



Aurex Constructors: for uncompromised excellence

Aurex Constructors is a proudly South African construction, maintenance and turnaround service provider for the oil, gas, chemicals and mining sectors, as well as the thermal and renewable power sectors. *African Fusion* meets with Sector Director Clive Garner and Quality Manager Wentzel Houston.

Aurex Constructors, which traces its roots back to the 1980s as Kentz Engineers and Constructors, was initially focused on electrical and instrumentation (E&I) work, particularly on maintenance and shutdown projects. The company built a strong presence in the petrochemical and oil and gas sectors of Southern Africa.

“Over the years, we’ve established ourselves as a leading provider in the energy industry, delivering construction, turnarounds and maintenance solutions,” says Clive Garner, Sector Director for Oil, Gas, Chemicals and Mining at Aurex Constructors. In 2014, Kentz was acquired by SNC-Lavalin and continued to serve as a leading contractor in the energy space. Then in 2020, following a management buyout led by current CEO, Stuart Kent, the business re-emerged as Aurex Constructors.

Following the buyout, Aurex retained its core team and operational focus in South Africa, preserving its reputation and client relationships. The company has since expanded its footprint across sub-Saharan Africa, delivering comprehensive SMEIPP services – structural, mechanical, electrical,

instrumentation, piping and platework – across tankage and terminal infrastructure, mineral processing facilities and energy plants spanning petrochemical, renewable, and thermal technologies,” Garner tells *AF*.

Fabrication facilities and capacities

Aurex’s fabrication facility in Chamdor, Krugersdorp, west of Johannesburg, is a strategic enabler of the company’s operations. Originally established to support field execution, it now plays a pivotal role in delivering high-quality, preassembled components that drive efficiency, safety and performance across the company’s business lines. “We have nearly 24 000 m² of space at this facility, with 7 000 m² of under-roof manufacturing workshops,” says Garner.

According to the company’s Quality Manager, Wentzel Houston, the Chamdor facility has maintained ISO 3834-2 since 2012, ensuring consistent welding quality and traceability. “Our fabrication work adheres to global standards including ASME B31.1, B31.3 and VIII Div 1 Appendix 10,” he explains. “We specialise in high-pressure piping systems, small to



Aurex Constructors’ operations director Clive Garner, along with quality manager Wentzel Houston.

medium-sized pressure vessels, and heat exchangers of up to 6.0 metres in diameter.”

The facility also supports the fabrication of tank components for on-site assembly and the fabrication of structural steel support systems. It is critical to our tankage and terminals division and is widely used across mining, petrochemical, and renewable energy sectors. “We complete 60-70% of the welding under controlled conditions in the Chamdor workshop, while preparing the remaining joints for efficient on-site assembly,” Houston adds.

Additional facilities extend Aurex’s operational reach. “Our Head Office in Midrand, Gauteng, houses management and functional support teams, along with engineering services for the renewable energy sector and detailing services for tankage and terminal projects,” says Garner.

“In Secunda, we’ve optimised the layout of our facility to deliver real value to clients and projects,” he continues. “Dedicated zones for training, assessments and coding of welders and project staff ensure that every team member deployed meets our exacting standards. This translates directly into safer, faster and more reliable execution in the field, especially on high-specification projects where quality and compliance are non-negotiable.”

The Secunda site also includes a centralised warehouse for assets and equipment. “It serves as a logistics hub for managing, servicing and maintaining our fleet of vehicles, cranes, welding machines and other critical tools. Keeping our assets in peak condition ensures uninterrupted project delivery and rapid mobilisation,” Garner tells *AF*.

In Namibia, Aurex Constructors operates from an office in Walvis Bay, where workshop facilities support the company’s first tank contract in Lüderitz for the local terminal sector. “We’ve also introduced site-specific training and assessment protocols to ensure our teams are equipped to meet



Above: For piping with wall thicknesses up to 6.0 mm, Aurex typically use GTAW, which allows for precise control and high-quality welds with minimal rework. Right: On thicker-bore piping with wall thicknesses exceeding 10 mm, Aurex consistently achieves rejection rates below 2.5%.

project demands and client expectations from day one,” he explains. “This approach reinforces our commitment to safe, high-quality delivery in new markets.”

In Mozambique, Aurex Constructors Limited operates from Maputo, supporting the country’s growing energy sector. The team has delivered and is actively executing tank construction projects in Beira and Matola, contributing to the development of terminal infrastructure and fuel storage capacity.

These projects involve SMEIPP scope and are closely coordinated with the fabrication hub in South Africa. The Mozambique operation also provides detailing, site support and project integration services, ensuring seamless execution aligned with client expectations. “As part of Aurex’s Southern Africa footprint, Mozambique strengthens our ability to mobilise skilled teams and deliver compliant, high-quality tankage solutions across borders,” he adds.

Welding choices

Aurex employs a range of welding processes tailored to project specifications and client requirements. Houston explains that GTAW/TIG, SMAW/stick, GMAW/MIG/MAG, and FCAW are all routinely used across the company’s fabrication and field operations.

“For piping with wall thicknesses up to 6.0 mm, we typically use GTAW, which allows for precise control and high-quality welds with minimal rework,” says Houston. “We’ve built a strong team of highly skilled welders who consistently meet the quality standards required for these applications,” he adds.

For thicker sections and structural steel, Houston notes that GMAW with solid wires is preferred due to its speed and cost-effectiveness, while flux-cored wires are used where enhanced mechanical properties are required. “GMAW is generally our go-to for productivity, but flux-cored options can offer better performance depending on the material and design,” he adds.

Orbital welding capabilities are avail-



able where precision and repeatability are critical, particularly in high-spec piping systems. “Ultimately, the choice of process depends on the technical requirements and client preference,” Houston says. “Some end users restrict certain methods, so we always engage early to determine the best-fit approach before finalising welding procedure specifications (WPSs) and conducting quality acceptance testing,” he assures.

On the consumable side, Aurex relies on trusted consumable brands, such as Böhler Welding and ESAB, for critical applications, with Afrox providing accessible day-to-day supplies. “We select welding equipment based on project requirements rather than brand preference, and we’re actively evaluating advanced technologies, including pulse welding modes, to enhance our productivity and precision further,” he adds.

ISO 3834 accreditation

The Chamdor workshop was the first facility to be ISO 3834 certified in 2012,” says Houston. At the time, the primary driver was the need to fabricate pressure vessels and components that met the evolving standards of the energy and petrochemical sectors.

As client expectations evolved, so did Aurex’s quality framework. “More and more clients began specifying ISO-3834 compliance, so we extended our certification across all our facilities, including Secunda and Namibia, and to all of our onsite welding activities,” he tells *AF*.

Houston continues: “Once embedded, the culture of ISO 3834 had a measurable impact. Over the past five years, we have consistently met our reject rate target of under 4%, and for the past two years, we’ve brought that down to below 2.5%,” he tells *AF*. These figures reflect performance across all certified sites, including field-based work.

“In our controlled workshop, the results are even stronger,” he adds. “At Chamdor, for example, we achieved a 100% weld

acceptance rate last year. That’s because we can detect and correct variations in real time before they cause downstream issues,” he explains.

Aurex also differentiates its quality metrics by application to drive continuous improvement. “On tanks and linear welds, we’re achieving a zero-defect rate, and on the thicker bore piping, of over 10 mm wall thickness, we’re consistently below 2.5%,” he notes. “Our current overall average rate is down to 1.9%, which reflects the strength of our systems, our people, and our commitment to quality.”

New markets: Expanding with purpose

Aurex is expanding its footprint across Southern Africa to meet growing demand for energy infrastructure, fuel distribution and sustainable power solutions. With South Africa’s refining capacity declining, Garner is seeing increased investment in infrastructure to support the import and distribution of fuel. “This includes tank farms and fuel distribution hubs that support offloading and redistribution across the region.”

In Namibia, Aurex is constructing on-site fuel tank infrastructure to support terminal operations, which is expected to unlock further opportunities in the local mining sector. In Mozambique, the company is executing tank refurbishment and construction projects in Matola and Beira, strengthening the country’s fuel storage and distribution capacity while supporting key clients in the energy and petrochemical space.

In addition, Aurex has been delivering utility-scale solar photovoltaic (PV) projects for over 12 years, establishing itself as a trusted partner in South Africa’s renewable energy landscape. With over 1.3 GW of installed solar PV capacity across 16 solar plants, the company offers flexible support across the full EPC scope, including trenching, cabling, mechanical, electrical and instrumentation services. Recent highlights include solar projects ranging from 10 MW to 140 MW, as well as the flagship 540 MW solar park with battery storage in Kenhardt, Northern Cape – one of the largest hybrid solar and storage projects in the world.

“Our diversified portfolio, welding expertise and proven quality standards enable us to deliver tailored solutions for tankage, terminals, petrochemical facilities, mining operations and renewable energy projects across Southern Africa,” Garner concludes. “We’re not just responding to market shifts, we’re helping shape the region’s energy future.”

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