

SE Steel chooses Arcal Speed

Mwali Kawawa and Lebohlang Molotsi of Air Liquide visit the fabrication facilities of SE Steel Fabrication to find out about the advantages of using of Arcal™ Speed shielding gas.

Shielding gas protects the weld pool from the atmosphere and an incorrect selection of shielding may result in detrimental effects on the weld quality, production costs and operational efficiencies.

Exclusively manufactured and supplied by Air Liquide, the Arcal™ New Generation range of shielding gases consists of only four gases that are suitable for covering the majority of welding situations. All these gases – Arcal™ Prime, Arcal™ Chrome, Arcal™ Speed and Arcal™ Force – are compliant with BS EN ISO 14175 making arc welding easier and safer, with improved end-weld quality.

Air Liquide has a strong focus on adding value to customer processes and enhancing their user experience. To this end, Air Liquide recently visited Tjaard Jansen van Vuuren, who is responsible for Quality Control at SE Steel Fabrication in Krugersdorp, West of Johannesburg. “Before we used Arcal™ Speed we used to have a lot of problems with spatter during welding. Since using this gas there has been minimal spatter and whatever spatter there is, we can just wipe off. This results in a reduction in post weld cleaning activities and time savings – the need for fettling and grinding activity has dropped significantly – which is very beneficial for our tight delivery schedules,” he says.

Delivering high deposition rates, Arcal™ Speed is designed for high speed MAG welding of carbon steels. The gas is classified as ISO 14175-M20 and has a low oxidation potential due to containing no oxygen in its composition. High purity argon is used as the base with carbon dioxide as the active component, which results in virtually no impurities.

“We have also noticed that the welds are cleaner and the mechanical properties achieved during our Procedure Qualification Records (PQR) are in accordance with the requirements of the welding standards we use on the workshop floor,” adds Van Vuuren. “In the past, the presence of mill scale and insufficient earthing for the welding machines also made the spatter problem



Above: Gas cylinders of Arcal Speed waiting to be connected to SE Steel Fabrication's shielding gas reticulation system.

Left: Using Arcal Speed, “The welds are cleaner and the mechanical properties achieved during our Procedure Qualification Records (PQR) are in accordance with the requirements of the welding standards we use on the workshop floor,” says Van Vuuren.



worse,” he adds, further highlighting the advantages of cleaner welds.

SE Steel Fabrication specialises in the design, detailing, manufacture and erection of all types of structural steel work. Founded in 1981, the company's commitment to delivering customised steel work solutions that meet industry

standards and exceed client expectations has remained steadfast throughout the 30 years of its existence.

The 5 300 m² SE Steel Fabrication factory utilises lean managed processes to ensure that clients receive steel work and steel construction of the highest quality. ■



Tjaard Jansen van Vuuren who is responsible for Quality Control at SE Steel Fabrication in Krugersdorp.

Air Liquide's Arcal range

ARCAL™ Prime is a primary high-quality inert shielding product for most welding situations, including TIG and plasma welding of materials such as titanium, MIG welding of aluminium and copper alloys, and universal root shielding of most materials. Consisting of 99.999% argon it ensures reliable integrity of the weld bead making ARCAL™ Prime an ideal pure gas solution for arc welding.

ARCAL™ Chrome is the simplest, most efficient gas mixture for stainless steel MAG welding situations. This product is designed to suit corrosion resistance chromium-containing steels. From household appliances to chemical vessels and pipes, for both austenitic and ferritic stainless steels, ARCAL™ Chrome offers brilliant welding performance.

ARCAL™ Speed is an essential arc welding gas when weld time is a critical factor. Mixed for high-travel speeds and high-deposition rate MAG welding of carbon steels, it is ideal for automatic and robotic applications. Highly adaptable with low fume and spatter emissions, this gas reduces post-welding operations and is an obvious choice when high productivity is needed without sacrificing quality.

ARCAL™ Force is a ready-to-weld solution for MAG welding of heavy carbon steel structures. From earthmoving and agricultural equipment to bridge building and ship modules, ARCAL™ Force was engineered with heavy use in mind. No matter the surface – oxidised or contaminated, gapped or mismatched – this gas is highly tolerant to the challenges of heavy section welding. ■