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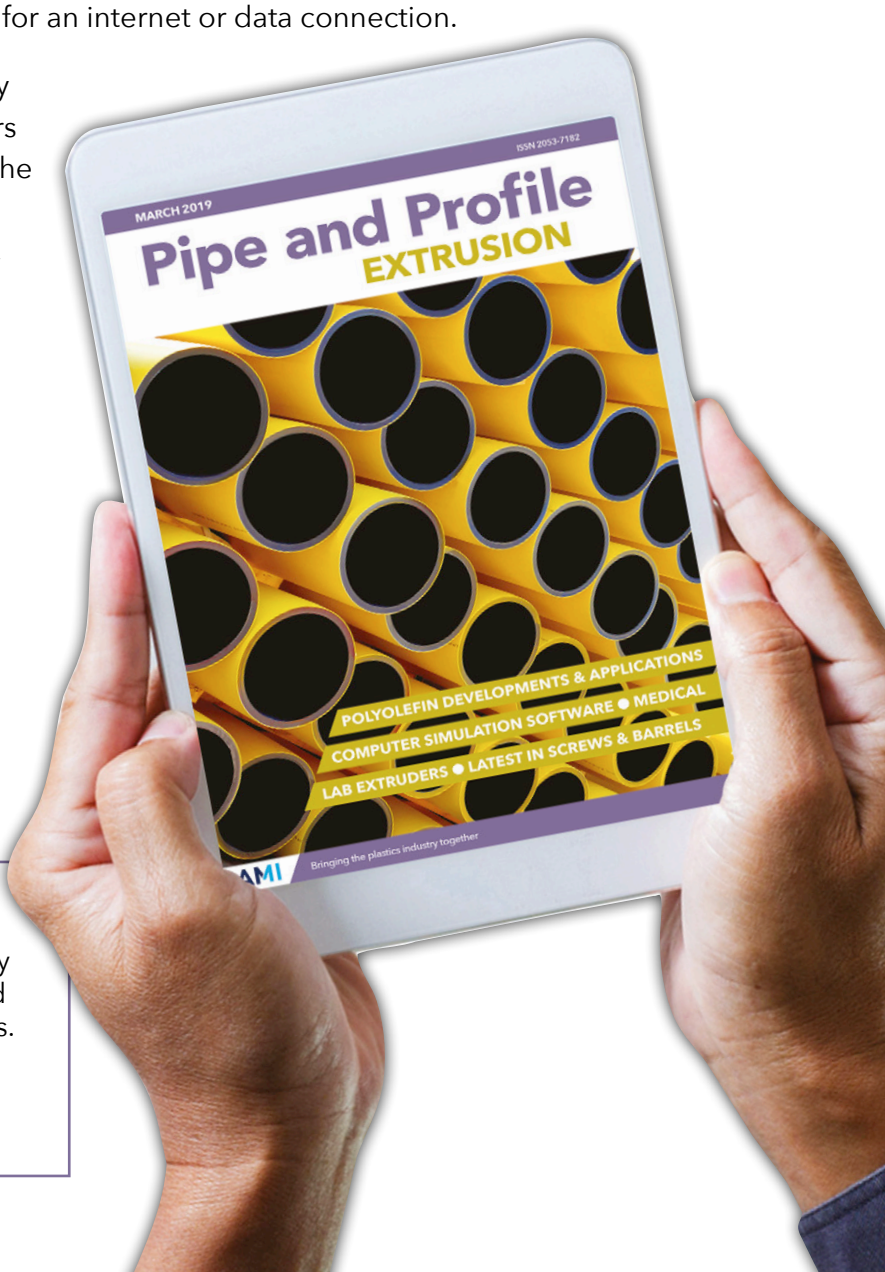

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Production decline hits Eurocell sales and profit

Sales at UK-based profiles manufacturer Eurocell declined by more than 30% for the first half of 2020.

The company reported sales of nearly £94 million (US$118m) for the period, compared to around £136m (US$170m) for the same period in 2019. At the same time, the company posted a loss of more than £16m (US$20m), compared to a profit of more than £10m (US$13m) for H1 2019.

In line with many other businesses, Eurocell was closed for six weeks between March and May – which led to the reduced output. Despite this, average sales per trading day declined by just 4% for the period. On this basis, sales for July and August are 12% ahead of 2019 – with building plastics performing more strongly than profiles.

The company has also cut its workforce by around 3% (about 50 employees).

Kelly: "Since re-opening, operating efficiencies have been better and gross margins are improving."

Production decreased by around 38% in the period, as the company made around 16,600 tonnes of rigid and foam PVC profiles (down from 26,600 tonnes). However, overall equipment efficiency of its machinery increased to 76% (from 73% in H1 2019), due to an earlier investment of £5m (US$6m) to increase capacity.

"Since re-opening, sales have exceeded our initial expectations, and we have been encouraged by recent market trends," said Mark Kelly, CEO of Eurocell. "We are pleased that operating efficiencies have been better and that gross margins are improving as volumes increase."

The company used 4,700 tonnes of recycled PVC in co-extruded rigid profiles in the first half of the year, representing 26% of overall material consumption. This compared with 6,400 tonnes (22% of the total) in the same period in 2019.

"Expanding the use of recycled material increases our profits, because the cost of recycled compound is typically lower through the cycle than the price of virgin material, and reduces our exposure to volatile commodity prices," said Kelly.

› **www.eurocell.co.uk**

Auxo buys two PPG companies

Auxo Investment Partners, a private equity company, has acquired two plastics extruders – Paramount Tube and Euclid Medical – from Precision Products Group (PPG).

Paramount makes small diameter, spiral-wound and extruded tubular products that provide customised, tight tolerance and uniquely shaped solutions. Euclid makes automated single- and multi-dose pharmaceutical packing systems, and converts medical-grade films into pharmaceutical packaging.

"We selected Auxo as our partner because of their desire to support our vision for growth and the values our organisations share," said Dave Hooe, CEO of PPG, who will continue in his role.

› **www.auxopartners.com**
› **www.ppgintl.com**

Water pipe research project reveals results

A UK research project, to examine the long-term performance of plastic drinking water pipes, has reported its results – after more than 30 years.

Severn Trent Water has exhumed the plastic pipes – installed in special testbeds at two of its pumping stations in the 1980s and 1990s – in the project that it funded with UK Water Industry Research (UKWIR).

Pipes and joints have been kept 'in-service' and recently subjected to specific chemical and mechanical testing – especially to predict when the pipes will begin to leak or burst. This information will help to improve the performance of the UK's drinking water network, as more than 90% of new water pipes are made from PE.

Test results show that polyethylene (PE) pipes with similar characteristics to the ones recently dug up will last for longer than the current 50-year design life.

More recent high-pressure pipes, such as PE100, could have a useable life up to 160 years.

The project also revealed that installation issues cause most of the joint failures on PE pipe.

"Thanks to the foresight of engineers 40 years ago, today's water industry engineers have a valuable asset – robust data," said Jo Claronino, technical lead at Severn Trent Water. "The hope is that this can be used to create a national database of companies' analysis showing the life expectancy of water supply networks across the UK and Ireland."

While one of the testbeds been decommissioned, the other is still operating.

› **www.stwater.co.uk**
› **www.ukwir.org**

Tubi suffers losses as demand falls in upstream oil and gas

Tubi, the Australian manufacturer of pipe using its mobile production equipment, has reported a loss for the financial year ending in June 2020.

The company saw revenue drop by a third in the period, to just under A$21 million (US$15m). This led to a loss of nearly A$5m (US$4m) – compared to a profit of A$1.5m (US$1m) in the previous year.

"From the commencement of the year, until March 2020, the group continued to manufacture HDPE pipe from its mobile extrusion plant in the Permian Basin, Texas, USA for MPS Enterprises under a manufacturing and supply agreement," said the company. "The decline in investment activity in the upstream oil and gas industry – caused by the decline in oil prices – led to exclusivity restrictions and a reduction in orders, selling prices and margins."

The company also suffered large operating costs in the first half of the financial year due to "a series of operator failings", resulting in around six weeks of lost production. During this period, Tubi also finished building and commissioning a mobile plant for Iplex Pipelines in New Zealand.

The company has also secured a new customer in Florida, which it supplies from two new plants in Bartow, Florida.

"Raw materials are delivered to a rail siding close to Tubi's manufacturing site," it said.

"The manufacture and supply of raw materials, together with other services, currently remain active."

Production volumes from both Florida plants have increased in the last quarter of the year. Production at a plant in Odessa, Texas has temporarily been suspended.

"A decision on whether to keep the plant at the Odessa location or re-deploy it will be made as different regional markets are evaluated," said Ariel Sivikofsky, chief financial officer.

› **www.tubigroup.com**

Recycling waste into WPCs

Berry Global and Azek have joined forces to recycle more than 13,000 tonnes of waste plastic.

Packaging specialist Berry will provide a stream of mixed, post-industrial scrap – from its plants across North America – to Azek, which will use it to make wood-plastic composite (WPC) decking. Azek's portfolio includes a number of wood-replacement products.

"This expands our recycling initiatives and enables us to increase the overall sustainability of our manufacturing operations," said Jesse Singh, CEO of Azek.

› **www.berryglobal.com**
› **www.azekco.com**

PPI offers $200 for digging up old samples of HDPE conduit

The Plastics Pipe Institute (PPI) is offering US$200 for old samples of HDPE conduit, as part of a research project to demonstrate its longevity. The money will be paid for samples that are chosen for testing.

"Perhaps your conduit is being removed due to replacement, re-routing, or any other reason," said Patrick Vibien, of PPI. "Specifically, we are seeking samples that have been in service for 15 years or more."

The conduit could have been buried in the ground carrying power cables of any voltage, telecommunications lines or fibre optics. The print line will indicate the year of manufacture. PPI says that any diameter or SDR is useful and a length of 8 to 20 feet is sufficient.

Left: PPI's research project aims to determine long-term performance of HDPE conduit

Analysing the used conduit will help to determine long-term performance and durability.

"This research will increase the body of knowledge about the product's long-term durability for power and communication applications," said Vibien.

■ PPI recently signed a Memorandum of Understanding (MOU) with the American Society of Plumbing Engineers (ASPE), to advance the benefits that both organisations offer to the plumbing industry. A key part of the MOU is advocacy: where mutually beneficial, and allowed by laws and corporate policies, PPI and ASPE will work on common public affairs goals and ideologies.

› **www.plasticpipe.org**

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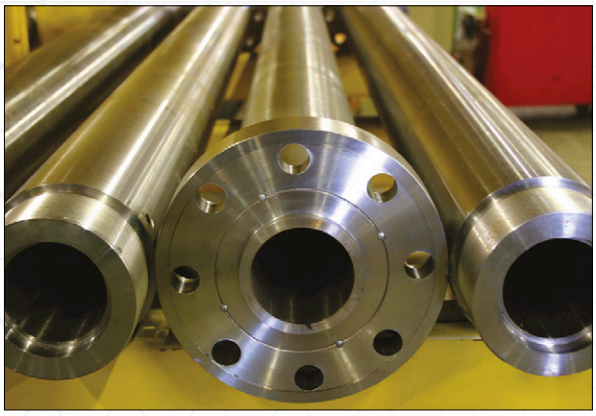

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Rehau: retrofits are best way of cutting carbon

Window manufacturer Rehau says that retrofitting buildings – rather than demolishing them – will help to reduce carbon dioxide emissions.

The company cites the UK-based Royal Institute of Chartered Surveyors (RICS), which estimates that a large proportion of a building's lifecycle carbon – 35% for office properties and 51% for residential properties – is emitted during construction.

Rehau says that retrofit window solutions will help the construction sector's fight against climate change.

Above: Rehau says that retrofitting PVC window frames helps to reduce carbon emissions

"The Government committing the country to net zero emissions by 2050 has made improving sustainability a key concern across all sectors, including construction," said Russell Hand, head of marketing and technical at Rehau Windows in the UK. "With that in mind, these RICS figures show just how damaging it can be to opt for new-builds over renovating older properties."

As well as helping to reduce heat loss, PVC window frames can be recycled several times before recording any loss in performance, he added.

"The carbon costs associated with their construction means new buildings may not pay back their carbon debt for decades," he said. "As such, retrofitting should become a priority for specifiers and developers looking to improve the sustainability of their operations."

› **www.rehau.com**

Fitt sets up USA HQ in N. Carolina

Fitt, an Italy-based manufacturer of thermoplastic hoses, is to set up a US headquarters in Mooresville, North Carolina.

The company plans to invest more than US$25 million in the 120,000 sq ft facility and create around 144 new full-time positions.

The facility, in Mooresville Business Park East, will focus on producing Fitt Flow and Fitt Force, which are both garden hoses.

"Opening our facility in Iredell County and North Carolina was the right decision," said Alessandro Mezzalira, president and CEO of Fitt Group. "The environment is conducive to establishing a business with a skilled workforce and superior location."

Fitt USA has been approved for a performance-based Discretionary Economic Incentive Grant, from Mooresville with a value up to US$551,000.

› **www.fitt.com**

Saint-Gobain buys two medical device firms

Saint-Gobain Life Sciences has extended its presence in medical components by acquiring two French medical device companies – MS Techniques and Transluminal.

MS Techniques, located in Pompey near Nancy, employs 137 people. It has experience in high-precision thermoplastic extrusion and minimally invasive catheter solutions – with a strong focus on the cardiovascular market. Transluminal designs, develops and manufactures medical devices for transluminal therapies.

"MS Techniques and Transluminal strengthen our presence in Europe and broaden our precision extrusion capabilities and catheter design expertise," said John Schmitz, general manager for Saint-Gobain's medical components and electronics division.

Saint-Gobain says that the design and manufacturing capabilities of the two companies will complement its own material expertise, financial strength and global presence in medical devices. They will be integrated into Saint-Gobain's medical components business unit.

Etienne Malher, president of MS Techniques, said: "We joined forces with Saint-Gobain because we shared the same vision: to become a world-class reference for delivering minimally invasive innovation."

› **www.medical.saint-gobain.com**

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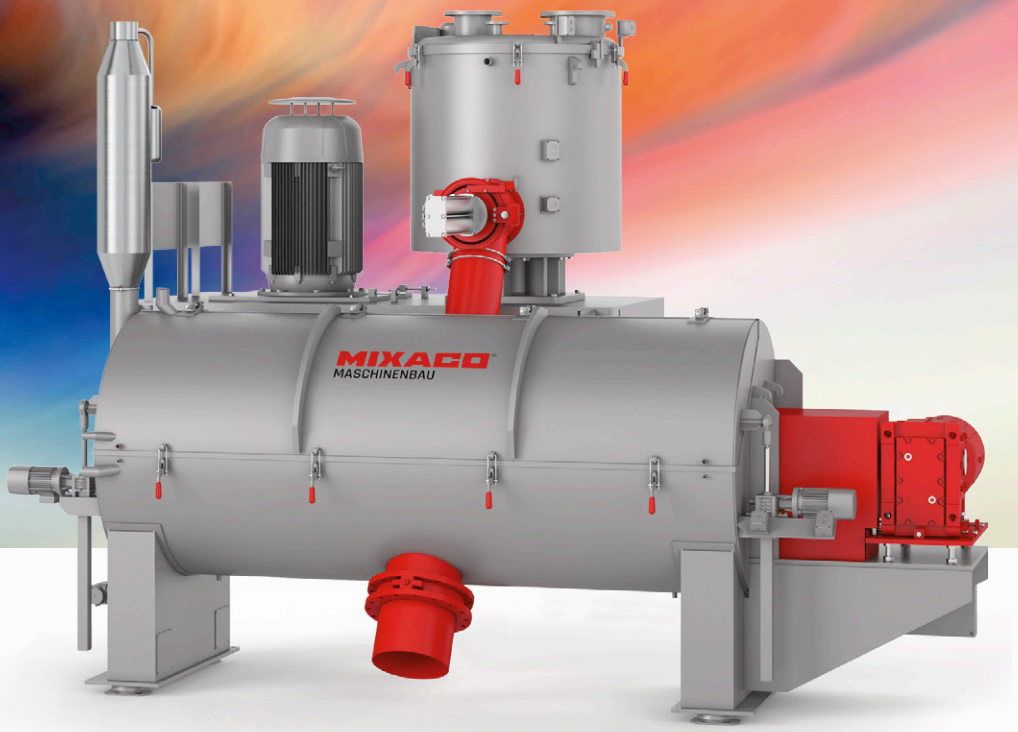







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US plastics machinery market sees second quarter increase

Primary plastics machinery shipments in North America increased by 4% from the previous quarter to exceed US$263 million, according to the Plastics Industry Association's Committee on Equipment Statistics.

The value of shipments of single-screw extruders fell by nearly 36%, while those for twin-screw extruders declined by more than 30% in the same period. For comparison, shipments of injection moulding machinery rose by more than 11% from the first quarter.

Plastics machinery exports in the second quarter totalled US$289m, a 21% drop from the previous quarter. Imports rose by 15% to reach almost US$650m.

"Although primary plastics machinery shipments are still lower than the previous quarters, the second quarter uptick is consistent with gradual improvement in the US economy," said Perc Pineda, chief economist at the association.

The statistics committee's quarterly survey of plastics machinery suppliers, regarding market conditions, found 40% of respondents expect conditions to improve or remain the same in the third quarter. The compares with 18.5% who felt the same way in the first quarter. For the next 12 months, 24% expect market conditions to be steady or improve, which is slightly higher than the 22.6% who felt this way in the previous quarterly survey.

Canada and Mexico remain the top export markets for US equipment suppliers. Combined exports to the USMCA trade partners reached almost US$135m, representing more than 46% of total US plastics machinery exports in the second quarter.

› **www.plasticsindustry.org**

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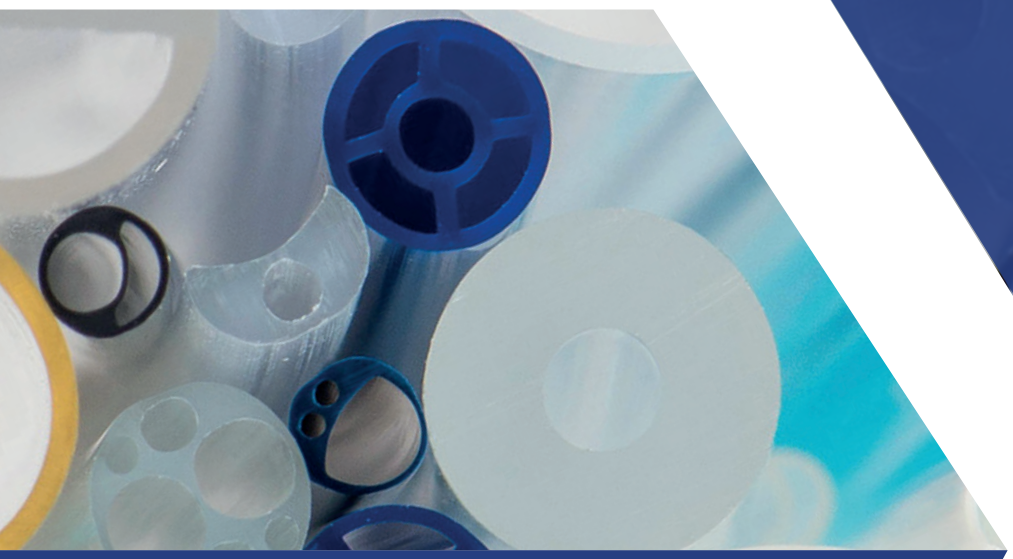

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Pipe and Profile EXTRUSION

Feel the quality: latest in pipe inspection technology

Pipe inspection occurs all the way along the chain – ranging from ovality measurement on the production line to leak testing in the field

Inspecting pipes is not just for the production line. While its initial use is to determine product quality it is also critical in checking the integrity of installed pipe – such as for leaks or weld quality.

Pixargus says that its new inline gauge can measure the complete wavy structure of corrugated and spiral tubing gaplessly.

New algorithms allow the ProfilControl 7 S Corrugated Tube to inspect previously 'undetectable' areas – including the peaks and valleys and transition areas in between. This reduces out-of-spec production and will cut process costs, says the company.

Corrugated tubing has become increasingly common thanks to its flexibility – which is due to their wavy structure. However, the structure can be difficult to inspect. A reliable inspection system must be able to differentiate between plane and curved surfaces and inspect them – continuously – according to different quality parameters.

Using technology from its PC7 S Tube inspection system, Pixargus has developed a new sensor head for corrugated tubing. Eight high-performance cameras capture the surface structure from different angles – inspecting peaks, valleys and transition areas. New algorithms enhance the software, which can detect the change from plane to wavy and vice versa by masking out specific surface structures. Even very small flaws are visible – including holes, dents, blisters and poorly crimped joints.

In its standard version, the device is designed for tubing of up to 30mm. The scalable system can be integrated into Industry 4.0 environments and comes with all common interfaces, such as OPC-UA, says the company.

Main image: An inline gauge from Pixargus can inspect previously 'undetectable' areas of corrugated tubing

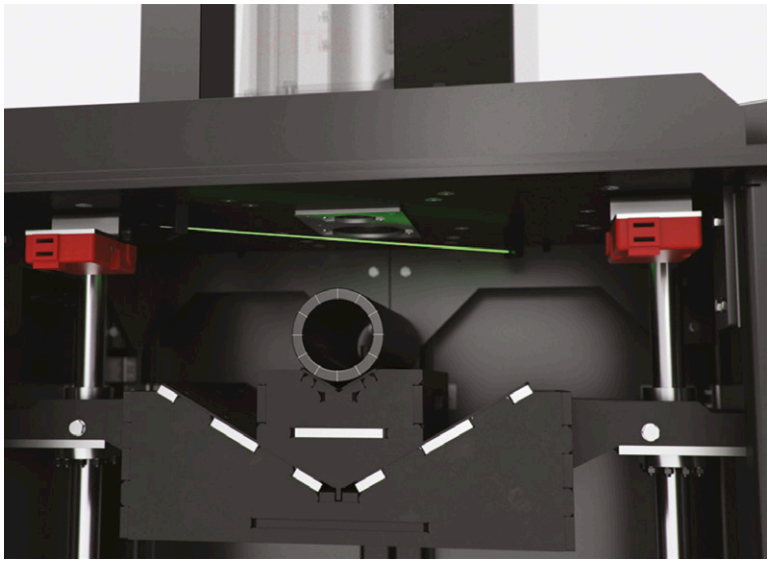
Maintaining medical quality

NDC Technologies is helping a medical tube manufacturer maintain product quality as it ramps up production.

Onyx Hose & Tube of Canada makes medical tubing for oxygen delivery systems and ventilators, which are supplied to field hospitals in Central Park in New York City.

It is using NDC's AccuScan and BenchMike devices to measure the diameter and ovality of its products.

A second NDC customer, based in Massachusetts, USA, was also increasing production of its medical product when its BenchMike device stopped working. NDC delivered a new unit – from its nearby Connecticut facility – the same afternoon. It also collected the broken unit – and



Above: Sciteq's Sigma impact tester is intended for use in production environments

repaired and returned it the next day.

"The customer was able to resume production, thus doing their part to help with the pandemic crisis," said NDC.

Sudden impact

Sciteq of Denmark has developed its Sigma impact tester specifically for plastic pipe producers. The test unit is intended for use in a production environment, with an emphasis on ease and speed of use, low maintenance and safety, says the company.

The design allows for safe staircase and round-the-clock tests of pipe diameters from 20mm up to 2000mm complying with ISO 3127, EN 744, EN 1411 and ASTM D 2444 and equivalent, it says.

Being equipped with a closed vacuum loop enables fast repeat of tests as well as safe, precise adjustment. The system has built-in impact speed measurement to prove the falling velocity of each test. Weights can be exchanged in seconds and all parameters are easily selected via the control panel.

Its Sigma software is intuitive and easy to use, while making sure the testing is done correct and according to the different standards. The unit is controlled via a user-friendly interface run from any browser-enabled device (such as a laptop or smartphone). There are four different user levels, enabling the main operator to pre-program test recipes for all users. Drop height, impact quantity and drop weight are entered in the recipe before use. It combines accurate measurement of drop speed with a resolution in microseconds and automatic calculation of H50 and TIR.

A test sample is placed on the V-block, the chamber is closed and the test is initiated from the Sigma UI. Inside the falling tube, the striker is lifted into place by the vacuum system. The frictionless environment inside the falling tube ensures accurate results and fewer mechanical parts to maintain, says Sciteq.

On impact, the striker is immediately lifted by the vacuum system, ensuring no double bouncing.

The system auto-calibrates at start-up for a reliable, repeatable performance. To prove each test, the impact speed monitoring system provides all the information needed, including the speed of the striker.

The device is equipped with a range of safety features that prevent a release of the impact weight unless the doors are closed. When performing round-the-clock repeat tests, the striker weight can be locked in its safety position in the top of the tube, allowing the operator to turn the sample easily, before repeating the test.

Leak trial

US-based **Electro Scan** has completed a trial project of its leak-detection technology with Australian water utility Sydney Water.

Traditionally, water utilities have relied on high resolution cameras and visual inspection to assess defects manually inside sewer pipes that have low or restricted flows. Pressure tests of existing and new pipe installations are also common but, when located in close proximity to shorelines, may falsely measure water tightness based on groundwater conditions.

The company used its Focused Electrode Leak Location (Fell) technology to evaluate sewer mains of 150-400mm diameter, in materials including plastic, clay, cured-in-place lined pipe (CIPP) and Rib-Loc spiral wound lined pipes.

"We will use the findings to see if we can improve the way we test our new and rehabilitated pipelines and prioritise our repair strategies for existing wastewater pipelines," said Jerry Sunarho, senior engineer at Sydney Water, who coordinated the trial.

Similar to the testing used to evaluate protective coatings for defects and pinholes, Electro Scan uses a low voltage, high frequency current to create an electric circuit between the inside of the pipe and its surface. If a pipe has a leak – such as from a crack in the wall or at a joint, junction – the circuit is temporarily completed and a measurable leak size and location is automatically recorded.

Defect locations, including pinhole leaks in trenchless rehabilitation materials are located to within 1cm, and estimated in litres/sec or gallons/min.

High precision

Zumbach says that its GaugePro offers a fast, precise way to measure and record tubular

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Round Robin test to boost 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**.

Compared to other RRTs performed on the ISO1167 standard, this one shows slightly smaller variations in reproducibility and repeatability, said the association. No laboratories in the RRT that 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.

samples in the laboratory. Conventional contact measuring equipment – such as calipers, micrometers and dial gauges – rely heavily on the skill of the person making the measurement. Different handling of the tools may result in significant variations in results.

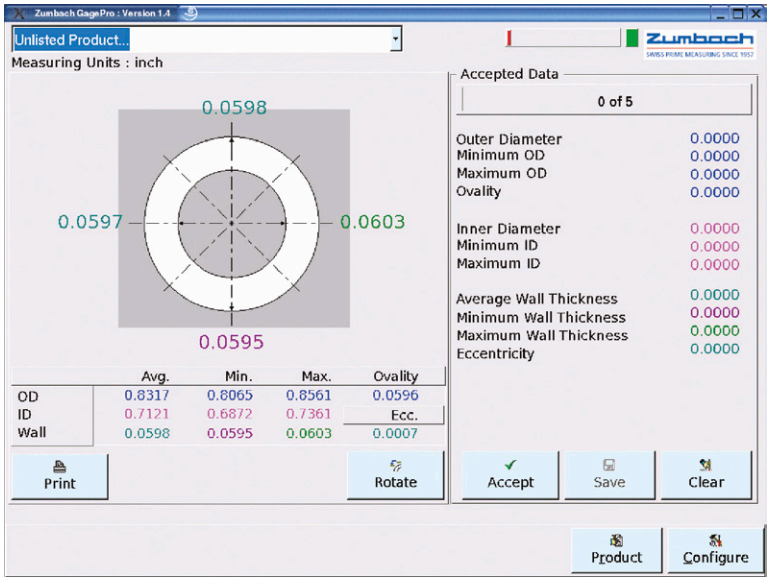
The new device can measure tubular samples in a contactless way. Using ultrasonic technology, dimensions such as wall thickness, inside diameter and outside diameter are measured instantly. In addition, ovality and eccentricity can be determined.

An inserted sample is measured immediately at four fixed measuring points. Due to the rotation function, the measurement can be extended to eight measuring points. This increases the coverage around the product and all variations in wall thickness become visible. Automatic self-calibration ensures that the measured values are accurately and reliably recorded even under changing environmental conditions.

All measured values are displayed on a large user interface. Several measured tube samples can be summarised in a common statistic. Logging the measurement results is thus fast, easy and reliable.

Two variants are currently available: GaugePro 8 covers a diameter range from 2.5 to 8mm, while GaugePro 22 can measure tube samples from 6.8 to 22mm.

Below: Zumbach says that its GaugePro measures tubular samples in a contactless way, using ultrasonics



Weld quality

GF Piping Systems has developed an inspection device, called the WBI Tool, which assesses the integrity of infrared welds for both Progef (PP) and Sygef (PVDF) pipe.

Using infrared butt fusion to join plastic piping components produces a weld bead. Historically, experienced welders or quality control managers have assessed the quality of the bead by eye, to see whether it is perfectly fused and uniform. The WBI Tool can do this job as well as a qualified worker, says GFPS.

The device is the size of a computer mouse and contains photo-sensory technology. Welds for demanding applications can be digitally inspected to ensure potential weaknesses are highlighted – which helps to reduce the risk of leakage.

"The WBI Tool can fit up to 15 different pipe diameters and analyse 4-16 different points of a weld," said Peter Waefler, product manager for jointing technology at GFPS. "It can assess a weld bead and provide a seal of approval quickly and objectively."

It comes in two sizes to check the connections of pipes in a range of sizes from d20 up to d225. The accompanying software allows examination of six different key areas of a weld: K-value, wall offset, width, area, heights, and angle. At the same time, it provides a pass/fail certification for each weld.

Quality control

Sikora supplies a number of measuring and control devices for quality control during the extrusion of

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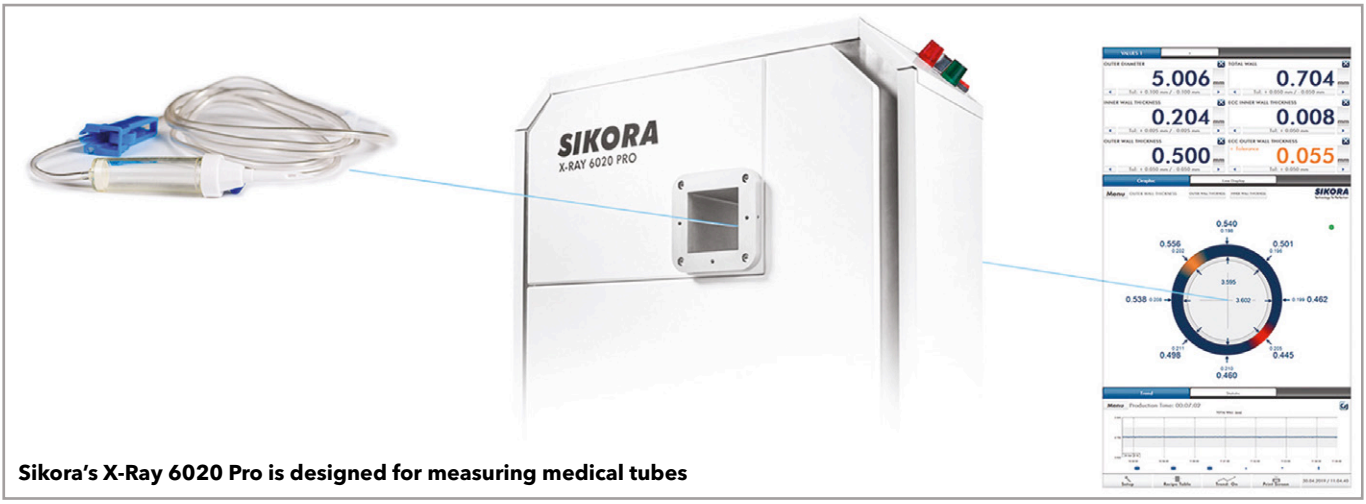

Sikora's X-Ray 6020 Pro is designed for measuring medical tubes

medical tubes. Two critical characteristics of medical tubing that manufacturers need to track are dimensions and surface quality.

Single or multi-lumen coloured tubes, which require accurate measurement of outer diameter and ovality, can be checked with a device from the Laser 2000 XY series.

Three-axis models, such as the Laser 2010 T, offer high precision for transparent medical tubes, while an alternative series – Laser 6000 – offers a higher measurement rate, while also detecting lumps on the surface of the tube.

The thickness of single-lumen medical tubes can be measured during production using the X-Ray 6020 Pro. The X-ray measurement system is designed for smallest medical tubes with diameters of 0.65-15mm and a minimum wall thickness of 0.1mm. The system continuously records data about wall thickness, eccentricity, inner and outer diameter and ovality. The device can be combined with a three-axis lump detector: the Lump 2000 T gauge heads detect small irregularities on the product surface after cooling.

Devices can be integrated into horizontal or vertical extrusion lines.

New test lab

US plastics testing specialist **NSF International** has moved two of its laboratories into a single 20,000 sq ft space in Ypsilanti, Michigan.

The expanded location brings all its plastics testing and certification capabilities together, including chemical and structural testing on plastic pipes, fittings and valves.

The testing laboratories have been relocated from Aurora in Canada and from NSF's global headquarters in Ann Arbor, Michigan. The new facility, known as the Willow Run Laboratory, is close to NSF's headquarters.

"By bringing our laboratories under one roof, we are offering greater ease to our clients, providing advanced plastic pipe, fitting and material testing," said Dave Purkiss, vice president of NSF's global water division.

The facility offers nearly 2,000 test stations, including stations for long-term pressure/stress testing and hydrostatic design basis (HDB) and minimum required strength (MRS) ratings, as well as short-term burst and other pressure performance requirements.

The lab tests pipes up to 18in diameter under sustained pressure, and up to 4in diameter pipes for chlorine resistance. It also evaluates the long-term impact of disinfectants such as chlorine, chlorine dioxide and chloramines on plastic material performance. Other specialities include slow crack growth (SCG) validation and rapid crack propagation (RCP) testing.

Nuclear option

One key reason for inspecting pipe is to assess its safety – and there can be few more critical environments than the nuclear industry.

HDPE pipe has been used in nuclear power plants for some time in mainly non-safety related applications. However, it has recently begun to be used in safety applications. The main difference is that, in safety related applications, pipes must be designed to withstand higher loads – such as from gravity and earthquakes – and temperature.

Researchers in China recently studied the mechanical behaviour of an HDPE pipe under various loads in a nuclear power plant pipe gallery, using finite element analysis (FEA).

Pipes in a pipe gallery are suspended – rather than being buried. Compared with buried pipelines, the natural frequencies of suspended pipelines in pipe gallery are lower, which may cause resonance under seismic wave loads.

"Therefore, the seismic design of pipelines in

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Above: NSF's Willow Run Laboratory expands the company's plastics testing capabilities

pipeline gallery is particularly important," said the researchers, from organisations including the **Institute of Process Equipment at Zhejiang University**.

FEA was used to model a suspended HDPE pipeline for an essential service water system (ESWS) installed in the pipe gallery of a nuclear power plant. The stress distributions under different loads and combined loads were obtained.

The stress caused by seismic load was largest in faulted conditions. However, as the chance of seismic load is very low, the allowable stress is also large, said the researchers. The researchers also found stress concentrations at the fusion regions on the inner surface of mitred elbows of the system – which was higher than the stresses on straight pipes.

"The results provide a reference designing nuclear safety-related Class 3 HDPE pipe," said the researchers.

The work was published in *Nuclear Engineering and Technology*.

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A 34km water pipeline in New Zealand is one recent example of how PVC-O pipe is becoming more prevalent in infrastructure applications

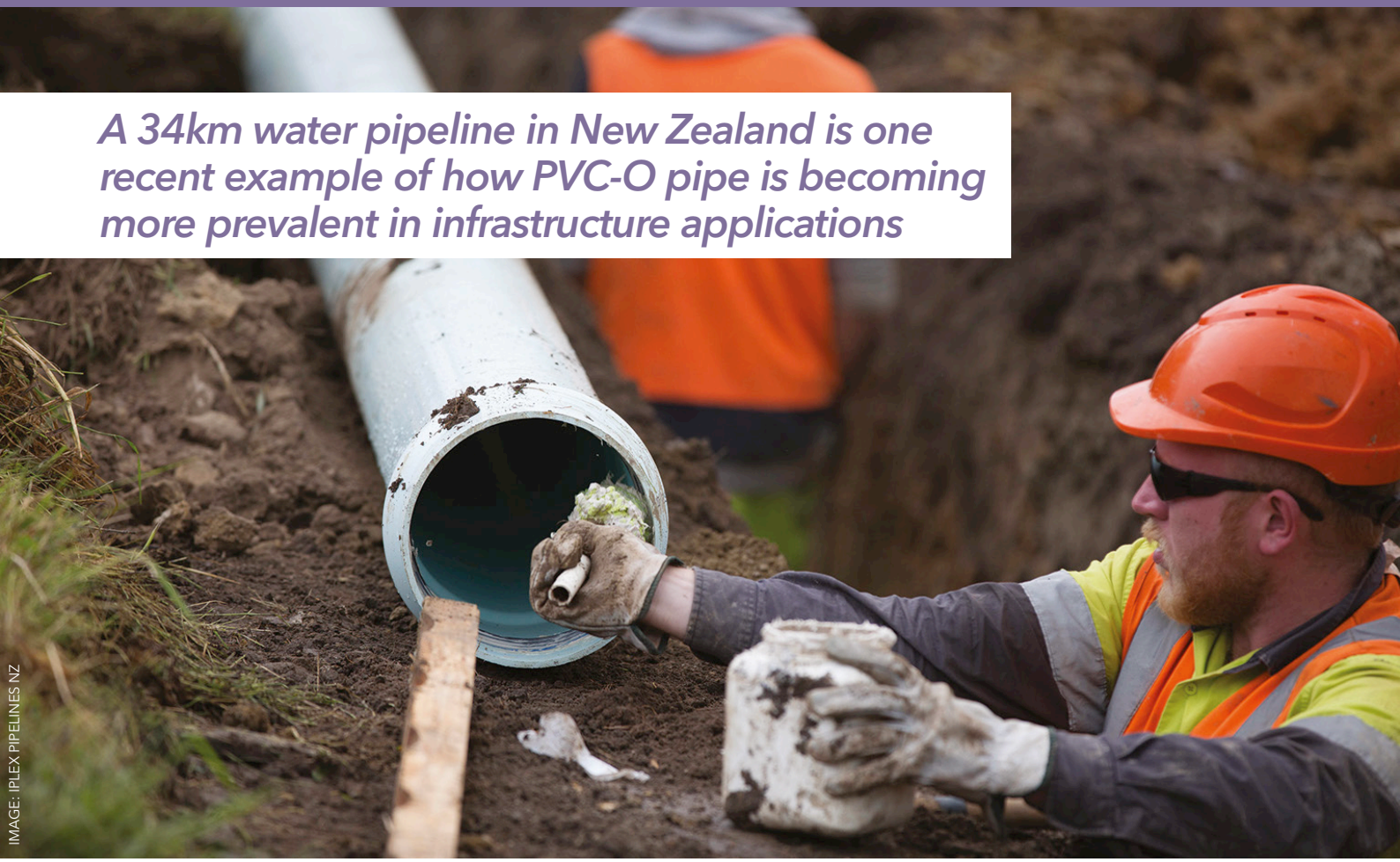

IMAGE: IPLEX PIPELINES NZ

Pressure situations: advances in PVC-O

PVC-O pipe is typically used to transport water under pressure, due to its high pressure rating – and was recently chosen for a major pipeline in New Zealand.

At last year's Ozpipe event, Jay Roy, quality manager at **Iplex Pipelines** in New Zealand, explained how the company contributed to the Hamnak pipeline – which he said is the country's "longest PVC-O water transmission pipeline".

The 34km line, which was installed in 2017 and 2018, uses DN200, DN150 and DN100 sized pipe to deliver drinking water to over 1300 people in the Waitaki district. However, the system is flexible enough to handle a 45% increase in demand over 40 years, he said.

The previous pipeline was partially non-compliant with water regulations, and there were cases of *E. coli* contamination. In addition, there were frequent supply restrictions, and the system was subject to frequent failure.

PVC-O was chosen for the majority of the pipeline because it is lighter than conventional PVC and PE100 pipes of similar diameters and pressure classes, so is quicker and easier to install. However, sections of the pipeline under existing waterways and roadways were installed by Horizontal Directional Drilling (HDD) using PE100 pipe in sizes DN180 & DN250 with a pressure class of PN16.

The contractor chose to use PVC-O in its tender submission to achieve a cost advantage in construction, said Roy. For instance, an open-cut installation method was specified for much of the tender, which meant no obvious benefits to using PE100 – which would be optimal for trenchless installations. Also, simple in-trench jointing of PVC-O with factory fitted composite seals helped towards fast installation: lay-rates of up to 200m per day were achieved with minimum disruption to landowners, he said.

"PVC-O provided the best outcome for the project in terms of cost-effectiveness, hydraulic-capacity and constructability – including quick reinstatement and minimal disruption to landowners," said Roy. ›

Main image: Iplex says the 34km Hamnak project is New Zealand's "longest PVC-O water transmission pipeline"

Above: Molecor has begun offering a 50-year warranty on its PVC-O pipe

Restraining order

Joint restraint devices that are used to carry out pressure testing on PVC-U pipe may need to be redesigned if they are to be used on PVC-O pipe.

Property differences between the two materials make this necessary, according to researchers in a paper presented at OzPipe. GM Quesada, a product development engineer at Costa Rica-based Simulation Driven Engineering, and KH Steinbruck of Steinbridge in the USA, carried out tests on five restraint devices, on both PVC-U and PVC-O pipe.

The tests were carried out according to ASTM F1674 standard test method for joint restraint products for use with PVC pipe. This included: a sustained pressure test at 500psi for 1,000 hours; a minimum burst pressure test; and a cyclic surge pressure test.

Because PVC-O pipe tends to be thinner – because it has higher burst pressure and yield stress – it has a lower bending strength.

"This plays against PVC-O joint restraints, since it is impossible to grip a pipe without applying a radial load – which in turn leads to bending," said the authors.

In general, PVC-O pipe is more sensitive to 'collateral loads' than PVC-U – and demands more rigorous design of joint restraints.

"A better design will make careful installation less necessary," they said.

Factors such as engaging grips on as much of the pipe circumference as possible, keeping gripping elements parallel to the pipe surface, and spreading the gripping elements evenly all helped to improve performance.

Overall, two types of restraint devices – called Sliding Grip Cap (SGC) and Internal C Grip (ICG) – worked well in all ASTM F1674 tests performed.

"Properly designed devices will effectively restrain PVC-O pipes," said the authors.

Seismic resistance

Ipex of Canada has extended its PVC-O pipe with a new version called Bionax SR – which has enhanced seismic resistance.

The pipe is designed for water transmission and distribution and can withstand seismic shocks thanks to an extended bell – which allows the joint to telescope in and out during ground strains.

The pipe has undergone extensive testing at the geotechnical lifelines facility at Cornell University in the USA. It is compatible with North American pipes and fittings (CIOD) and exceeds the Japanese seismic design standard by 70%, says the company.

Thomas O'Rourke, professor of engineering at Cornell University, said: "The pipe's axial tension abilities is large enough to accommodate the great majority of liquefaction-induced lateral ground strains measured after four recent earthquakes in Christchurch, New Zealand."

Japan is also susceptible areas to earthquakes. To counter this, it tends to rely on specifically designed ductile iron pipe. However, Ipex says that Bionax SR offers some advantages for the North American market – such as fewer joints, easier cutting and bevelling and a lack of corrosion.

Manufacturing of the Bionax SR gasket system is both ID- and OD-controlled, says Ipex, so tolerances are tighter than with conventional pipes.

"Joints are always bottle-tight," said the company.

Bionax SR is available in diameters of 6-12in (15-30cm), with a pressure rating of 235.

Last year, Aliaxis – the parent company of Ipex –acquired US-based pipe manufacturer Silver-Line Plastics. The new company will be incorporated into Ipex. While Silver-Line does not produce PVC-O pipe, it does offer C-PVC – which will allow Ipex to expand its portfolio. Silver-Line also produces PE, PVC and PEX pipe.

"Ipex will work closely with Silver-Line to ensure we capture the many exciting opportunities we have identified between our two companies," said Alex Mestres, divisional CEO for Aliaxis Americas.

Relieving drought

Molecor of Spain – which produces PVC-O pipes, as well as the machinery to make them – recently supplied a city in Bulgaria with pressure pipe to supply drinking water, following a severe drought.

Pernik had suffered a serious drought since November 2019. A lack of rain – and the low water level in the Studena dam – threatened to leave 100,000 people without potable water.

In addition, the existing water system was experienced huge leakage problems – with an

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Right: Molecor's PVC-O pipe has been used to supply fresh water to Pernik in Bulgaria, after it suffered a severe drought

estimated 75% of the water from the dam being lost on the way to the city. The situation led the city authorities to implement new measures to ensure a water supply to the population – which was already suffering daily water cuts, with a supply for only six hours per day.

The answer was to build a 12.5km long pipeline from the Belmeken dam. It is made from Molecor's Tom PVC-O pipe, has a diameter of 630mm and a pressure range of 16, 20 and 25 bar. The line has a capacity of 300 litres/second.

The project began on 29 January 2020 and, with an installation rate of several kilometres per day, was finished on 13 March.

As well as their lightness – being around 50% less dense than PE or PVC, and up to 12 times less than cast iron – the PVC-O pipes were easy to join, which helped to eliminate leaks. Molecor adds that the pipes have a 15-40% higher hydraulic capacity than pipes of the same external diameter, made from other materials. This helps to reduce pumping costs.

The PVC-O pipes are resistant to water hammer and to sudden variations in flow and pressure – which helps to reduce the possibility of rupture and leakage. Low maintenance costs was a key advantage of the new line.

Molecor says that the service life of the pipes is more than 75 years – leading to huge resource savings in the long term.

New certification

Molecor's PVC-O pipes and fittings were recently recognised with Aenor's N mark – which has granted the corresponding product certificates.

A new Spanish standard, called UNE-EN 17176, was published in December 2019. It is based on the European standard EN 17176 for PVC-O. It replaces the previous reference standard (UNE-ISO 16422). Molecor says it is the first company to achieve product certification according to the new standard.

Molecor's TOM PVC-O pipes have been certified according to the new standard for pipes, while its EcoFittom fittings have also been certified. The company says that its Tom pipe maintains the characteristics of a class 500 pipe over 100 years, as shown by long-term tests (10,000 hours) carried out by the CEIS laboratory.

The new certifications comply with European standard EN 17176, so cover the regulatory requirements of all European countries in which the European standards EN apply, says Molecor.

Molecor recently announced a 50-year guarantee on all products made at its Loeches production centre (Madrid), in accordance with the Spanish standard UNE-EN 17176: 2019.

At the same time, Spanish private equity firm MCH has taken a "majority stake" in Molecor. The takeover, which took place in August, has "significantly increased the company's capital, mainly to support future growth", said Molecor.

Molecor founding partners Ignacio Muñoz (CEO) and Jose Manuel Romero (CFO) continue to be shareholders and retain their roles – as do the rest of the management team.

PVC-O in Paraguay

The use of PVC-O in South and Central America is relatively low, though a recent project in Paraguay used a network of 160mm PVC-O pipe in a 'mini aqueduct'.

The project, which cost around US$0.5m, provides around 15,000 litres/hour of fresh water to four indigenous communities in Chaco Central. This is around 200km from the water treatment plant in Filadelfia, according to a report on the country's ABC news site.

With some modifications, the system could be expanded to supply 20,000 litres/hour.

Elsewhere, the Paraguayan Sanitary Services Company (Essap) has replaced a stretch of drinking water pipes in Asunción with PVC-O pipe.

In the project, 660m of 4in PVC-O material and 340m of 2in PVC pipe were installed. The objective was to update obsolete pipes and move the distribution network in order to avoid future water losses. The work was carried out by the contractor Kuarahy Ingeniería, and supervised by Essap.

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Moving forwards: latest in materials handling

Materials handling equipment – including dryers, conveyors and blenders – is a vital component in ensuring that high quality plastic is delivered to the extruder

Before any plastic can be extruded into a product, it must be prepared – through processes such as drying – and conveyed to the extruder. Manufacturers are continuing to design materials handling equipment that raises efficiency – and this includes controlling the process more intelligently.

UK-based **ACI** has developed a new profile dryer, for complex plastic and rubber extrusions.

The dryer is compact and efficient and is designed to draw out moisture from unusually shaped profiles including EDPM rubber extrusions, asymmetric profiles and silicone seals during manufacture.

To ensure it does not damage or distort the extruded part, it uses vacuum technology rather than compressed air – which often contains oil and water. As well as achieving high drying efficiency, it can reduce running costs through lower energy consumption – using a 1.5kW or 3kW motor.

The unit is fully enclosed with a small footprint of just 1,300mm long, which easily fits into most production lines. The main enclosure contains a side channel blower and cooling fan as well as a water separator which collects coolant for recycling. The unit is made from stainless steel with ceramic rollers, eliminating the risk of corrosion. To suit customer requirements, the drying head can be configured to meet individual specifications.

Designed for intricate and specific profiles, the solution is capable of drying extrusion of up to 65mm in diameter, and is particularly suited to production lines where water collection or spray containment is essential. Drying speed varies with profile size, but smaller profiles of 0.02-6mm can achieve a drying speed of up to 100 m/min.

Chris Hellier, managing director of ACI, said:

Main image: Conveying is just one element of materials handling, which is vital for an efficient extrusion process

Right: Motan's Metrovac SG is an inexpensive solution for smaller conveying systems

"This offers a solution to many of the issues associated with traditional profile dryers. Our blower-driven units greatly reduce noise levels and significantly cut energy consumption compared to compressed air nozzle arrangements."

Typical applications include EDPM, nitrile rubber extrusions, PVC, plastic extrusions, silicone seals, profiles, tubes, pipes and bars.

Two in one

Koch-Technik says that its Ekon air dryer – which it introduced at K2019 last year – combines the advantages of its CKT and Eko drying concepts in a single machine. Ekon is available in eight sizes, with outputs ranging from 110 to 2,000 m³/h.

The concept of a heat exchanger with piping system – taken from the Eko dryers – has been improved in the new series. As heat is recovered, energy consumption is reduced by 20-30% depending on the material drying temperature, says Koch.

As well as a standard blower with frequency regulation (from the construction volume of 300 m³/h) the new dryer is also equipped with Koch Öko's patented energy management system, which adapts to the drying process to save energy and protect the material. By combining dew point control, Öko equipment and blowers with frequency regulation, up to 50% energy savings can be achieved when drying the granulate, says Koch. Various drying containers with capacities of 20-600 litres can be integrated into Ekon.

Safe operation of the dryer is ensured by micro filters, overload protection, air check and temperature limiter. The drying process is constantly monitored via sensors. Dry air with a dew point of -55°C can be produced to absorb moisture from the granulated plastic and to achieve the required residual moisture content of the dried material.

Using an Ethernet connection, the device can be connected to a corporate network to control the drying centrally.

Inexpensive conveying

Motan says that its new Metrovac SG offers an optimal, inexpensive solution for smaller conveying systems. It comprises a vacuum blower, a control and a cyclone dust filter. Up to eight hopper loaders can be connected to the PLC control.

The Metrovac SG is available in four blower sizes between 0.85 and 4.3kW. Motan says that a combination of maintenance-free blower and cyclone dust filter makes it versatile – and easily adaptable to individual conveying systems.

To generate a constant, reliable vacuum, the conveying station uses side channel blowers. These can be placed directly next to the processing machine, and are ideal for short to normal conveying distances, says Motan. The FC filters combine cyclone dust separators with a fine dust filter. The transparent dust collector makes removing accumulated dust quick and easy.

When using the optionally available bypass valve, filter cleaning is carried out automatically. Likewise, the filter cartridge is regularly cleaned by implosion air that flows through the cartridge.

Material feed lines can be thoroughly cleaned of any material after each conveying cycle. Among other things, this is particularly important when conveying hygroscopic materials.

Wizard guide

Movacolor has developed a configuration wizard for the touchscreen controller software used in its gravimetric and optometric feeders. The wizard guides the user through the configuration process of the software, ensuring that loaders are configured, the correct dosing tool is selected, and the initial load-cell calibration performed.

The controllers offer optimum control through an 8in multilingual touchscreen with intuitive operation. The start-up wizard can be used for installation and configuration, and the controller can store up to 1,000 recipes and materials. The unit has a stainless steel housing and one controller fits all gravimetric units. There is a VNC remote operation option.

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The controllers play an important role in the reliability and stability of the dosing process, says Movacolor. They do not require external ventilation, which ensures a reliable operation in even challenging environments. The controller can operate up to 15 gravimetric units in any configuration. Any change of dosing units can be configured simply without any software cost. The controller can interface with almost all machine controllers or central monitoring systems, and fully integrates with the company's MCSmart monitoring and control software.

Small quantity dosing

Moretto has introduced the DPK continuous loss-in-weight colour feeder, which is suitable for dosing small quantities of colour or additives into a flow of base material.

Above: The KCM-III controller offers several new features and improved feeding accuracy, says Coperion

The masterbatch or additive to be dosed is contained in a hopper made of transparent, shock-resistant acrylic that makes the material contained and the level of the load immediately visible. The hopper is easily removed without tools for replenishment or additive change.

The company says that precision is guaranteed, even at low rates. The load cell technology and control algorithm make DPK immune to vibrations, allowing higher dosage precision without risk of overdosing the additive or masterbatch, says Moretto.

The control of the dosing unit is supplied with a simple, intuitive touchscreen interface, where it is possible to store and recall product recipes. DPK has ethernet, RS485 connections and is arranged for Mowis.

Feeder control

Coperion K-Tron has launched the latest generation of its KCM feeder controller. The KCM-III has a number of new features, including a larger 5in LCD screen, context-sensitive help, stainless steel enclosure and built-in Ethernet capability with optional Wi-Fi.

With Ethernet capability, the KCM-III can be accessed via a web page that includes a full feature user interface. In addition, the KCM-III is ready for Industry 4.0 functions such as predictive maintenance and overall equipment effectiveness.

The controller combines the motor drive and control modules of a feeder and its ancillary components into a single component. It is typically mounted directly at the feeder, pre-wired and pre-tested at the factory. Motor set-up, diagnostics, and operator interface functions are integrated into the user interface. Each KCM-III includes a complete software package to support a wide variety of application types, both batch and continuous, from loss-in-weight feeders to weigh belt feeders to Smart Flow Meters. It is rated for ATEX 3D environments and listed for NEC Class II Division 2 hazardous areas.

"An improved graphical user interface and new programming make the KCM-III easier to use and the expanded connectivity options give the user more options for controlling their process," said Franz Neuner, director of product management, equipment and systems at Coperion.

KCM-III has extended memory, allowing storage of more log and event files, trace and process data. Seven days of traceability are included as standard but extended traceability is available as part of an optional software bundle. Improved control algorithms provide faster communication with the feeder drive, weighing system, and auxiliary equipment and result in more precise control. Smart Force Transducer (SFT) load cells give KCM-III a weighing resolution of 8,000,000:1 in 20 ms, says the company.

KCM-III currently supports over a dozen languages, including graphical languages such as Japanese, Chinese and Korean.

High throughput

Maguire Products says that its Weigh Scale Blender (WSB) 1200 series gravimetric blenders are ideal for larger-throughput applications – helping processors to incorporate more regrind into their products.

The blenders dispense up to 12 different materials and can be configured to dose up to six major ingredients – including virgin polymer, regrind and post-consumer resin (PCR).

The WSB 1200 series has a throughput range of 900 to 2,040 kg/hr (2,000 to 4,500 lbs/hr) and is suitable for extrusion and other processes. It is the latest addition to Maguire's WSB product range, which already includes over 120 models with throughputs ranging from 40 to 5,500 kg/hr (90 to 12,125 lbs/hr).

They have accuracy of ±0.1% for every material dispensed into the weigh chamber.

"By providing the same capability as the 2400 and 3000 Series units for dispensing up to six large-component ingredients, the WSB 1200 series blenders enable processors working in a smaller

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throughput range to meet growing demand for products that incorporate regrind and PCR along with virgin resin," said Frank Kavanagh, vice president of sales and marketing.

Left: Maguire'S NVRBE vacuum pump simplifies the conveying of raw materials to blenders, dryers and machine hoppers

Simplified conveying

Maguire has also developed a new vacuum pump that simplifies the conveying of raw materials to blenders, dryers and machine hoppers.

The NVRBE pump is easy to install and operate. It can be configured within 'mini-central' systems with compact LowPro receivers mounted on multiple blenders. Multiple units of the pump may be used in a single system.

Its features include: a Clear-Vu dust collection bin, allowing the operator to easily see when cleaning is needed; a filter safety switch, which minimises dust contamination; and a pressure differential switch that acts as a clogged filter sensor – stopping the blower if the filter is clogged over 90%.

"The automatic features of the NVRBE vacuum pump and its simplicity of use make it especially compatible with Maguire's LowPro receivers," said Frank Kavanagh, vice president of sales and marketing.

As well as having profiles as much as 80% lower than traditional receivers – and being easier to configure – LowPro receivers are autonomously controlled.

"This makes them suitable for deployment in automated mini-central systems for conveying to multiple blenders," said Kavanagh.

There is also a temperature safety switch to prevent overheating of the blower. If the temperature exceeds a certain limit, an air bypass valve opens to cool the blower. The air bypass valve lengthens pump life and reduces power usage by allowing the blower to keep running when no vacuum is required.

Overall, the device is operates more quietly than positive displacement pumps, says Maguire. The vacuum pump comes with a five-year warranty. ›

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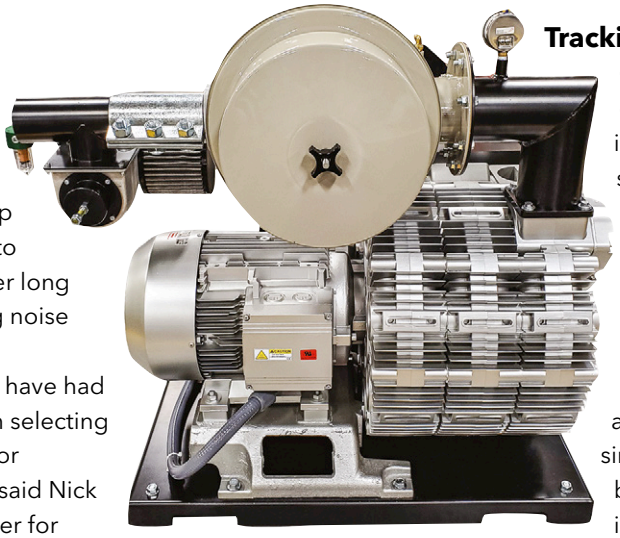

Right: Conair says the impeller design of its HRG Series vacuum pumps generate deep vacuum power

Deep vacuum

Conair says that the multi-stage regenerative impeller design of its new HRG Series vacuum pumps generate the deep vacuum power required to convey plastic pellets over long distances – while keeping noise levels low.

"Until now, processors have had to accept trade-offs when selecting a central vacuum pump for conveying applications," said Nick Paradiso, product manager for conveying and bulk storage products at Conair.

Each option has positives and negatives, he says: single-stage regenerative pumps are quiet and inexpensive, but limited to short-distances; dual-stage regenerative pumps handle moderate distances, but can be noisy and have limited throughput; positive displacement pumps offer greater power, but low-cost versions can be noisy; and long distance pumps (LDPs), while effective, can be expensive.

The new hybrid regenerative (HRG) pumps offer many positive features of other pump types but cost around 30% less than a comparable LDP pump and in line with higher-end PD pump packages, he said.

The secret to the HRG's power is its tightly toleranced, three-stage impeller design, which cuts, captures, and compresses air with minimal draft or vibration, says the company.

HRG pumps can sustain vacuum levels up to 18in Hg and convey material up to 1000 linear feet. Operating at 60 Hz, the average sound level ranges between 74 and 77 dBA, which does not require hearing protection.

HRG pumps can be equipped with an optional variable-speed drive motor and used with Conair's Wave Conveying systems.

"Instead of conveying plastic materials in dilute-phase at speeds of 5000 ft/min or more and creating dust, angel hair and equipment wear, the Wave Conveying System allows for gentle, low-speed conveying at speeds of 300 to 2800 ft/min," said Paradiso. "This virtually eliminates material breakage, dust, and angel hair without reducing throughput."

The pumps are available in three different sizes: the HRG-10 has an 11.5hp motor and is intended for 2.5in conveying lines; the HRG-15 (16.9hp) and the HRG- 30 (42.9hp) service up to 3in line sizes, says Conair.

Tracking changes

Conair has also developed the TrueRate inventory tracking system, which tracks changes in the inventories of up to 500 different resins or flowable powders in a processing plant.

Devised as an alternative to using single-component batch blenders for resin inventory measurement, it uses accurate gravimetric measurement, says the company.

It is available in two sizes, consisting of an 8in weighing ring equipped with two load cells, or a 12in ring equipped with three. Both configurations connect to a separate electrical control panel containing a PLC. The weighing ring is mounted below a material loader or receiver but above a container or bin.

It uses resin information from the user to calculate the change in weight of the loader/receiver before discharging the material through the ring and into the container.

The system can operate in two modes: in default (or 'totaliser') mode, in which it continuously and automatically measures the total resin flow through the receiver to a bin or container below; and, in job (or 'active') mode, which adds an optional discharge valve to the weighing ring.

"TrueRate is a new, elegant way to track and regulate the receipt, flow, and use of resins and flowable powders through a plastics processing facility," said Alan Landers, product manager for blending at Conair. "In totaliser mode, the system can accurately measure and validate the quantity of resin conveyed from a process bin that was loaded from a silo."

"In job mode, an operator can program the system to measure out a precise amount of material into a bin."

CLICK ON THE LINKS FOR MORE INFORMATION:

- **www.aircontrolindustries.com**
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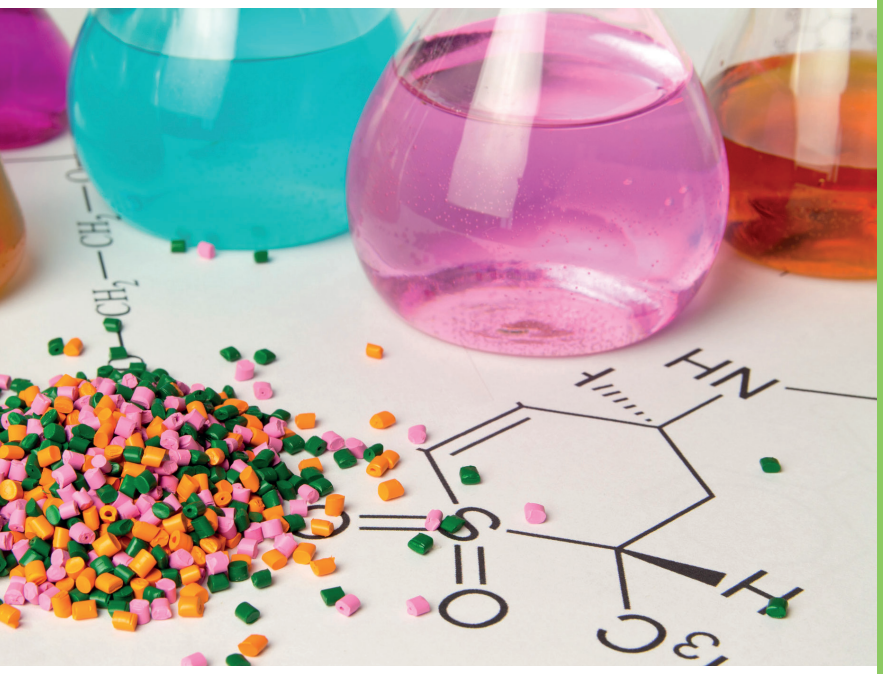

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HDPE

Protective pipes shield wind farm's high voltage cables

Egeplast has supplied protective pipes for high voltage cables in a wind farm project in Germany.

BorWin5 is a 230km grid connection connecting the EnBW He Dreiht wind farm – on an island north of Borkum – to a high voltage onshore grid, with a connection point at a converter station at Garrel.

The total length of underground cable is 120km. For the construction work, transmission system operator Tennet opted to install almost 7km of Ege-Com Macroduct High-T PE pipe, and almost 1km of Macroduct Mono PE.

The pipe was installed using horizontal directional drilling (HDD).

Macroduct High-T is a protective pipe for high and extra high voltage cables of up to 525kV that provides enhanced thermal stability – enabling it to withstand the high thermal stresses involved. The combination of high flexibility and solidity provided the optimum properties required for performing these horizontal drilling operations, said Egeplast.

"Due to delivery via ferries – and limited storage capacities on the island – exactly timed delivery and direct and easy contact to egeplast, with short response times, are a critical success factor," said Thomas Schwindeler, project manager of project partner Strabag. "As a system provider, Egeplast supplies the entire range of accessories – with components including temperature-resistant electrofusion couplers in OD 450 as well as temperature resistant stub flanges."

› **www.egeplast.de**

WPCs

New Saudi producer of WPCs

Nusaned Investment has invested in Saudi company Suhul Alkhalej – which is to make a range of products including wood-plastic composite (WPC) profiles for decking and cladding, WPC sheets and doors, and PVC profiles for windows and doors.

The deal between Nusaned and Suhul Alkhalej will use raw materials from SABIC, which is the owner of Nusaned.

"The new venture fulfills our mandate of investing in industrial SMEs in [Saudi Arabia]," according to Faisal Al-Bahair, CEO of Nusaned Investment. "It will use polymers as raw materials promoting sustainability and downstream initiatives."

› **www.sabic.com**

PEX

HDPE gains highest chlorine resistance

Borealis says that it has received the highest chlorine resistance accreditation for its HE1878E-C2 grade of HDPE – which is tailored for PEX production.

The company says that the material – which has now achieved a Class 5 listing – provides end-users with more peace of mind as it meets the higher requirements of resistance to disinfectants in hot and cold water pipe applications.

The new accreditation complies with the ASTM F876 standard for PE crosslinked pipes, it says. The material offers high temperature resistance and flexibility, and low creep. Its stabilisation package also opens it up for use in certain industrial applications.

Borealis adds that the material increases efficiency by reducing production steps, requiring the addition of peroxide only and minimising the risk of additive dosing errors. Also, it removes the need for separate additive purchasing and stockholding and improves safety through minimised handling.

› **www.borealisgroup.com**

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COOLING

Mobile water cooling does not produce waste heat

GWK of Germany has introduced its mobile water-cooled Teco CW series, which do not produce unwanted waste heat.

The device connects to a machine cooling system, such as a temperature control unit. As a result, there will be no warm exhaust air in the production area – as would be the case with air-cooled compact refrigeration units.

Unlike traditional cooling units, a Teco CW can produce cold water with a temperature of 0°C without the need for adding anti-freeze to the water.

Cold water is often needed for individual units, and not all production machines – so that a central refrigeration system would not be economically viable. In these cases, users tend to rely on mobile refrigeration units. However, the additional heat generated in the production area by the exhaust air of the refrigeration units can be very annoying during the summer.

The mobile units are equipped with GWK's control system as well as other components. Any problems can be quickly resolved, thanks to the use of standardised spare parts.

The pump output is adapted to the needs of plastics processing applications with maximum flow rates of 60 litres/min and maximum pump pressure values of 3.5 or 5.8 bar. The refrigeration capacity up to 4kW or 10kW is optimised for the production machinery.

Teco CW units have an optimised refrigeration circuit with very small fill quantities, making them exempt from regular statutory leak tests. The water-cooled version does not have a fan, so is particularly quiet.

› **www.gwk.com**

ANCILLARIES

Portable chiller with PLC

The newest EP2 series of portable chillers from Conair now includes PLC control and a colour touch screen HMI as standard.

These chillers – which are available with air-cooled, water-cooled or remote air-cooled condensers – use a new sloped top electrical panel that places the 7in touch screen on the front of the unit for easy viewing and operation.

The PLC control system now displays digital pump pressure, compressor/pump/fan running hours, and performance trend charts for parameters such as process fluid temperatures. New controls also include Modbus RTU communications as standard.

› **www.conairgroup.com**

JOINING

Fusion equipment boosts use of gas

McElroy says that a range of its TracStar fusion equipment has been used in an onshore natural gas project in Australia.

In October 2018, Shell announced plans to develop more onshore natural gas fields in Queensland under the QGC project.

A range of fusion equipment was used on the job including the McElroy TracStar 900 and 618 models, as well as Georg Fischer tapping saddles. The TracStar machines have fusion carriages that are easily removable so that fusions can be performed in tight spaces in the ditch, says McElroy. This in-ditch capability worked out well in this situation as some the fusions were performed in a bell hole with strict safety requirements.

After placing the fusion carriage in the bell hole, local firm MPC Kinetic said it could easily extend and connect the machine's hydraulic hoses to the carriage to power the fusions.

› **www.mcelroy.com**

EXTRUSION MACHINERY

KraussMaffei lays foundation stone for new extrusion systems facility

KraussMaffei laid the foundation stone earlier this month for its new 66,500m² extrusion systems production plant at Laatzen, near Hanover in Germany.

The new facility will be completed by Q3 2022 and will replace the company's Kleefeld factory – the traditional home of the Berstorff extrusion business – which it says could not be expanded any further. It will allow all KraussMaffei extrusion activities to be located under one roof.

Around 750 people will work on the site, which will include a 10,000m² Innovation Centre, within which customers will be able to run complex preliminary line trials under realistic production conditions before ordering new machines. The centre will house 20 machines ranging from laboratory to production-scale.

KraussMaffei is working with commercial real estate developer VGP on the project. It recently completed construction of a new factory for the company's Burgsmüller subsidiary in Einbeck in Germany and is also building the new KraussMaffei Technologies HQ at Parsdorf near Munich (the foundation stone for that was also laid this month).

› **www.kraussmaffei.com**

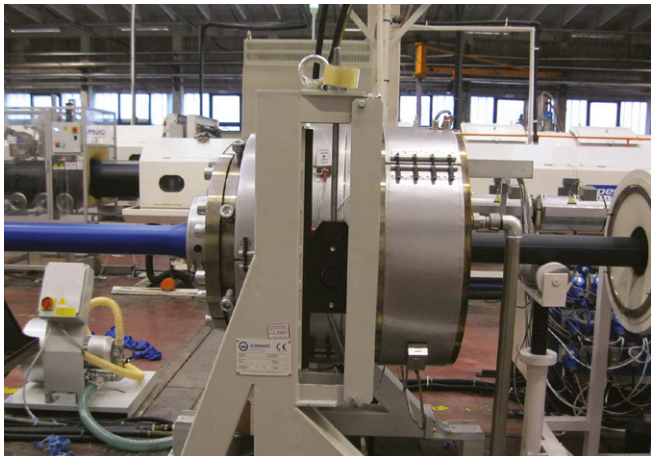
MULTI-LAYER PIPE

PE100 pipe on the rise in Myanmar

A pipe manufacturer in Myanmar recently took delivery of a line from Tecnomatic of Italy, to produce multi-layer pipes.

Authentic Production uses the line to make pipes up to 630mm in diameter.

The multi-layer pipe made by Authentic has two layers – equating to 10% and 90% of the total thickness. The outer layer is made from a PE100 material with high stress crack resistance (HSCR), while the core is made from standard PE100. This requires two separate extruders: the main extruder is from the Zephyr series in L/D 40 which offers high output performance and lower melt temperature and energy consumption; the inner layer is produced from an Atlas series in L/D 30.



Both extruders are synchronised using gravimetric feed on each extruder to maintain a continuous raw material feed and to record variations in mass throughput, ensuring tight control of the weight per metre and wall thickness distribution.

The line also includes Tecnomatic's Venus Multi pipe heads, which are designed to process a wide range of materials at very high output. The spiral geometry has been optimised for the latest generation of PE and PP raw materials, while reducing overall length, volume and operating pressure.

› **www.tecnomaticsrl.net**

RECYCLING

Granulator series with high output

CMG of Italy says that its EV916 and EV616 granulators, part of its Evoluzione series, can handle throughputs of 2,000-5,000 kg/hour.

High precision construction in the new cutting chamber helps extend the duration of the blades compared to conventional models.

Operating temperature, blade wear, productivity, operational efficiency, energy use and other functional parameters are managed on the machine or remotely, with connectivity based on the OPC-UA protocol.

› **www.cmg.it**

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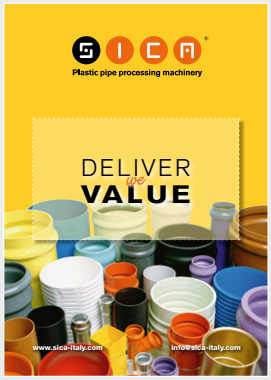
SICA: PIPE PROCESSING



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 belling and robotised packaging machines.

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UNICOR: PIPE CORRUGATION

This brand new 48-page brochure from Unicor provides detailed insight into the design, production, applications and advantages of corrugated pipes. It includes specification data on the company's wide range of pipe corrugation equipment.

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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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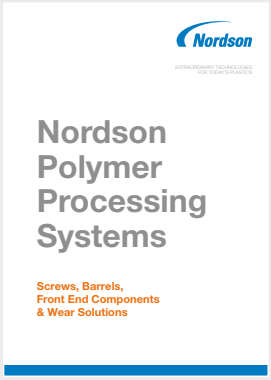
NORDSON: SCREWS AND BARRELS



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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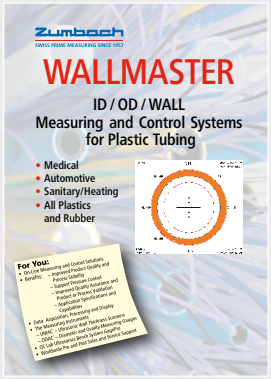
ZUMBACH: MEASUREMENT CONTROL



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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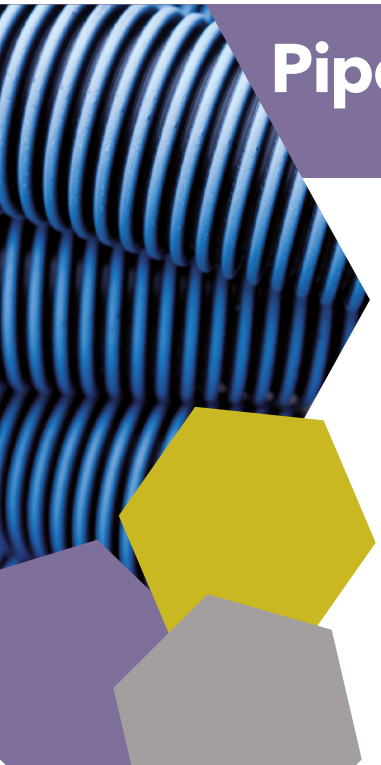
Fitt Group

Head office:	Sandrigo, Italy
CEO:	Alessandro Mezzalira
Founded:	1969
Ownership:	Private
Employees:	Around 900
Turnover (2019):	Around €233 million
Profile:	Fitt Group, which was founded in 1969, manufactures a range of thermoplastic hoses and tubes for markets including infrastructure, agriculture, building and construction and leisure – such as for swimming pools. Its products include PVC pipes for water supply networks, PVC guttering, HDPE air pipes for ventilation systems, irrigation pipe, PVC and TPV hosepipes, drainage pipes for marine applications and various products for use in swimming pools.
Product lines:	The company has a number of brands across its various product types. For infrastructure pipe, it offers its Blutech, Bluforce and Bluforce RJ (for 'restraining joint') PVC pipe. In building systems, it has teamed up with Sanitized on its Fitt Air range of MVHR tubes – anti-bacterial tubes for ventilation systems. Its agricultural products include its Agroflex PVC spiral hose, which features high UV stability, while its Refittex hose – to deliver water, fungicide and fertiliser – operates at up to 40 bar.
Factory locations:	Fitt has nine manufacturing locations, including six in Italy and two in France. It recently announced plans to set up a US headquarters and manufacturing facility in North Carolina, which is expected to create almost 150 new jobs. The facility will concentrate on making its Fitt Flow and Fitt Force garden hoses.

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



Pipe and Profile EXTRUSION FORTHCOMING FEATURES

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

November/December 2020
Wood-plastic composites
Infrastructure pipe
Extruder wear protection
Multi-layer pipe extrusion

January/February 2021
Engineering plastics/composites
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Mixers

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

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Pipe and Profile
September 2020
The September issue of Pipe and Profile Extrusion looks at how growth in sizes is affecting developments in large diameter pipes. Another feature covers new materials playing a role in improving performance of window profiles. Plus downstream extrusion equipment.

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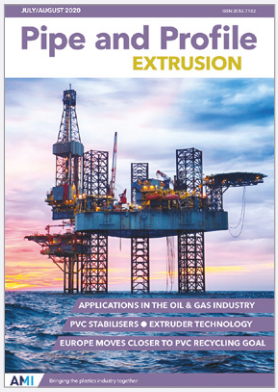

Pipe and Profile
July/August 2020
The July/August issue of Pipe and Profile Extrusion examines the technical advances in pipelines for the offshore oil and gas industry. Features also cover the PVC sector in its use of stabiliser additives and its achievements in recycling; plus the latest from extrusion technology suppliers.

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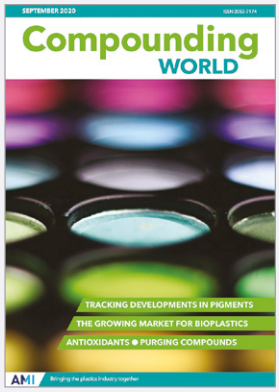

Compounding World
September 2020
The September issue of Compounding World looks at the tougher demands being placed on pigments, examines how bioplastics applications are broadening, and covers stabilisers, PVC biocides and purging compounds.

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Plastics Recycling World
September/October 2020
The September/October 2020 issue of Plastics Recycling World magazine explores how better processing and smarter design is improving rigid plastics recycling, plus a review of the latest innovations in sorting technology and extruders for re-compounding.

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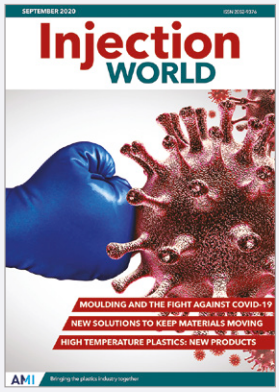

Injection World
September 2020
The September issue of Injection World has an in-depth feature on medical technology, and how injection moulders and machinery groups are contributing to the fight against Covid-19. Plus new products in temperature-resistant polymers and the latest in materials handling.

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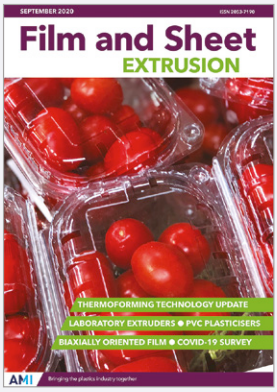

Film and Sheet
September 2020
The September edition of Film and Sheet Extrusion magazine takes a look at the latest innovations in the world of thermoforming. It also reviews developments in biaxial films, plasticisers and lab-scale extrusion machinery.

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GLOBAL EXHIBITION GUIDE

2020	**6-8 October**	Plastpol, Kielce, Poland	www.targikielce.pl
	7-9 October	Plastics Expo, Osaka, Japan	www.plas.jp/en-gb.html
	29-31 October	MECSPE, Parma, Italy	www.mecspe.com
	2-4 December	Plastics Expo, Tokyo, Japan	www.plas.jp/en-gb.html
	5-8 December	Plasteurasia, Istanbul, Turkey	www.plasteurasia.com/en
2021	**11-14 January**	Plastimagen, Mexico City, Mexico	www.plastimagen.com.mx
	9-11 March	JEC World, Paris, France	www.jec-world.events
	1-4 April	Plastics, Printing & Packaging, Dar-es-Salaam, Tanzania	www.expogr.com/tanzania/pppexpo
	13-16 April	Chinaplas, Shenzhen, China	www.chinaplasonline.com
	4-7 May	Plast 2021, Milan, Italy	www.plastonline.org/en
	17-21 May	NPE 2021, Orlando, USA	www.npe.org
	1-2 June	Plastics Extrusion World Expo Europe, Essen, Germany	https://eu.extrusion-expo.com
	15-18 June	FIP, Lyon, France	www.f-i-p.com
	22-25 June	Colombiaplast, Bogota, Colombia	www.colombiaplast.org
	29 June – 1 July	Interplas, Birmingham, UK	www.interplasuk.com
	10-12 August	Feiplar Composites, São Paulo, Brazil	www.feiplar.com.br
	14-18 September	Equiplast, Barcelona, Spain	www.equiplast.com
	12-16 October	Fakuma, Friedrichshafen, Germany	www.fakuma-messe.de
	3-4 November	Plastics Extrusion World Expo North America, Cleveland, USA	https://na.extrusion-expo.com

AMI CONFERENCES

27-28 October 2020	Plastic Pipes in Infrastructure, Hamburg, Germany
2-4 November 2020	Plastics Regulations Europe, Cologne, Germany
26-27 January 2021	PVC Formulation Asia, Bangkok, Thailand
2-3 February 2021	Polymers in Cables USA, Charlotte, NC, USA
3-4 March 2021	Medical Tubing & Catheters, San Diego, CA, USA
20-21 April 2021	Plastics Recycling Technology, Vienna, Austria

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

www.ami.international