rebound in production and exports is foreseen, although it might be optimistic to expect a return to pre-crisis levels within the space of a few

months. This will be much more likely to occur in 2022."

Amaplast added that its members fared relatively well compared to the sector as a whole. Revenues fell by a "quite minor" 2.8% in 2020, while employment numbers rose by around 3.3%, it said.

In another positive sign, half of the member companies that took part in a recent survey reported increased orders in the first half of this year, compared to the second half of 2020.

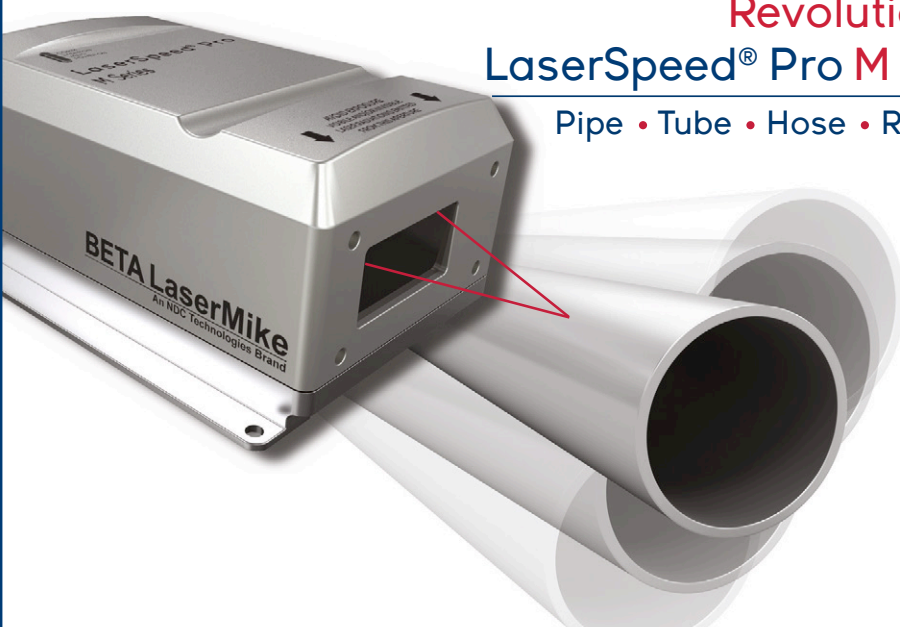
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As environmental restrictions get tougher – to say nothing of the need to reduce resin costs – internal recovery of scrap material is becoming ever more important in extrusion

Making more of materials

Although recycling now stands as an industry on its own – which has grown to deal with the need to deal with waste plastics – there is still a need for ‘internal’ recycling of waste within plastics processing operations. This helps to use materials as efficiently as possible, and minimise waste in the production process.

Pure Loop – part of Austria’s **Erema Group** – recently developed a shredder-extruder combination that has been used to produce recycled pellets during the production of irrigation pipes.

Manufacturers with this kind of system in place are reusing up to 20% of production waste without any loss of quality, compared to production from pure virgin material.

“This level of reuse can be significantly increased thanks to the high quality of the recycled pellets,” said Manfred Dobersberger, managing director of Pure Loop. “The high demands on the recycling process result from the high volume of the bulky input material as well as the material composition.”

As well as being used for irrigation pipes, the method also works with drip tapes – another key

product used in agriculture.

To test whether irrigation pipes meet the strict quality standards – of a maximum of two pinholes per 10 kilometres – one customer pressure-tests them with water.

“The proportion of foreign polymers in this material is a real challenge in recycling, but one that our combination of ISEC Evo shredder-extruder combination – with double degassing – and Erema laser filter can handle,” said Dobersberger.

In the laser filter, three scrapers remove contaminants, which mainly consist of silicone. The filter’s high efficiency enables high throughput rates in the recycling process and high quality of the recycled pellets, said the company.

The recycling machine can process bulky hose bundles as well as other production waste such as start-up lumps and regrind material or complete rolls with drip tapes. Single-shaft shredders and double feed ram systems flexibly adapt to individual logistic requirements and – thanks to the conical transition to the extruder – the material is compacted and oxygen is reduced, so that the plastic is

Main image:
Pure Loop has devised a shredder-extruder combination to make recycled pellets during the production of irrigation pipes



Above: The ET1 and ET2 versions of CMG's G17 series granulators are suitable for extrusion applications

processed very gently.

The recycling concept has already impressed irrigation system producers in the USA, Israel, Italy and Mexico. They operate recycling plants with throughputs of 100-500 kg/h and reuse the recycled pellets in proportions of up to 20% to make thin-walled tapes and thick-walled pipes. However, practical tests have shown that even higher proportions of recycled pellets could be used in the end product, said the company.

Small scale

Many other suppliers have developed recycling and granulating equipment that variously helps companies to re-process scrap in various ways.

CMG, for instance, has launched a new series of small-sized granulators.

The G17 series can be applied to a number of industries, and the ET1 and ET2 versions are suitable for extrusion. Granulation capacity range is 5-90 kg/h and have slow rotor speeds (of 155-275rpm).

The company supplies granulators and shredders for six industrial application areas, including extrusion. It says that common features that its customers look for are energy efficiency, minimal maintenance high levels of operational stability – along with reduced deterioration, especially for heavy duty applications.

G17 granulators are designed to give homogeneous regrind shape and dimensions, while generating minimal dust. One extra benefit is the ability to produce regrind with very small dimensions, says CMG. The advantage of this is that a higher percentage can be added to virgin material without influencing finished product quality. Small capacity systems, including extruders, can be equipped with small diameter plastification screws. The G17 granulators produce regrind which is dimensionally comparable to virgin pellets.

The G17 can also be configured with solid type staggered rotors or open type models. Depending on the application, the most adequate rotor configuration is provided. Also, both rotor and stationary blades are adjustable, to obtain a high precision of cut.

Facility expansion

Granulator manufacturer **Hellweg Maschinenbau** is building a new production shop at its Roetgen headquarters.

The facility will provide around 500m² of additional manufacturing space. With a height of 11 metres, it will have enough space for assembling large granulating systems.

"We urgently need the extra space to accelerate handling of the large volume of orders which we have won since K2019," said Mark Hellweg, the company's managing director. "We have also been seeing a trend toward large and complex machines. In future, we will be able to assemble and test these in our own facilities and ensure trouble-free commissioning on our customers' premises."

Hellweg added that 2019 delivered the highest sales figures in the company's history.

"Expansion had been on the cards for some time," he said. "The pace of development has slackened during lockdown, but if things continue at their present level we will be able to celebrate record results."

Smart control

The company has also developed a range of granulators with a digital Granumaster 'smart' control system. This enables networked communication of the machines with upstream and downstream components, as well as with operators, in line with Internet of Things (IoT) principles.

Hellweg calls the Granumaster a digitalisation first

Right: Hellweg's smart control system, Granumaster, measures and stores process parameters such as power consumption

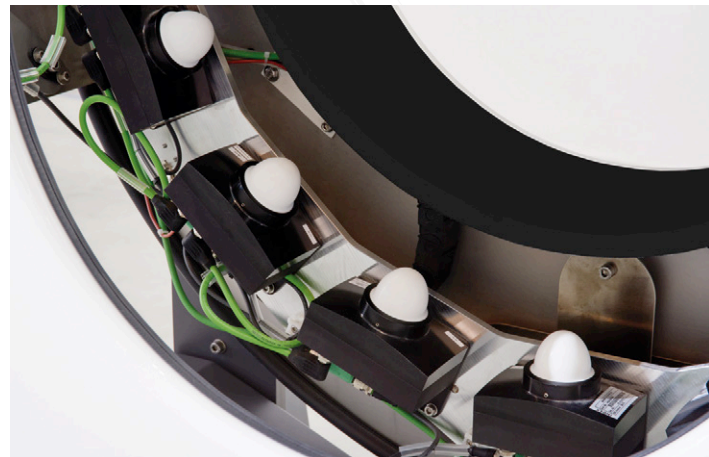


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for granulators, saying it made the company the first granulator manufacturer to offer connected functionality and electronic monitoring for such machines. Smart Control measures and stores relevant parameters, such as power consumption or the service lives of bearings, blades, screens, and V-belts, so enabling application-specific optimisation of energy efficiency and contributing to sustainable production.

Data evaluation enables conclusions to be drawn about the energy consumption used in granulation of various plastics down to defined particle sizes and the related service lives of bearings, blades and V-belts, for example. The efficiency of the granulation process can be assessed by comparison with stored reference values, enabling potential malfunction and damage to be predicted at an early stage – and then avoided.

Hellweg says that a new ‘boost operation’ gives a short-term increase in grinding performance, to compensate for production fluctuations. Also, some rotation speed ranges have been defined for various plastics. For example, granulation of low melt-temperature plastics can be done continuously without problems arising, meaning that water cooling is not required. Smart control evaluates measured power consumption over longer periods of time. The operator can use a digital Ampere meter in real-time operation and access detailed statistics that have been created over long-term operation. Standardised soft starting of the motor and a new motor brake make the granulators energy-saving and safe. Power consumption can also be reduced with a new ‘eco’ operating mode, which adapts the rotation speed to input quantity.

“Detailed, user-friendly ‘step by step’ instructions are available for changing blades, maintaining V-belts and cleaning the granulator quickly and efficiently,” said the company.

The V-belt pre-tensioning force can be checked with a supplied test device. A visible alarm informs an operator of the need to replace a part, due to wear. An active V-belt monitoring system automatically switches off the granulator in case of deviation from the nominal value. An automated enquiry system is also integrated within Granumaster smart control, which issues requests for spare parts – such as blades, sieves and V-belts – directly from the manufacturer.

Heavy duty system

Herbold Meckesheim has developed the SMS series – heavy-duty knife granulators designed for challenging applications that require high throughput capacities.

Eight models are available, with throughputs of 200-8,000 kg/h. The company says that a removable deflection wedge is a standard feature on all SMS models. It introduces a third bed knife that improves the granulator’s ability to process heavy lumps, thick-walled pipes, thick sheets and other dense items efficiently. When the deflection wedge is removed there is more space in the feed opening and destruction chamber which facilitates the size reduction of large, bulky items.

SMS series granulators feature rotor and bed knives mounted at opposing angles.

This configuration gives a uniform cutting gap across the length of the knife, for greater rotational inertia, reduced energy requirements and regrind with few fines and improved bulk density. An optional complete wear protection package is available for processing abrasive materials.

Rotor and bed knives are adjusted in a fixture outside of the machine prior to installation. This reduces downtime due to knife changes. To further simplify routine maintenance and knife changes, SMS

granulators are built in a two-piece, split hinged design. When open, this allows easy access to the cutting chamber, knives and rotor. SMS granulators can be supplied with a variety of accessories including in-feed conveyors and sound dampening enclosures, for example.

Compact performance

Hosokawa Alpine has developed the Polymer-Line PL-XS 45/100, a compact granulator that offers economic size reduction of large-volume and bulky plastic products.

The company says that a special cutting chamber geometry gives the granulator good product intake and size reduction properties. The cutting chamber’s design also ensures quiet machine operation, meaning that instances of feed product being ejected from the machine are reduced to almost zero. The Polymer Line also has a hydraulic opening mechanism for optimum access to the cutting chamber. The cross-scissor-cut rotor

Right: The SMS series granulators from Herbold are heavy-duty knife granulators designed for challenging applications that require high throughput capacities



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guarantees energy-efficient and low-dust comminution. Optional sound insulation also reduces noise emission during operation.

The PL-XS product line can be used both as ancillary and central mills. The machine's manifold allows it be adapted for different feeds.

Hosokawa has also developed the Combi-Grinder Polyplex PPC 50/120. It has a vertically arranged rotor with a top-mounted shredder and the granulator section underneath. An intake unit feeds material - automatically dosed and charged - to the shredder-granulator combi. Feed rate can be adjusted to suit the application. After passing through the shredder, material falls into the granulator and is comminuted to granulator fineness. The Polyplex is especially suitable for in-house recycling.

Due to its design, different plastic items - such as reject parts and purgings - can be charged together. The vertical design of the mill allows easy access to the rotor and cutting knives for rapid cleaning, which helps to reduce downtime.

Virtual help

Tomra has developed a new remote assistance tool that helps to maximise machine uptime.



Right: Tomra's remote assistance tool allows the company to give virtual help to its customers

The tool, called Tomra Care Visual Assist, 'virtually' places Tomra's experts in front of a customer's machine - enabling the company to resolve problems remotely. The tool significantly reduces the need for in-person visits and enhances customer support, says Tomra.

An app connects on-site technicians or field service engineers with Tomra experts, who can then help to resolve a broad range of issues. As well as helping to improve machine performance,

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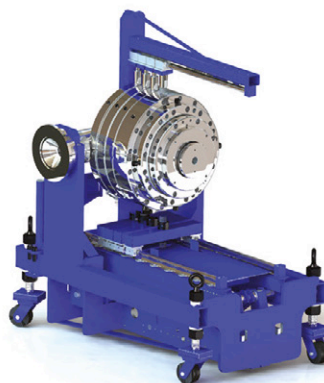
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Recycling silicone tubing scrap into oil

US-based **New Age Industries** is to recycle waste silicone from its production processes into silicone oil.

The scrap – from its silicone tubing and braid-reinforced hose extrusion processes – is sent to recycling specialist Eco USA, which converts the waste into oil that can be used for industrial applications.

"We're always looking for ways to reduce manufacturing waste," said Matt Bauer, production manager at New Age Industries. "Producing

silicone oil from silicone tubing is a multi-step reclamation process that few companies are doing."

The amount of silicone scrap generated adds up to tens of thousands of pounds, according to Bauer.

"Between New Age's silicone products and those from our AdvantaPure high purity group, we're making over a dozen different types of silicone tubing and reinforced hose," said Bauer.

After the silicone scrap is transport-

ed to Eco's recycling facility, it is ground into small pieces, mixed with catalysts and heated to break down its chemical bonds.

Liquids from this stage are filtered, refined, polymerised into silicone oils and re-filtered.

The final product is comparable to virgin silicone oil that is manufactured from silicon dioxide. The oil is used in industrial applications such as lubricants and sealants.

➤ www.newageindustries.com

the system also helps to deliver training and share specialist knowledge.

"This gives our customers access to our specialist engineers, who don't need to be on-site in person," said Peter Geisler, service director at Tomra Sorting Recycling.

The application requires only a mobile phone and a camera. When a customer requests support, a Tomra expert sends an invitation to begin the session. The app links through to a Tomra expert who is best suited to help with the problem.

Tomra says that the new tool is part of its service to ensure that customers' units work at the highest level of efficiency for their entire lifespan.

"This enables a greater level of clarity in the communication and information transfer between the person on-site and the expert providing remote guidance," said Geisler. "If a spare part is needed, our experts can easily identify what is required and ensure the right spare is sent – increasing the first-time fix rate."

Below: Zerma has expanded its range of slow-speed granulators with the GSL 180 and 300 series

Going slow

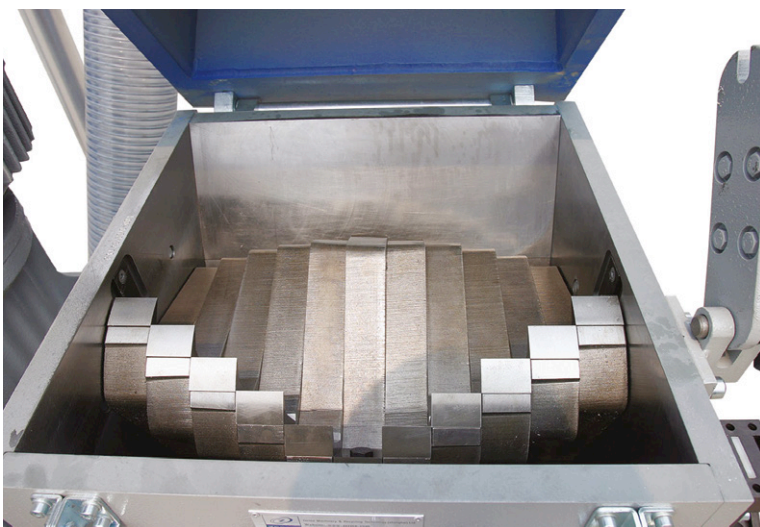
Zerma has expanded its line of slow-speed granulators with the GSL 180 and 300 series. The company says that the redesigned GSL 180 series keeps the advantages of earlier generations – such as low noise, easy maintenance and cleaning. The redesigned hoppers are suited for manual and automated feeding. Multi-layer construction makes the hoppers lightweight, yet sturdy with good sound insulation. The modular design of the redesigned GSL 180 series adds new drive options.

The slow speed granulators in the GSL 300 range feature a staggered 300 mm diameter rotor with widths ranging from 400 to 800 mm. The rotor is directly driven by a geared motor. The low rotor speed reduces the noise level of the machine and creates less dust while grinding, says the company. The GSL 300 series granulators use the same type of multi-layer hopper as the smaller machine series. Depending on the requirements, the machines can be fitted with different hoppers.

GSL granulators are equipped with ultra-light multi-layer sound insulating hoppers. This provides good noise insulation while maintaining a low weight. The standard hoppers are designed for manual and robot feeding.

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Chinaplas returns with a new location in Shenzhen



Covid-19 caused Chinaplas 2020 to be cancelled, but the show is back at a large new venue in Shenzhen – and is the only major plastics event to go ahead so far this year

With so many plastics exhibitions and conferences still being cancelled or postponed, it seems incredible that a trade show is even going ahead at the moment. Yet Chinaplas – one of the largest international plastics exhibitions – will take place in April. It is set to be the first major plastics show in more than a year.

Last year's Chinaplas was one of the first casualties of the emerging Covid-19 pandemic. The 2020 show was originally due to take place in Shanghai in April. The organisers pushed the date back to August, but later shelved the event entirely. Since then, many other major events – including Plast, NPE and Fakuma – have also been either cancelled or postponed.

Now, the 34th edition of Chinaplas will take place on 13-16 April 2021. It will be held in Shenzhen for the first time. The annual event will now alternate between Shenzhen (in odd-num-

bered years) and Shanghai (even years).

The last edition of the show – Chinaplas 2019 – occupied 250,000 sq m at its Guangzhou location. This year's event will occupy 16 halls of the Shenzhen World Exhibition & Convention Centre, covering 350,000 sq m of exhibition space. Show organiser Adsale Exhibition Services says around 3,600 exhibitors will be in Shenzhen, similar to the number at Guangzhou in 2019.

"The Shenzhen convention centre is an ideal venue for a world-class trade show," said Norris Chu, project director of Adsale. "Its 400,000 sq m of indoor exhibition space can alleviate the constraint of booth area we experienced in Guangzhou and support the show's long-term growth. All 19 exhibition halls feature column-free structures and are located on the first floor – which is very suitable for displaying large-scale machines, and easy for visitors to navigate."

**Main image:
Chinaplas will
now alternate
between
Shenzhen and
Shanghai**

Foreign visitors unlikely at Chinaplas

Overseas visitors are likely to be a rarity at this year's Chinaplas, due mainly to restrictions on visiting the country.

The Chinaplas website tells foreign visitors that they must isolate for at least two weeks on arrival in China – with regular Covid-19 testing to be done during this period. Before travelling, they must have had a negative Covid-19 test (carried out two days before they leave).

Visitors must also prove that they

have been vaccinated – but this must be with a 'China-produced' vaccine, according to authorities.

While many countries allow travel abroad for business purposes, there are likely to be restrictions – such as isolation – on return. In the UK, for instance, those returning from abroad must self-isolate for 10 days. This would mean that attending Chinaplas – a four-day show – would require overseas visitors to spend more than three weeks or more in isolation,

either side of their visit.

At the time of writing, many direct flights to China have been suspended, for instance. This would make it very difficult for many visitors to attend the show.

VDMA, which represents Germany machinery manufacturers, said nobody from Germany was planning to travel to Chinaplas – and that the German pavilion there was likely to be staffed by local (China-based) representatives.

Around 160,000 people attended Chinaplas in 2019, but existing travel restrictions are likely to affect this in 2021 – especially for overseas visitors. In 2019, around 31,000 overseas visitors – from 159 countries and regions – attended Chinaplas. However, stringent rules over entry into China – in order to control the spread of Covid-19 – are likely to reduce the number of international visitors (see separate box story). This year's Chinaplas has nine country/region pavilions – a slight decrease from the 11 pavilions in 2019.

Special events

As in previous years, Chinaplas 2021 will have several special events and feature areas – ranging from plastics design to medical technologies.

The 'Industry 4.0 Factory of the Future' event will highlight the benefits of digital manufacturing, including improved customer and supplier engagement, optimising production efficiency and cost-effectiveness and automated process monitoring and quality control. Workshops will introduce the application of Open Platform Communication Unified Architecture (OPC UA) to the industry. The event is organised by Adsale, iPlast 4.0, Euromap, VDMA and OPC Foundation.

Tech Talk will showcase a range of advanced technologies across the plastics spectrum – and how they are applied to industries such as telecoms and automotive. One area of interest to pipe and profile extruders is 'Automated Precision Manufacturing', which focuses

on "precise extrusion and injection moulding and moulds for manufacturing high-precision parts".

Other events and features include Medical Plastics Connect, Design x Innovation and an event on recycling and the circular economy.

However, the main focus of the show will be the exhibition itself. While machinery exhibits will dominate – with Adsale saying there are more than 3,800 machinery exhibits expected at this year's show – a number of materials specialists will also be showing new products.

Pipe improvement

One example is **Borouge**, which will showcase a range of its different PE100 and PE80 grades at Chinaplas – including a new grade for plastic pipes.

To meet demands for large diameter, thick-wall pipe, Borouge has developed an 'extra low sag' grade called Borsafe HE3490-ELS-H. The material is a PE100 grade with high resistance to both slow crack growth and corrosion – as well as having superior low sag performance.

Designed to improve and simplify the production of thick-wall HDPE pipes, the material is made using the Borstar technology. This eases processability and raises mechanical properties to allow optimal pipe extrusion and significant material savings, says Borouge.

The company says it is highly suited to the challenge of producing large diameter, thick-walled HDPE pipe for utilities and industrial projects.

Right: The design of Moretto's DGM Gravix gravimetric dosing unit helps it cope with vibrations

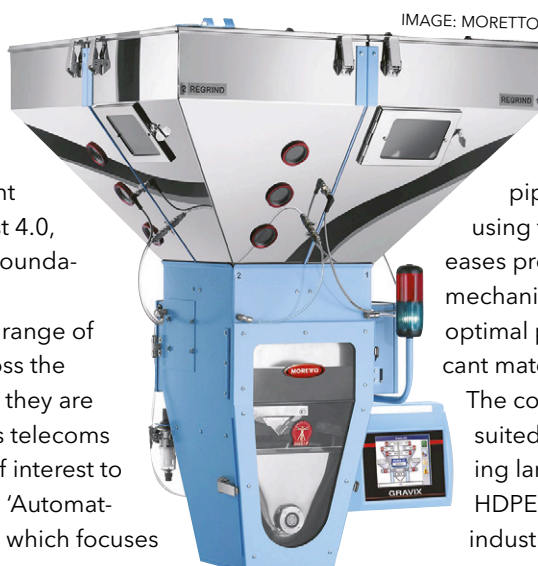


IMAGE: MORETTO

The new grade can be used in a range of applications, including water transmission pipelines, water intake and outfall for thermal power plants and desalination plants.

Borouge will present more details at a Tech Talk during the event.

The company will also show a number of pre-compounded pipe grades for gas or water applications. These include HE3490-LS (PE100 Black), HE3490-LS-H (PE100 Black RC), ME3440 (PE80 Black), HE3492-LS-H (PE100 Orange) and ME3441 (PE80 yellow).

Performance filtration

Maag, which supplies a wide range of plastics technologies, will showcase a number of them at Chinaplas.

The centrepiece of its booth will be the Ettlinger ERF350, a high-performance melt filter for filtration of contaminated polymer feedstock. The self-cleaning filter has a rotating, perforated drum - through which melt flows continuously from the outside to the inside. A scraper removes contaminants from the surface and feeds them to the discharge system. This allows the filter to operate automatically, without disruptions over long periods - and without having to replace the screen. Advantages include low melt losses and good mixing and homogenising of the melt.

Maag will also present its Extrex gear pump in the X6 class design. Maag has re-engineered and redesigned its components - from shafts through to bearings and seals - and optimised the interaction of the components. Specially developed gear teeth with low compression allow high pressures to be achieved with low shear rates. This further increases product quality, volumetric efficiency and produc-

tion consistency and safety, says the company.

Asian expansion

Davis-Standard will exhibit a range of its technologies in pipe, profile and tubing - which includes medical tubing.

The company says that its China-based subsidiary, Davis-Standard (Suzhou) Machinery, is central to its customer focus and expansion in Asia.

Developments in machine building and assembly, inventory and aftermarket services, field service engineering, and installation at customer sites have

been essential to supporting customers, it says.

In 2019, Davis-Standard added a 35,000 square-foot (3,251 square-meter) facility near the existing Suzhou shop to house control panel assembly and provide warehousing.

Visitors can also learn about technology from recent Davis-Standard acquisitions, including Maillefer. It has delivered pipe and tubing equipment globally, which complements the FPVC medical tubing and coextrusion applications supported by Suzhou. This includes pipe and tube systems for automotive, heating and plumbing, irrigation, medical, micro-duct, off-shore and custom lines, says the company.

Davis-Standard will also present a number of smart factory solutions. It has added interconnectivity and functionality via IIoT to analyse real-time KPIs and enable alarms or action prompts via a machine control system.

Good vibrations

Moretto will exhibit a range of its technologies at the forthcoming Chinaplas show.

Firstly, it will showcase its DGM Gravix gravimet-

Left: Maag will show the Ettlinger ERF350 melt filter at the exhibition



IMAGE:
MAAG



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Right: Sikora's Centerwave 6000 uses millimetre wave technology to control pipe quality during extrusion

ric dosing unit. The machine ensures production flexibility and high precision, even in the presence of vibrations – thanks to its Vibration Immunity System (VIS). The unit can be installed directly onto processing machinery, including extruders. Thanks to its multiple connections, it allows real time production traceability.

“China is an important growing market for us,” said Silvia Moretto, marketing manager at the company. “Chinaplas will not only be an opportunity to showcase our products, but above all a return to direct contact with our customers.”

The company will also show X Comb, a compact and fully electric mini dryer. It helps to ensure full polymer dehumidification thanks to homogeneous treatment of the material inside the OTX (Original Thermal eXchanger) hopper. This solves the problem of falling flows to guarantee uniform dehumidification more quickly, which the company says makes it more than 66% more energy efficient than conventional hoppers. The dryer can be installed on the machine's throat with fast and immediate programming: the user only has to set the material type and hourly throughput.

The dryer can be combined with Moisture Meter, a moisture analyser specifically designed for plastic granules. Moisture Meter uses patented Power Peak technology to allow in-line and just-in-time moisture measurement – eliminating any offline analysis. It ensures that the polymer enters the processing machine at the correct dehumidification level.

Measured approach

Sikora will present a range of its measuring, control, inspection, analysis and sorting systems at Chinaplas.

For quality control during pipe extrusion, Sikora offers the Centerwave 6000, based on millimetre wave technology. The device precisely measures diameter, ovality, wall thickness, the inner profile as well as the sagging of the pipe. The measuring principle does not require any coupling media or calibration and is not influenced by temperature or the plastic material.

“The easy operation of the Centerwave 6000 and its precision lead to the highest quality of the final product as well as cost savings and optimal efficiency,” said Wanbin Chen, president of Sikora China.

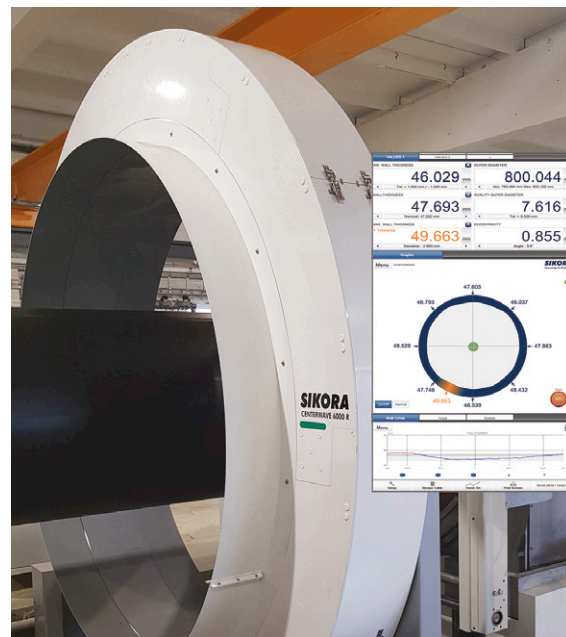


IMAGE: SIKORA

The company will also show its X-Ray 6000 Pro, which measures the wall thickness, eccentricity, inner and outer diameter and ovality of hoses and tubes. The thickness of up to three different material layers can be measured. Sikora will also show the diameter measuring systems of its Laser Series 2000 and 6000 – which also offer a lump detection.

For online inspection and sorting of plastic material, the company offers its Purity Scanner Advanced, which combines an X-ray with up to three optical cameras. This means that metal inclusions down to 50 microns in raw material can be detected. At the same time, the optical cameras can detect black specks and burns on a pellet's surface.

Once detected, faulty pellets are immediately removed via compressed air. Integrated software provides the operator with a statistical evaluation including information about the size, area and number of the detected contaminants during production.

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- www.borouge.com
- www.maag.com
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IMAGE: BOREALIS

PE100 withstands strain of demanding conditions

Applications of PE100 pipe, and its equivalents, range from potable water delivery to geothermal loops – and even a cooling system that transports seawater to a power plant

PE100 pipe has a number of beneficial properties, including flexibility, chemical resistance and the ability to withstand high pressures. It is usually aimed at demanding applications – ranging from undersea piping to water delivery systems that require greater longevity.

Recently, water pipe made from PE100 from **Borealis** was used to deliver water to more than 50,000 people in Mozambique.

Partners in the project to supply and install the pipe included Water & Sanitation for the Urban Poor (WSUP), Borouge, Borealis and Portuguese pipe extruder **Politejo** – which produced the pipe.

The project took place in the Greater Maputo region, which includes the country's two largest cities, Maputo and Matola. The work included building water supply networks using HDPE PE100

pipe, repairing existing water tanks, and training staff to manage, operate and maintain the pipeline systems.

"Using HDPE pipes made from our BorSafe PE100 material means that this upgraded system will last longer – and need less maintenance – than a system using stiff materials like metal pipes," said Robin Bresser, head of marketing for pipe at Borealis. "This will help to ensure a sustainable water supply for local residents for years to come."

Raising pipe standards

PE100+, the association that represents producers of PE100 resin, recently organised a Round Robin Test (RRT) on the hydrostatic pressure test according to ISO 1167-1/2 (20°C, Hoop Stress 12.4MPa) with help of its technical administrator, **Kiwa**. ➤

Main image:
Pipe made from BorSafe PE100 is helping to deliver water to 50,000 people in Mozambique

Right: Agru says that its pipe is often used in seawater environments

All PE100+ members – and PE100+ accredited or interested laboratories – were invited to take part, and 18 laboratories participated anonymously.

Compared to other RRTs performed on the ISO1167 standard, this one showed slightly smaller variations in reproducibility and repeatability, said the association. No laboratories involved in the RRT were classified as statistical outliers.

In addition to the statistical evaluation of the pressure test results, a deeper investigation was also carried out. This was a questionnaire on the impact of the water quality, sample preparation, equipment used and experience of the lab.

“The questionnaire showed that not all the labs followed the ISO standard precisely,” said PE100+. “There is certainly room for a further improvement of the reproducibility of the hydrostatic pressure test results between laboratories.”

The RRT results will be used by standardisations committees to further improve the pipe standards, said the association.

Separate to this, the association recently expanded into Russia by welcoming a new member.

Kazanorgsintez, a Russian polymer producer established in 1958, offers a range of materials – including HDPE for pipe. Its PE2NT11-9 grade was recently tested and approved using the three main mechanical performance tests – CRS, SCR and RCP – and is now listed as PE100+ quality material.

The grade appears on the association’s latest list of materials, which also includes grades from other producers including Borealis, Ineos, Sabic and Lyondell Basell.

Power boost

A steam power plant in Finland, operated by Porvoo Energia, has replaced corroded steel pipes with a system that uses PE100-RC from **Agru**.

The pipes are used to transport seawater, which is used to cool the plant. However, seawater is known to corrode metal pipes very quickly. In this case, the existing steel pipes had only been in place for four years.

“A large part of the pipelines currently in operation for seawater or saltwater applications are generally made of high-quality stainless steel, galvanised steel or cast iron,” said Agru. “These materials are widely referred to as ‘saltwater resistant’, but are subject to corrosion over time, which inevitably leads to high maintenance costs and even plant failure or downtime.”

For some time, there has been a move towards using plastics in this type of application. Especially under seawater conditions, the service life of thermoplastics is much longer, due to its corrosion

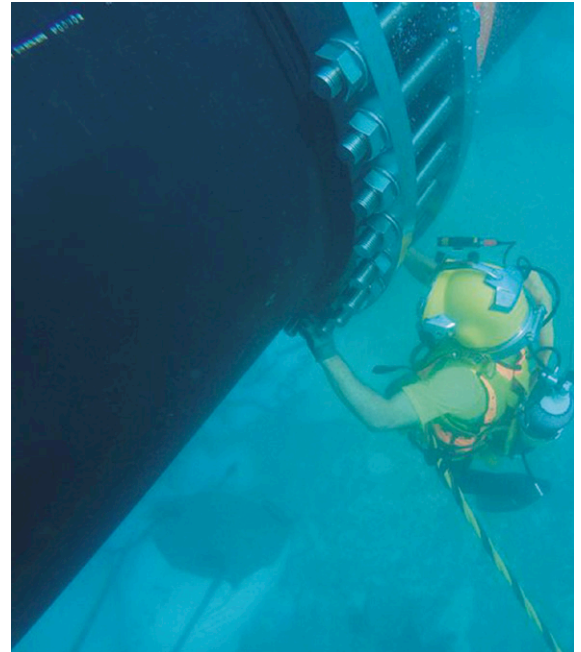


IMAGE: AGRU

resistance. Also, the smooth surface of plastic pipe – such as that made from PE 100-RC – stops particles from sticking to it, which means that hardly any deposits are formed.

After detailed consideration, the steel pipe was replaced with PE 100-RC pipes and fittings. The necessary temperature and pressure conditions, including calculated safety margins, are met using an SDR 11 (PN 16) system. In addition, easy installation and low material costs helped to influence the choice.

The planning and laying of the new Agru PE 100-RC pipeline was carried out by Finnish company Atolli. Heating coil fittings were used for welding the pipeline sections. The installation was carried out on schedule within a few working days and the power plant was put back into operation, said Agru.

Carbon effect

Polymer researchers in Iran have assessed the effect of carbon black on the long-term mechanical performance of PE100 pipe.

The researchers, from the department of materials science and engineering at **Sharif University of Technology** in Tehran, used two types of carbon black masterbatch – in an HDPE or LDPE carrier – to make black compounds using three different PE100 resins. In the processing temperature range, no immiscibility was seen between PE100 resin and either the HDPE or LDPE carrier.

The resins had different degrees of short chain branching (SCB), which caused them to behave differently in microstructural development and long-term creep behaviour.

Microstructural analysis – using different DSC and rheological techniques – showed that PE resins with uniform co-monomer distribution were more sensitive to carbon black aggregates and their polymeric carriers. However, a Full Notched Creep Test (FNCT) showed that the same samples with more resistant to creep.

Adding carbon black masterbatch decreased resistance to slow crack growth, as carbon black aggregates can act as stress concentration spots in the structure, said the researchers. However, adding the masterbatch with LDPE carrier polymer reduced this, compared to the HDPE carrier. The researchers say this is because long branches of LDPE polymer enter the structure of lamellae in the PE100 resins – making them more coherent, and increasing the number of tie molecules.

Samples blended with LDPE polymer had a rougher surface, meaning that linkage between two sides of a crack was stronger due to higher entanglement density in these samples. The impact test confirmed the same trend as the FNCT test, with the sample containing LDPE carrier having a higher impact strength.

The results of the study were published in a recent issue of *Polymer Testing*.

Geoexchange system

The current winner of the **Plastics Pipe Institute** project of the year – in building and construction – is a geoexchange system at a large airport in Canada.

The project involved member company **Versaprofiles** of Saint-Lazare-de Bellechasse in Canada, which supplied geothermal ‘loops’ for the construction.

Vancouver International Airport’s new Central Utilities Building (CUB) will improve efficiency by centralising all of the equipment needed to meet the airport’s heating, cooling and electrical demand.

To do this, the project will rely on one of the



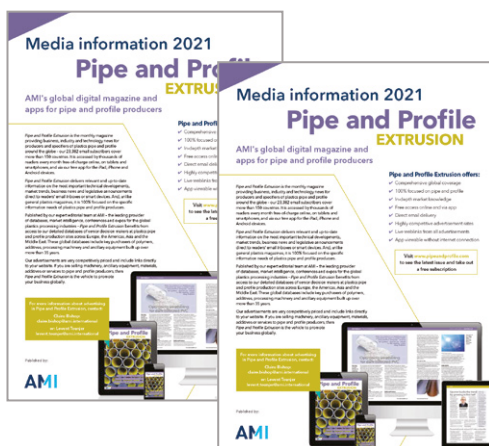
largest geoexchange systems in Canada. This system will use the earth’s renewable energy – just below the surface – to provide sustainable heating and cooling for the terminal.

The project used nearly 160 miles (more than 840,000ft) of 1.25in HDPE 4710 piping. The borefield for the geoexchange system includes 841 boreholes – each 500ft deep – equivalent to nearly 80 miles (420,000ft) of drilled borehole. The system is expected to reduce CO2 emissions from heating and cooling demands by up to 35%.

Above:
Vancouver International Airport is building a geoexchange system that uses PE4710 piping from Versaprofiles

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Getting in the mix

Batch and continuous mixers play a key role in the plastics sector as they are vital in the creation of blends, compounds and masterbatch for a range of applications



IMAGE: MTI

Mixing is the special sauce that helps create unique plastic blends and compounds – which could be used in applications as different as high-pressure pipe, medical tubing or a new formulation of PVC for a window frame.

Equipment suppliers are looking to provide more effective mixing with improved plant utilisation – and, since the emergence of the Covid pandemic, improved remote access and monitoring.

MTI Mischtechnik of Germany offers a range of laboratory mixers, which have heatable and coolable mixing vessels.

The all-round machines are suitable for the scope of bulk material processing tasks including the production of trial mixtures and small-scale production batches in laboratories and technology centres, says the company. Applications include masterbatches and compounds for the plastics and rubber industry – including the production of natural fibre compounds.

The laboratory mixer range includes the type M vertical high-speed mixers (which have a working volume up to 28 litres), heating/cooling mixer combinations from the M/KMV series (working cooling mixer volume up to 51 litres) and the Uni tec type UT vertical universal mixers (working volume up to 51 litres).

On a small scale, they cover the range of conventional industrial applications from homog-

enisation via friction mixing, coating, agglomeration and granulation to drying.

All MTI laboratory mixers share the same Plug-&-Play layout, ensuring immediate usability and convenient handling – together with easy cleaning, to enable rapid formulation changes and good emptying characteristics, to maximise product yields. Various add-ons – such as liquid addition lances, choppers or the newly developed aspiration systems – expand the range of applications and enable reliable process design.

The company R&D centre in Detmold gives customers the chance to test laboratory mixers equipped in line with their requirements.

Whether the mixer is operated in manual or fully automatic mode, the electronics acquire any desired measurement data which can be securely stored on local and cloud-based media and allow in-process and subsequent analysis – including on mobile devices. The ability to store numerous mixing programs means processes can be reliably and reproducibly repeated at any time.

“Our laboratory mixers are in use worldwide for trialling formulations and manufacturing small batches,” said Ulrich Schär, general manager at MTI. “Our customers appreciate their versatility – without the modifications often required for other systems – and the ability to acquire all process and machine parameters for use in reliable process scale-up.” ➤

Main image:
MTI's range of laboratory mixers are suitable a variety of bulk material processing tasks, including small-scale production batches

In addition, the company's MTI C TecPro device can be used with vessels of various sizes up to 600 litres. And the MTI Aspiration Vent Tec 2.0 aspiration and filtration system is widely used in hot mixing processes for PVC production and processing of natural fibre compounds, such as wood-plastic composites (WPCs).

Remote access

MTI adds that remote access solutions for mixing is becoming essential – a requirement that has accelerated due to restrictions resulting from the ongoing coronavirus pandemic.

"Modern mixing plants can only work efficiently and with maximum availability if they are commissioned by experts and – in the event of a malfunction – faults are rectified within the shortest possible time," said Schär. "In these Covid times, with significant travel restrictions and visiting bans, remote access to the machine is vital."

MTI says it has been implementing remote access on its machines for some years and adds that all of its equipment is provided with modems to aid identification of operational issues.

"A large number of system issues are caused by electrical components, software errors or incorrect operation," he said. "While the technician on site is irreplaceable in the event of mechanical problems, controls and their components – as well as electrical drives with speed regulation – can now be checked and reset remotely, if necessary."

MTI uses GS- and WAN-based modules to establish a secure connection to its own server via a VPN tunnel to ensure that safety of data transmission is not compromised. However, data security is not the only challenge to consider, especially where remote access goes beyond troubleshooting. Commissioning via remote access, which is in

demand due to Covid restrictions, poses special challenges for both operator and supplier – and is only possible if strict safety requirements are met and well-trained personnel are involved on the user's side.

Zeppelin takeover

MTI – which became insolvent in October last year – was recently bought by **Zeppelin Systems** of Germany.

The MTI portfolio includes heating, cooling and universal mixers for plastics processing and chemical applications. Zeppelin says that MTI's portfolio ideally complements its own, as the two companies predominantly serve different market segments – both in terms of the focus of the technologies and global coverage.

"Since the mixer solutions from MTI and Zeppelin are largely used in different industries, the overlap of the portfolio is small," said Rochus Hofmann, managing director of Zeppelin Systems.

The know-how of the MTI team will play a major role in the new business, says Zeppelin. These employees will continue to be based at MTI's site in Detmold. Zeppelin's mixing division is based in Kassel. Kassel houses a team of researchers, developing and manufacturing mixers according to customer needs. At its R&D centre, Zeppelin carries out industrial-scale tests to optimise processes and procedures for the production of sensitive raw materials.

"With this acquisition, we are further expanding our market position in mixing technology," said Hofmann.

Custom solutions

Zeppelin says that Covid-19 has resulted in a number of projects being placed on hold – but that general demand for mixing systems has been growing. It reports a high level of interest in complex custom-made systems that can be delivered in short lead times.

"A wide variety of operations within compounding require mixing solutions," said Karl-Hendrik Schluckebier, product manager for mixing and treatment components at the company. "These include chemical modification, dispersion of pigments and mineral powders, compounding, drying, coating, stabilisation, homogenisation, pelletising and agglomeration. Such processes are needed for PVC compounds for pipes, profiles, films, sheets and cables, as well colour and additive masterbatches, pigment concentrates and technical compounds, for example."

Zeppelin offers two mixers engineered specifi-

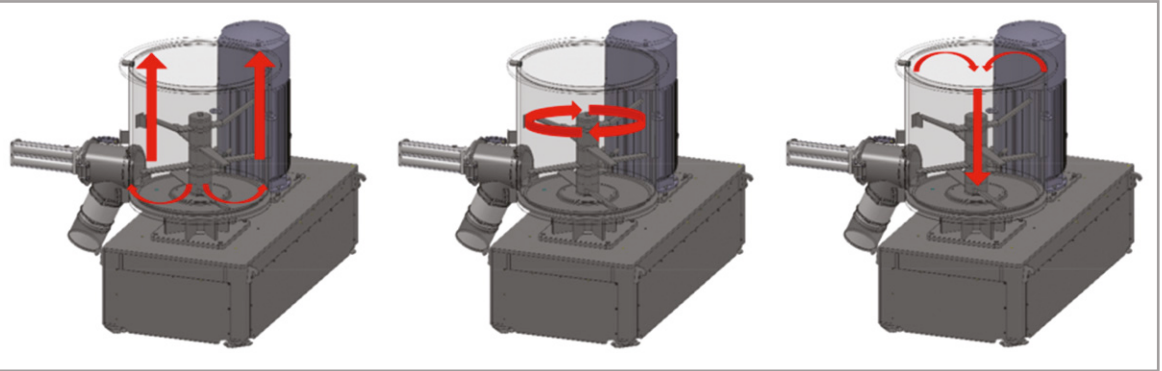
Below:
Zeppelin
System's FM-T
High Intensity
Mixer features
a split mixing
bowl to aid
cleaning



IMAGE: ZEPPELIN SYSTEMS

Schematic representations from Mixaco show the vertical, radial, and horizontal vectors that combine to create the vortex in a container mixer

Source: Mixaco



cally for the mixing needs of plastics compounding: the Container Mixer CMQ (EP 3 342 480 B1); and the High Intensity Mixer FM-T.

It says the CMQ Container Mixer incorporates an innovative mixing principle that can cut up to 80% from normal cleaning time. This is achieved through the use of a flat easy-to-wipe mixing head and mixing tool with a high bottom and wall clearance that prevents material build-up. The FM-T High Intensity Mixer is described as a quick-to-clean flexible stationary. Its design incorporates a two-piece completely jacketed divided mixing bowl configured with a hydraulic unit for lifting the upper bowl part and for lifting and turning the lid. Good access to the inside of the mixer is said to allow easy cleaning and maintenance, without the need for confined space permits (with the US OSHA framework).

In the vortex

Mixaco of Germany makes a range of container mixers – following the principle that the sooner a mix is removed from the mixer, the quicker the machine is back in operation.

The company says that producing a quality PVC dry blend at speed requires the creation of an optimal vortex in the mixer. In hot mixers the vortex describes the flow of the material as it moves inside the mixing bowl, the company says, and is determined by the different movements (combined vectors) achieved by the design of mixing tool and vessel.

The bottom blade creates a mainly vertical upwards movement and pushes the material to the sides while the middle tool creates a radial force. The velocity of the blades creates a centrifugal force (radial vector) and the material gets pressed to the side walls of the bowl, forming a vacuum in the centre. As a result, material is dragged to the shaft (horizontal vector) and pulled down (vertical vector). These three vectors create the vortex, which can be further optimised by the bowl design and turbulence created by the mixing tools – which

improve friction and blending performance.

Mixaco says the vortex is affected by many factors during mixing. One is the tip speed of the mixing tool. The ideal tip speed depends on the raw materials, blade and vessel design. If it is too low (less than 20 m/s) no vacuum is created in the centre of the bowl, resulting in no horizontal movement of material. The mixer may also start vibrating badly. If the tip speed is too high (more than 35-40 m/s) the material is pushed up and to the side walls, creating a huge vacuum in the centre. The result is no top-down movement of material and a high radial motion – referred to as doughnut-mixing. This causes the quality of the blend to suffer significantly.

The filling level of the heating mixer is also an important factor in creating the optimal vortex. In general, a heating mixer is designed to work with a certain amount of material inside. (Mixaco's recommended volume is 85% and vessels, tools and motors are engineered based on this.) With too low a filling level the mixer cannot create much downforce and the blend is pushed upwards and remains at the top of the vessel. The result is that the tools are moving but not in contact with material, so the mixing effect is reduced. However, the vortex needs some space to expand (free volume) as the PVC particles heat up and increase in volume. If the mixer is overfilled, the vortex will not move efficiently and there is a risk of blowing the filter or lid connections.

Finally, the company says the vortex is affected by changing blade design or enhancing blade configuration. If the blend used is light or has a wide spread of bulk densities, it may be helpful to change blade configuration. Light materials – or highly fluidised blends – tend to stay at the top of the mixer and do not homogenise well.

CLICK ON THE LINKS FOR MORE INFORMATION:

- > www.mti-mixer.de
- > www.zeppelin-systems.com
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MEDICAL



IMAGE: SOLVAY

PSU delivers transparency and strength for sight gauge

TBL Performance Plastics, a manufacturer of single-use components for medical and pharmaceutical systems, has used a polysulphone (PSU) resin from Solvay to make a medical grade sight gauge.

Solvay's transparent Udel P-1700 PSU resin offers the necessary strength, transparency, heat resistance and hydrolytic stability – as well as retention of mechanical properties under steam sterilisation – for demanding biopharmaceutical processing conditions.

The material was used to extrude TBL's Tri-Clamp sight gauges – after trials with polycarbonate had failed. One important factor was that it had gone through extensive testing.

"Udel P-1700 PSU resin is a major breakthrough for the pharmaceutical industry," said Robert DuPont, managing director of operations for TBL. "One key factor in choosing it is the rigorous regulatory testing done by Solvay – particularly for extractables and leachables under the BioPhorum Operations

Group (BPOG) standard."

Solvay has taken a lead position in providing this data to its customers, he added. Based on the resin's performance – and the collaboration with Solvay – TBL is planning to expand the use of the material into novel products that are currently being developed.

In addition, TBL chose an opaque, white grade of Udel PSU to create the connection between the sight gauge and the tubing used in various critical bio-processing applications.

➤ www.solvay.com

C-PVC

C-PVC kills germs in water pipe

Chlorinated PVC (C-PVC) is the most effective pipe material for suppressing microbes in drinking water, according to a recent paper in *Water Research*.

Dutch researchers carried out the study to determine the influence of different pipe materials on the microbial populations in water and biofilm under semi-stagnant conditions.

The researchers tested a range of pipe materials, including glass, copper, PEX and PVC.

"We conclude that pipe material is an important factor that influences biomass concentration, abundance of specific microorganisms and the bacterial community composition in distribution systems with unchlorinated drinking water," said the researchers.

➤ www.kwrwater.nl

BIOPLASTICS

Bio-based profiles derived from wood

As part of the pan-European Basajaun project, Aimplas of Spain is to develop a range of bio-based profiles.

The profiles will be pultruded from resins derived from forestry products – and reinforced with natural fibres. The materials produced will be tested before manufacture of the final prototypes. Their processability will be checked, their combustion analysed, and the materials will be mechanically characterised.

The 48-month project involves 30 partners from across Europe, who are trying "to get the most added value possible from forest products as a raw material for the construction industry".

The project aims to construct full-scale demo buildings in Finland and France that pull together the various parts of the project.

➤ www.aimplas.net ➤ <https://basajaun-horizon.eu/>



IMAGE: AIMPLAS

CONTROL

Centralised control system brings predictive maintenance to extrusion

Bausano of Italy has developed a centralised control system that integrates all parts of an extrusion system.

The software, called Orquestra, is able to carry out smart diagnosis and predictive maintenance. It allows real-time monitoring of

all production parameters, and can generate immediate reports, in graphical form, on factors such as performance indicators, quantity of waste produced and operating hours.

All machines on a site can be integrated with corporate management systems such as ERP, MES and CRM. Raw data collected by Orquestra can be analysed by end users, helping them to optimise the extrusion process.

In particular, it allows users to move from scheduled to predictive maintenance, which can raise productivity and save both time and resources. Bausano can remotely access the machine's operation indicators and point out possible malfunctions in

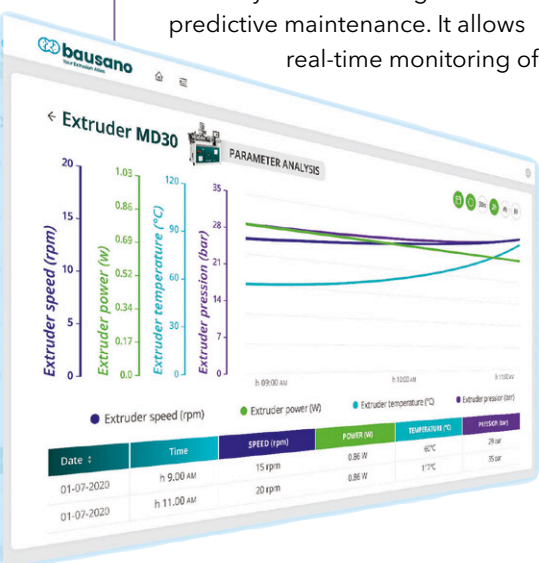
advance. This can be done through Bausano's augmented reality app, Acty.

Sharing data in the cloud enables Bausano to offer consultancy, which can make production processes more efficient.

"With Orquestra, end users have a system to help them constantly improve their performance in terms of product quality and lead-times," said Clemente Bausano, vice president of Bausano.

"Analysing the parameters of our lines during operation will help form a virtuous circle - where we and the customers design the future of extrusion, together."

➤ www.bausano.com



DOSING

Software update helps with remote installation for dosing

Movacolor has developed an updated version of its software for dosing plastic additives.

The new software includes extra features such as sensor neck integration, fast calibration options and a single shot test button for taking verification samples. It is also possible to contact support staff from Movacolor directly, via remote control.

"We would normally travel a lot to customers to help with installation or to provide support - but this is not an option during the Covid-19 pandemic," according to Gerhard Dersjant, managing director of Movacolor.

"We have made it our mission to serve our partners as best we can remotely. This new software allows us to help by temporarily taking over control of a machine that is thousands of kilometres away."

The software is available in 20 languages and is free of charge.

➤ www.movacolor.com



ANCILLARIES

Maguire buys into Newton

US-based Maguire Products has bought a minority stake in OA Newton, a supplier of storage, conveying and blending systems for industries including WPC production and both rigid and flexible PVC.

Maguire is best known for its gravimetric blenders, liquid colour pumps and vacuum dryers but also makes loading systems, auger feeders, granulators and software.

"This investment broadens our offering to the plastics industry and allows us to serve markets that we would otherwise never reach with our current product line," said Steve Maguire, president of Maguire.

Maguire is also co-owner of US ancillary equipment maker Novatec.

➤ www.oanewton.com

➤ www.maguire.com

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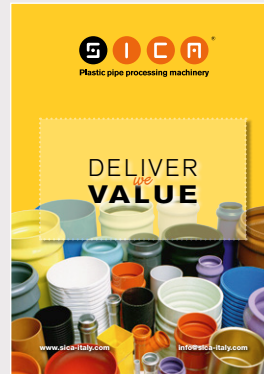
STRUKTOL: INNOVATIVE ADDITIVES



Struktol manufactures a wide range of additives that benefit performance and processing of resins and compounds. Its portfolio includes additives for PVC, wood-plastic composites, recycling, odour control and more.

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SICA: PIPE PROCESSING



This brochure from Sica covers the company's full range of performance pipe finishing equipment including its novel TRS-W cutting and chamfering, Unibell electric bellowing and robotised packaging machines.

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MIXACO: MIXING TECHNOLOGY



Mixaco has been driving innovation in PVC mixing technology for more than 50 years and has 7,500+ machines installed worldwide. This brochure explains some of the details that make its HM and KMH heating cooling mixers stand out.

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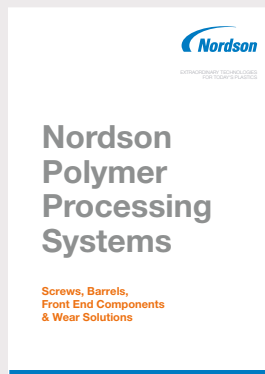
DAVIS-STANDARD: PIPE & PROFILE



Davis-Standard supplies a wide range of extruders and extrusion systems for pipe, profile and tubing applications, including medical tubing. This brochure details the range of equipment available and key performance benefits.

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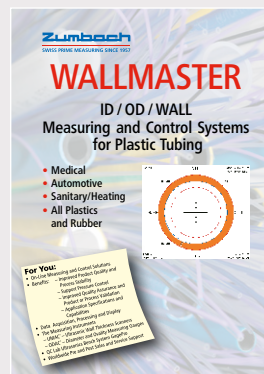
NORDSON: SCREWS AND BARRELS



Xaloy plasticising system components produced by Nordson Polymer Processing for extrusion applications include a range of bimetallic barrels and a variety of barrier and mixing screws. Learn more in this brochure.

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ZUMBACH: MEASUREMENT CONTROL



This eight-page brochure details the main features of Zumbach's Wallmaster measurement and control system for improving product quality, process stability and data capture in plastic tube and pipe extrusion applications.

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Versaprofiles

Head office:	Saint-Lazare-de Bellechasse, Canada
President:	Serge Mercier
Founded:	2011
Ownership:	Private
Employees:	Around 90
Profile:	Versaprofiles was formed in 2011 as a spin-off of IPL Extrusion, a company originally founded in 1939. The company is now a leading producer of various pipes, for industries such as geothermal, water, gas and telecoms. These are made from a variety of materials, including polyethylene and PVC. Versaprofiles also produces a range of custom and specialised profiles for applications such as doors and windows, automotive seals and medical products.
Product lines:	Within profiles, the company's Trimflex landscape edging is available in a variety of lengths, while its custom profiles – made from materials such as PVC, ABS and polycarbonate – are made using co-extrusion, tri-extrusion and multi-cavity dies. The company also makes a wide range of pipes and tubes, from 0.025 to 8in diameter. Some examples include: Twinloop and Versapipe, both made from HDPE and used in geothermal applications; Versablue, an LDPE pipe for applications such as water wells; yellow Versapipe for gas transport; and Versaduct, which protects optical fibres and other telecom cables.
Factory locations:	Versaprofiles recently expanded its main facility in Saint-Lazare-de-Bellechasse: a C\$3 million investment added an extra 10,000 sq ft of manufacturing space, as well as two new storeys of office space. The company also owns a second facility in nearby St Claire, which it acquired when it bought out Abenaki Plastics in 2015. This plant specialises in industrial profiles, custom moulding and PVC pipe.

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

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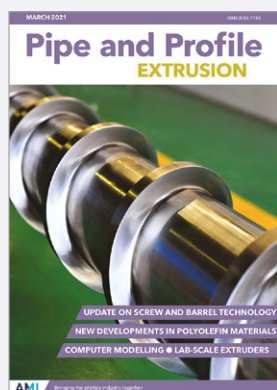
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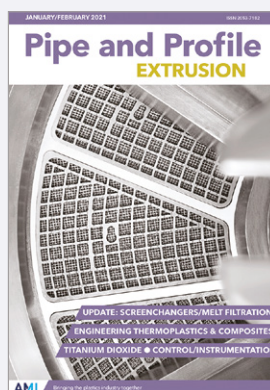
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Pipe and Profile March 2021

The March edition of Pipe and Profile Extrusion takes a look at new solutions for extending extrusion screw and barrel lifetimes. It also reviews some of the latest polyolefin pipe applications, laboratory extrusion systems and process modelling software.

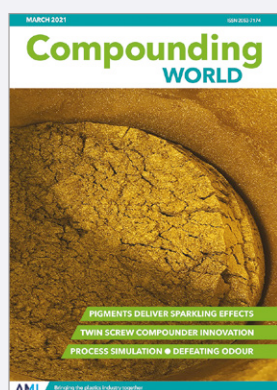
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Pipe and Profile January/February 2021

The January-February issue of Pipe and Profile Extrusion contains in-depth features covering melt filtration and dealing with recycled material, the role of ETPs and composites in extruded pipes and profiles, and control systems for ancillary operations.

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Compounding World March 2021

The March issue of Compounding World reports on the latest twin-screw extruders and their ability to handle recycled materials and low bulk density natural additives. Other features cover special effect pigments, compounding simulation software and odour reduction.

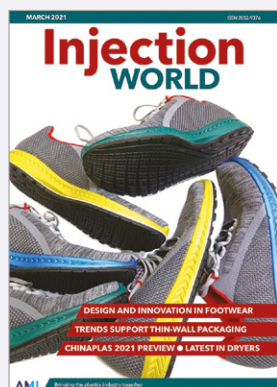
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Plastics Recycling World January/February 2021

The January/February edition of Plastics Recycling World looks at how chemical recycling technology could be utilised to recycle polyurethane foams. It also explores some of the latest developments in post-consumer film recycling and pelletising equipment.

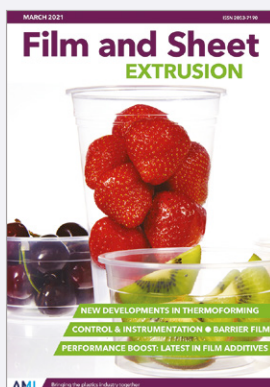
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Injection World March 2021

The March edition of Injection World magazine looks at how footwear producers are using new materials and process technologies to lift their designs. It also reviews the latest trends in thin wall packaging production and explores recent developments in materials drying equipment.

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Film and Sheet March 2021

The Film and Sheet Extrusion March edition contains a lead feature on advances in thermoforming, including PET replacement and the growing incorporation of recycled content. Other features cover film additives, barrier packaging materials and controls/instrumentation.

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Compounding
WORLD

Film and Sheet
EXTRUSION

Pipe and Profile
EXTRUSION

Injection
WORLD

Plastics Recycling
WORLD

GLOBAL EXHIBITION GUIDE

2021	13-16 April	Chinaplas, Shenzhen, China	www.chinaplasonline.com
	14-18 September	Equiplast, Barcelona, Spain	www.equiplast.com
	21-23 September	Plastics, Printing & Packaging, Dar-es-Salaam, Tanzania	www.expogr.com/tanzania/pppexpo
	29-30 September	Plastics Extrusion World Expo Europe, Essen, Germany	https://eu.extrusion-expo.com
	12-16 October	Fakuma, Friedrichshafen, Germany	www.fakuma-messe.de
	25-27 October	Plastic Print Pack Nigeria, Lagos, Nigeria	www.ppp-nigeria.com
	3-4 November	Plastics Extrusion World Expo North America, Cleveland, USA	https://na.extrusion-expo.com
	8-12 November	Plastico Brasil, Sao Paolo, Brazil	www.plasticobrasil.com.br
	15-18 November	Arabplast, Dubai, UAE	www.arabplast.info
	1-3 December	Plast Print Pack West Africa, Accra, Ghana	www.ppp-westafrica.com
2022	8-10 March	JEC World, Paris, France NEW DATE	www.jec-world.events
	5-8 April	FIP, Lyon, France NEW DATE	www.f-i-p.com
	26-30 September	Colombiaplast, Bogota, Colombia NEW DATE	www.colombiaplast.org
	3-7 October	Plastex, Brno, Czech Republic NEW DATE	www.bvv.cz/en/plastex
	1-3 December	Plastic Print Pack West Africa, Accra, Ghana NEW DATE	www.ppp-westafrica.com

AMI CONFERENCES

20-22 April 2021	PVC Formulation North America VIRTUAL SUMMIT
26-29 April 2021	Thermoplastic Concentrates & Masterbatch VIRTUAL SUMMIT
4-6 May 2021	Fire Retardants in Plastics VIRTUAL SUMMIT
22-24 June 2021	Polymers in Cables VIRTUAL SUMMIT
5-6 October 2021	Medial Tubing & Catheters, Cologne, Germany
Date TBA	PVC Formulation Asia, Bangkok, Thailand

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

PLASTICS RECYCLING
WORLD EXPO

POLYMER TESTING
WORLD EXPO

29 - 30 September, 2021
ESSEN, GERMANY

PLASTICS EXTRUSION
WORLD EXPO

COMPOUNDING
WORLD EXPO

3 - 4 November, 2021
CLEVELAND, OHIO

www.ami.international/exhibitions