



Molecor's DN 1 000 and M-OR-P 5012 mold under operation at the company's Madrid factory

## Pushing the limits

A specialist in applying molecular orientation to pipeline solutions, Molecor is continuing to push the limits with its new PVC-O DN 1 000 pipe and the technology for DN 1 200.

**F**ounded in 2006, Molecor began its business focusing on Oriented PVC pipes and fittings for pressured water conveyance. But the company's true differentiating factor is its ability to manufacture large-diameter PVC-O pipes, offering product ranges not previously available on the market.

TOM® pipes cover nominal diameters from 90 mm to 1 200 mm in 12.5, 16, 20 and 25 bar pressure. Moreover, they are certified in more than 10 countries and are 100% recyclable. These points have also facilitated their expansion worldwide when Molecor offered these products to the market.

### Technology evolution

In 2010, Molecor designed the M-OR-P 3163 system. Before this design, some tests were done with the M-OR-P 1640 machine, manufacturing a 500 mm diameter pipe. Thereafter, the 630 mm diameter in Oriented PVC was born, and still maintains the highest quality – Class 500 – without losing its best mechanical and physical properties.

In 2013, the next technological development, the M-OR-P 3180 system, went hand in hand with the DN 800. Molecor extended its product range one more time, making the largest PVC-O pipe in the world to date, positioning with this achievement in this way Molecor as the largest Oriented PVC pipe manufacturer globally.

The M-OR-P 5012 system is now a reality, bringing a new machine for high-quality PVC-O pipe manufacture to the market with never before seen diameters. The pipeline market receives the widest range of pipe diameters, up to 1 200 mm.

Molecor has now expanded its offering, with a wider choice of pressurised water solutions. The first DN 1 000 pipes are now being manufactured in Madrid and the DN 1 200 are expected to be available at the beginning of next year.

### Large diameters with the highest quality

It is well known that large-size pipes are usually heavy and difficult to handle. But the full range of PVC-O TOM pipes has become the best choice for the pressurised

conveyance of water due to their physical and mechanical properties, which are improved during the manufacturing process.

PVC-O pipes are lighter and more ductile, allowing superior installation performance. TOM PVC-O pipes are less than half the weight of PVC and PE pipes, and between 6 and 12 times less per linear metre than cast iron pipes of an equivalent nominal outside diameter. This, together with their ease of connection and watertight joints, ensures the highest-speed installation performance in the market.

TOM pipes also have an extremely high resistance to impacts. Moreover, the material creep behaviour is very low, ensuring the durability of the pipe working at nominal pressure for over 100 years.

They offer lower celerity than other piping systems, which means less water hammer is caused by sudden variations in water volume and pressure. Thanks to molecular orientation, TOM pipes come with a higher internal diameter and greater flow section, contributing to their hydraulic capacity, which is about 15% to 40% more than pipes made from other materials. Additionally, they have a maximum ductility that allows the pipes to bear big deformations of their internal diameter.

These products have also proved to be highly chemically and mechanically resistant to degradation and corrosion.

The full range of TOM PVC-O pipes manufactured by Molecor run from DN 110

to DN 1 200 and can reach pressures from PN 12.5 to PN 25. This includes the ecoFIT TOM® PVC-O fittings, providing a full solution that covers all the medium- and high-pressure needs of the market.

All pipes and fittings can be used in numerous applications, including potable and non-potable water transport, irrigation, sewerage, fire protection and even industrial applications. Ultimately, TOM pipes and the ecoFIT TOM fittings provide the best solution to pressurised water conveyance. **35**

Molecor's first DN 1 000 pipes are now being manufactured in Madrid



**THE SIZABANTU DIFFERENCE**

Sizabantu Piping Systems is the official distributor of Molecor products in South Africa. Sizabantu's Sean Harmse offers some insights into local market conditions:

**What are some of the pressing infrastructure gaps/shortfalls in SA's water and sewer networks?**

**SH** The current major hurdle in the water industry is implementation backed by political will.

Because South Africa is a water-scare country, we need to protect our valuable water resources. However, a recent survey found that up to 60% of potable water conveyed in aged and damaged infrastructure is being lost and does not reach the end-user. If we can replace and upgrade existing networks, we will address a major part of the water availability to the citizens of South Africa.

**How can plastic pipes help?**

The pure fact that a well-laid plastic pipe has a maintenance-free work life of more than 50 years, and in some cases 100 years, highlights that plastic pipes

are the ultimate future for water and sewer infrastructure.

**Can you tell us about the use of PVC-O locally?**

Since the introduction of PVC-O to the South African market in 2012, we have seen a massive swing towards its use in nearly every municipality and water board in the country. This is a clear indication of the confidence that PVC-O has instilled through the hundreds of projects it has been supplied for. Our export into Africa has also seen massive growth and countries like Zambia, Botswana and Madagascar are now insisting on PVC-O. Memorable projects include the City of Polokwane's Sterkloop Wellfields Infrastructure where 450 mm PN 25/20 was installed, as well as the Mutshedzi Bulk Water Network in Venda, which used 630 mm and 450 mm PN 20.

**What are the benefits of being a SAPPMA member?**

Being part of the SAPPMA family provides massive support. SAPPMA ensures that quality pipes are produced for the market by reputable manufacturers. Through continuous discussions and interactions, SAPPMA drives quality and ensures all members adhere to the various standards.

**What role does Sizabantu see itself playing in South Africa's long-term water security and supply?**

Sizabantu Piping Systems has now been in the water industry for more than 17 years and we continue to grow. By bringing new technology and products to the market, we will form an integrated part of South Africa's water security and supply. Our industry relies heavily on stable and reputable manufacturers to lead it into the next decades.

Molecor TOM PVC-O large-diameter pipes on the field

