



## CUTTING THE COST OF CORROSION WITH GRP

**JANUARY 2015:** According to an EPRI (Electric Power Research Institute of the US) study more than half of all unplanned power outages are due to corrosion, which generally corresponds with other studies that half of all failures in industry are corrosion related. Studies in different countries indicate that 25% to 30% of water supply is lost in the supply chain due to leaks resulting from corrosion.

Approximately 50% of all carbon steel produced is used to replace existing corroded steel work. The cost of corrosion accounts for more than 5% of South Africa's GDP, which is estimated at over R130 million. The mining industry presents one of the harshest environments, pushing process equipment to the extreme. Using corrosion-resistant glass-fibre reinforced polymer (GRP) as an alternative to carbon steel will dramatically reduce the need for repairs or replacement, saving mining operators millions of Rands.

*"Pipes are considered the arteries of a mining operation, which means they need to be built to withstand a variety of extreme operating environments, including metal extraction where process chemicals reach temperatures of up to 90°C. Carbon steel or even most stainless steel alloys are not recommended for use in these aggressive environments. Glass-reinforced plastics display exceptional resistance to corrosion and the use of GRP in these applications is well documented," says Roger Rusch, CEO of Industrial Water Cooling (IWC).*

GRP piping, for example, can be used throughout solvent extraction processes as this material has low permeability making it compatible with wet acid gases and recovered acids across a wide spectrum of concentrations and pH levels. GRP is also used to produce liners for electrolytic and electrowinning cells and for the construction of storage and processing vessels.

*"Material selection boils down to lifecycle cost and with its low cost, low maintenance and high abrasion resistance, GRP is the ideal solution for effective corrosion-control in mining and mineral processing," says Rusch.*

### About IWC

IWC, originally founded in 1986 as Industrial Water Cooling, are the leaders in industrial cooling tower systems in Africa, offering fully integrated solutions, from industrial cooling towers to GRP.

For nearly two decades, IWC have successfully undertaken more than 80% of all natural draft refurbishment work in southern Africa. Clients include heavyweights such as Eskom, Sasol, ArcelorMittal and Foskor.

IWC has a GRP manufacturing facility in Isando equipped with two state-of-the-art filament winding machines capable of producing piping, tanks or vessels with a diameter ranging from 25 mm to 5000 mm with an overall maximum complete product mass of 20 tons, on the large winder.

For more information visit: <http://www.iwc.co.za>

Or contact IWC on +27 (0) 11 466 0699