

The official newsletter of the Southern African Plastic Pipe Manufacturers Association (SAPPMA)

## FROM THE CEO'S DESK

It almost feels surreal to think that there are only three months left in 2022. However, looking back at the last ten months, we were all incredibly busy and hopefully also productive. Despite the ongoing headache of load shedding, high fuel prices and other operational challenges plaguing the manufacturing sector, we have achieved many of the objectives we set for ourselves at the beginning of the year.

One of these is hosting our very successful PIPES XIII conference a few weeks ago. SAPPMA and PPCA would like to thank everybody who participated or attended our event. Although there was also a hybrid attendance option, seeing so many of you in person after two years of Zoom meetings was great. We trust that you enjoyed the conference and found it inspiring and educational. In addition, our keynote speaker, Dr Roelof Botha, gave us cause for optimism and hope that 2023 will be a better year for the plastic pipe industry, as he relayed that there are early signs of economic recovery. (Read about this year's PIPES conference and view photographs on pages 2-5).

We sincerely thank the three working groups (HDPE, PVC and IFPA) that continue to meet regularly and provide excellent feedback on their progress at our regular Member Meetings. Please remember to join us on 2 October 2022 at 09:00 for our next meeting that will take place via Zoom: https://us02web.zoom.us/j/85881530749. ID: 858 8153 0749



Until the next time, happy reading!

### Jan Venter

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#### Disclaimer:

The opinions expressed by individuals in this newsletter are strictly the view of such persons and do not necessarily represent those held by SAPPMA

### SAPPMA southern african plastic pipe manufacturers association

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Please remember to diarise Wednesday, **19 October 2022** for SAPPMA's Annual General Meeting which will start at 10:00 am. This will once again be a virtual meeting and your attendance will be greatly appreciated.



### PIPES XIII SHOWCASES INNOVATION AND EXCELLENCE IN THE PLASTIC PIPE INDUSTRY











































The PIPES XIII Conference hosted by the Southern African Plastic Pipe Manufacturers Association (SAPPMA) and the Plastic Pipes Conference Association (PPCA) on 6 and 7 September 2022 at Emperors Palace in Gauteng, has been described as a "decisive and qualified success" by the organizers and delegates alike.

Jan Venter, CEO of SAPPMA, reported that this year's event attracted more than 200 delegates from South Africa and around the world. Thirty-two papers were presented, while twenty exhibitors and fifteen sponsors participated.



Each year, we experience first-hand how our annual conference serves as a catalyst for unlocking potential and focusing renewed attention on the importance and versatility of the plastic pipe industry - most notably in South Africa and the larger Southern African region.

This year's event was no exception as it once again brought together some of the most reputable players in our industry to learn more about research and development trends, leading projects, and best practices..."

> Jan Venter CEO of SAPPMA

PIPES XIII showcased the latest innovation and excellence in the local and international plastic pipe industry. By virtue of drawing on the PPCA for the best speakers from their main event which took place in Amsterdam last year, SAPPMA's spin-off conference was a valuable international showcase and platform where the main users of plastic pipe technology (i.e. water, gas, mains sewer and telecommunication companies) were exposed to valuable knowledge, expertise and experience.

Zoran Davidovski, PPCA Technical Program Chair, confirmed that PIPES XIII played an important role in ensuring that the region could catch up with the latest developments in the plastic pipe industry after two years of little activity and interaction owing to the COVID-19 pandemic. "Around the world the plastic pipe industry has had to face and overcome similar issues, such as a shortage of polymers and a dramatic increase in the cost of related products. We continue to live in challenging times. The Ukraine conflict is a major issue in Europe that causes an energy crisis on a global scale. Additionally, climate change is causing extensive droughts in southern Europe. Fortunately, we are noticing early signs of a big comeback and recovery of the plastic pipe industries in North America and Europe. We sincerely hope that this rebound - fueled by a need for urgent infrastructure initiatives - will also soon become evident in South Africa".

"Although we have huge water problems that we need to overcome, South Africa is a country that holds tremendous promise and has an important role to play in the rest of the African continent. It is clear that we need sustainable solutions that also promote socio-economic prosperity. Fortunately, the plastic incredibly innovative pipe industry is and believe that the level of communicative. We conference participation and interest we witnessed in the PIPES XIII conference signals an industry that is poised to play an even greater economic role throughout the entire plastic pipe supply chain in South Africa and beyond," Jan concluded.





Dr Roelof Botha, renowned economist and keynote speaker, confirmed that South Africa's future is looking up despite the myriad of challenges experienced in the recent past.



The Zondo Commission report on State Capture revealed the extent of poor economic leadership under President Jacob Zuma's administration. South Africa suffered losses in GDP of at least R2,5 trillion and tax revenue of R635 billion, which ended up costing each South African around R48 000. Botha estimates that an average of 1,2 million more jobs could have been supported with better leadership and a more competent state.

"We are still facing daunting challenges like youth unemployment. Serious under-performance and wasteful expenditure within State Owned Enterprises (SOEs) were key contributing factors to poor socioeconomic outcomes and placed a brake on meaningful social infrastructure implementation.

A knock-on effect within the power segment has been an ongoing spate of load shedding and a spike in oil prices. Fortunately, economic indicators show that we are seeing a new lease on life for South Africa following this period of overregulation and maladministration", he encouraged.

### HIGHLIGHTS FROM PIPES XIII CONFERENCE:

### LARGE DIAMETER AND THICK WALL HDPE PIPES PRODUCED IN THE MIDDLE EAST: THREE CASE STUDIES

Presented by Union Pipes Industry LLC, Middle East



Above: A large diameter HDPE pipe of 3 000 mm SDR 30 with 100 mm thickness was used to connect the exit of an established underground concrete tunnel (3 m ID - lined with HDPE) with the main Al Haer sewage treatment plant in Riyadh, Saudi Arabia. This was the first time that a 500 m plastic pipe string of 3 m in diameter had been lifted-up in one piece and then installed 11 m down by using 27 parallel cranes.

Continuous development and innovation in the production of plastic pipes has enabled the industry to produce much larger diameter systems than ever believed possible. The enablers for production of such large plastic pipes are three main pillars: continuous innovation of plastic piping raw materials with increased properties, extruders and other equipment developments and human capability. This has meant that plastic pipes have become the piping of choice for usage in industrial, municipal and infrastructure works, such as water distribution, storm water management and sewage.

Especially in the Middle East governments and industries have continued to invest confident that low labour costs, low feedstock and mineral costs would ensure that they remained competitive. Also many large water and wastewater projects have been continued, whether this has been for the desalination of sea water, wastewater treatment or water recycling, in order to provide improved water and sanitation for their growing populations. All these projects require large diameter pipes and in many of these countries they have had the confidence to break with tradition and choose thermoplastic pipe materials rather than the conventional ones: steel, and concrete.

Polyolefin pipes now have a successful 70 years history and continuous innovation of raw materials, manufacturing equipment and processes mean that PE pressure pipes up to 3,500 mm diameter and PE or PP non pressure pipes up to 5,000 mm diameter can be produced and have earned the trust of design consultants.

Grigorios Vigellis presented three case studies for special HDPE pipes produced in the UAE:

- 1. A special pure orange color PE 100+ pipe 1600 mm x 76 mm sdr 21 (the largest orange color PE pipe made worldwide) using ready-pellet special slow crack propagation material for transferring water ( with high velocity) to a hydroelectric plant in Alaska US.
- 2. Same diameter pipe 1600 mm in standard black color, but with much larger wall thickness of 121 mm (sdr 13.6) used in high pressure - recycle cooling water facility in a PO plant in UAE, producing advanced PP raw material.
- 3. A large diameter HDPE pipe of 3000 mm sdr 30 with 100 mm thickness, used to connect the exit of an established underground concrete tunnel (3 m ID - lined with HDPE) with the main Al Haer sewage treatment plant of Riyadh city, in Saudi Arabia. This 3 meter HDPE pipe laid down to a 11 meter depth excavated trench, in single welded pipeline strings of 500 m long. This was the first time that a 500 m plastic pipe string of 3 m in diameter lifted up in 1 piece and then installed 11 meters down, by using a bunch of 27 parallel cranes.



### HIGHLIGHTS FROM PIPES XIII CONFERENCE:

### INNOVATION IN SPANISH IRRIGATION: PVC-0 DN800: Efficient transformation from soil to irrigated land. Presented by Dolores Herran of Molecor (Spain)

"Food is the new oil and gas" is a rather bold statement, but everyday more and more population is concern about food scarcity. Bringing irrigation to not productive lands will change the lives of the community and if it can be done with a cost effective and the most eco friendly solution, even better.

Dolores Herran, Business Development and Marketing Director of Molecor (Spain) explained in detail the background of the project as well as the purpose and planned solution of the works together with the implementation phases, calculations made and conclusions reached. She presented how the project transformed 244 hectares into irrigated land in the La Sarda region of the municipality of Pedrola (Zaragoza, Spain) with DN800, PN16 bar pipes, and about how the most cost effective alternative was chosen among cast iron, helical steel and reinforced concrete with metal sleeve.

"Molecular orientation applied to PVC pipes has been around for few decades now, but we cannot say the same regarding large PVC-O pipes (from DN800 to DN1200). The current state of the art technology applied to this sector opens up fields of application not explored before with PVC-O pipes, and what is more important, this development brings to the table a very much competitive product with regards of metal pipes. The supply conditions, with a very high instantaneous flow in a very short period of time, the high installation performance in meters/hour, the anti-corrosion properties, ease of assembly and lightness, among others, were the main reasons why PVC-O pipes were chosen for this. The most suitable diameter was calculated and considering the investment and power costs, the DN800 mm was the one which better fitted for this project," Dolores explained. For more information, visit www.molecor.co.za



Above: Zoran Davidovski of PPCA with Dolores Herran at PIPES XIII who was awarded the prize for the best presentation



Molecor and Sizabantu Piping Systems (Pty) Ltd have achieved the best stand award at Pipes XIII.

Below: The Sizabantu stand









# WATER SHEDDING?

#### Greater urgency is needed as climate change amplifies SA's water insecurity



Water security remains one of the biggest challenges facing South Africa, with the country's supply facing many threats amid increasing demand and relatively low water availability. While the situation may not yet be an absolute crisis, if left unchecked, South Africa's water sector is a few years away from water shortages that will have a similar impact to that of the current electricity shortages forcing State-owned power utility Eskom to implement intermittent load-shedding.

It is a significant challenge which experts (including SAPPMA) have been flagging for decades, with some warning that the country faces a future of regular water-shedding, or rationing. The National Infrastructure Plan (NIP) 2050, which indicates that seven out of 13 major water systems could be in deficit by 2040, highlights a huge risk of water restrictions being imposed in all South Africa's metropolitan areas over the next five years.

Currently, several cities across South Africa face the threat of a so-called Day Zero, where taps run dry, most notably Nelson Mandela Bay, in the Eastern Cape, where a severe drought has depleted the region's dams and infrastructure provision have not kept pace with demand.

The country's imminent water crisis has long been attributed to inadequate water infrastructure maintenance and investment, persistent climate change-driven extreme flooding interspersed with years-long droughts, inequality in access to water and sanitation, deteriorating water quality, pollution and corruption, as well as inefficient use, waste, leaks, illegal and undocumented water use and unsuitable and unmaintained infrastructure. This is exacerbated by increasing demand, owing to population growth, rural-urban migration and industrialisation.

Although the Department of Water and Sanitation has attempted to eradicate water supply backlogs to households... (only) 68% of households receive a reliable water supply.

#### Water shedding (continues)

Building new dams may not be the solution, especially since South Africa already has extensive, albeit dilapidated, water infrastructure that needs to be maintained, upgraded and enhanced. Investment in new dams and other new infrastructure should instead be redirected to fixing the current degraded and or non-functioning infrastructure, which is experiencing significant water losses, particularly as uneven and unpredictable rainfall is unlikely to fill these new dams, as there are few suitable building sites to ensure that they catch the rainfall.

infrastructure "We have backlogs, such as maintenance, and have lost much time with programme implementation for a number of reasons and have to play a very serious catch-up through fasttracking key initiatives and programmes over the next three to five years. It is very doable," says Council for Scientific and Industrial Research integrated water resources management specialist Ashwin Seetal noting that it would be much more cost-effective and impactful to fix the leaking pipes and maintain existing bulk infrastructure.

#### South Africans' average per capita domestic water use is an estimated 237 ℓ/d, compared with the international benchmark of 173 ℓ, which is also partly attributable to high municipal, non-revenue water.

A draft of the third iteration of the National Water Resources Strategy (NWRS-3) is currently out for public consultation and it indicates that, despite the high water losses throughout the systems, there are minimal water conservation and demand management activities being implemented.

"South Africans generally have a consumptive mindset and are not prudent in the way water is used, particularly in the urban areas, where up to 60% of water is used for nonessential purposes such as swimming pools and irrigating lawns. We use a very small fraction of that water for our actual personal use, such as hygiene, drinking, laundry and other basic essential uses," Seetal points out.

Water degradation is also a major issue that needs attention in South Africa, as it contributes to increased water scarcity by causing available water resources to be of an unacceptable quality for various uses Water quality is often challenged by eutrophication, salinisation, sedimentation and soil erosion, acidification, or, more commonly, acid mine drainage (AMD) and sewage pollution.

"You can have all the water in the world that you want. If it is polluted, you will not be able to use it," she says, noting that there will be financial implications, as the more pollution there is, the more expensive it is to treat water to get it to acceptable standards, as well as socioeconomic, ecosystem and human health implications.

#### Government finally recognises the urgent need to upgrade water infrastrustructure

DWS director-general Dr Sean Phillips, unpacking the NWRS-3, points to the necessity of ensuring water infrastructure systems withstand various water-related shocks, regardless of whether those emanate from extreme events or from the degradation of water quality.

"Things are no longer what they used to be. Aging and dysfunctional water systems should give way to designs that are resilient to climate change and extreme events such as floods. Hence, the mainstreaming of climate change considerations in town planning as well as water planning and management is very important," he says.

"We do have pockets of excellence, but it is not mainstream," he says. "The country's water sector role-players should improve how they communicate what has worked well and examine the possibilities and merits of scaling relevant initiatives up at appropriate national levels."



## SA'S VINYL INDUSTRY REMAINS COMMITTED TO ENSURING A LEAD-FREE ENVIRONMENT

Various newspaper reports have been doing the rounds recently about the danger of lead poisoning facing South Africans. Although lead (Pb) continues to be used in paints, batteries, bullets and even in some homeopathic medicines, the local vinyl industry has reiterated its commitment to ensuring a safe, responsible and lead-free environment.

Sustainable. Responsit

"Lead stabilisers were historically used in PVC products because they offer excellent heat and UV resistance and a good cost-to-performance ratio. In addition, when used in pipes and fittings, they help to improve their resistance to heat and sunlight.

#### The Southern African Plastic Pipe Manufacturers Association (SAPPMA) was one of the first members of the Southern African Vinyls Association (SAVA) to voluntary embark on the journey to become lead-free in 2006. SAPPMA reached this goal in 2012 - five years ahead of the anticipated European Union (EU) targets.

Today, we are proud that lead has completely been eliminated from all plastic pipe products manufactured by SAPPMA members and from vinyl products manufactured and sold in South Africa by SAVA members," says Monique Holtzhausen, CEO of SAVA.

Jan Venter, CEO of SAPPMA, explains that lead is chemically bonded into the PVC pipe during the manufacturing process, which means it cannot leach into the environment.

All pipes containing lead undergo annual SANS 966 tests carried out by the SABS for various metals. These tests have proven that lead is one of the metals least likely to leak – with a maximum expected leakage of  $50\mu g/\ell$ , which is negligible.

Despite these assurances, SAPPMA felt compelled to create a safer environment for the manufacturers where lead poisoning does pose a risk for their workers".

Removing lead from PVC pipes and fittings and replacing it with calcium/zinc and organic-based stabilisers which are non-toxic to humans was a lengthy and costly exercise for SAPPMA members and the PVC community. However, they willingly incurred this additional cost at their own expense and without passing it on to the end-user for future sustainability.

"A commitment to using lead-free stabilisers is required for SAPPMA membership and forms part of the regular, unannounced SAPPMA factory audits. In addition, it has added value to our life cycle thinking as it considers end-of-life issues and waste management options," Venter says.

"As part of our ongoing efforts to create a safe, responsible and sustainable industry, SAVA follows a strict Product Stewardship Commitment (PSC) which stipulates that only lead-free stabilisers and additives, as well as mercury-free vinyl production processes, are allowed to be used in all local and imported vinyl or compounds.

Our members must abide by these achievable commitments based on international health and safety standards and best practice models. In addition, they renew their pledge annually to be awarded SAVA's "Green Tick" – a product label that has been developed to give customers peace of mind that the specific vinyl product is confirmed to be lead-free and only uses additives approved for high human contact applications and are recyclable," Holtzhausen concludes.

For more information, visit www.savinyls.co.za

# MARLEY PIPE SYSTEMS SA REINTRODUCES TWIN-WALL TO THE SOUTH AFRICAN MARKET





Industry leader Marley Pipe Systems SA is excited to announce the return of the Twin-Wall Heavy Duty 400kPa uPVC pipe to the South African market. Marley Pipes Systems SA's Twin-Wall pipe will make another great addition to the company's extensive and reliable range of products.

- The reintroduction of Twin-Wall pipe to the South African market will complement the company's range of 100, 200 and 300kPa pipes.
- Marley Pipe Systems will be able to provide customers with a complete heavy-duty system and a more cost-effective solution when compared to other heavy-duty pipes currently available on the market.
- The Marley 400kPa Twin-Wall pipe will be manufactured and distributed locally from their factory in Nigel.

The lightweight 400kPa sewer uPVC Twin-Wall pipe is a heavy-duty, underground pipe available in 110mm and 160mm and can be supplied plain-ended or socketed at one end.

As the name suggests, Twin-Wall boasts two pipe walls with the corrugated outer pipe wall providing improved strength and increased resistance to deformation when put under load and pressure.

Moreover, the heavy-duty 400kPa double wall pipe is designed for ease of installation. Twin-Wall is supplied standard as a six-meter pipe. By using the patented Marley Pipe cutter, installation times can be cut down by as much as 70%.

To find out more about Marley Pipe Systems' Twin-Wall Heavy Duty uPVC pipe, contact Marley Pipe Systems on 011 739 8600 or visit their website at www.marleypipesystems.co.za Marley's unique pipe cutter allows installers to make a clean cut when and where needed without sacrificing the additional time needed to hacksaw and chamfer the pipe, had they not used their Twin-Wall pipe cutter.



Installers will also be happy to know that the company's entire range of 110mm and selected 160mm underground fittings are fully compatible with the corrugated design of the Twin-Wall pipe due to the rubber lip seals, which are incorporated into all the company's underground fittings. This, combined with the ease of cutting the pipe, means joining the pipe takes about a third of the time of a conventional pipe connection.

Its unique design and compatibility with existing Marley Pipe Systems SA products mean that the Twin-Wall pipe can be used not only in heavy-duty but also in light and medium-duty applications. The 400kPa Twin-Wall pipe will be available to installers as of September 2022 and Marley Pipe Systems representatives will be available to attend to all inquiries and facilitate any training required.



## **SUN ACE SOUTH AFRICA WELCOMES RENIER VAN WYK AS NEW PRODUCTION MANAGER**



Sun Ace South Africa is pleased to announce that Renier van Wyk joined them on 1 September 2022 as their Production Manager. Renier brings a wealth of industry knowledge to the team and Sun Ace. He will undoubtedly add a lot of value to our company. Welcome onboard! To make contact with Renier, please email him at reniervw@sunace.co.za or call 079 874 9064.

SAFRIPOL TO HOST PIPE CONFERENCE IN 2023:

**SAFRIPOL** 

Let's plastic responsibly PE100 – Your Pipeline to a Sustainable Future Save the Date 15 February 2023

As we emerge from a pandemic which seems to have lasted a lifetime, we now look forward to a bright and invigorating future with exciting opportunities ahead.

The plastic pipe industry has also been affected. However, it is proving to be resilient and is poised for further growth as a truly sustainable option to legacy materials.

The successful application history and positive impact of PE100 polyethylene has shown beyond doubt that this material is a sustainable solution to our water supply, sewage, drainage and gas distribution needs.

- Safripol's 2023 Pipe Conference will be a hybrid event and attendance is free.
- More information regarding registration and the conference programme will be announced shortly. Watch the press for details.
  - Please note, this invitation is not limited to yourself only, feel free to share with your colleagues who may be interested or will benefit from attending.
- For more information, please contact Jessica Chetty via email at jessica.chetty@safripol.com or telephonically on 011 575 7111.

### PLASTICS SA'S TRAINING OFFERINGS FOR 2022

Thermoplastic Welding 19 – 23 September and 24 – 28 October Maintain Quality of Welded Thermoplastic Product 10 - 11 October SHEQ 3: 10 – 12 October

#### **Register now to avoid disappointment!**

Visit www.plasticsinfo.co.za/training or email Renee.McLean@plasticssa.co.za



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