

Press Release

Welded To Success: Malben Engineering Invests In Technology Step-Change To Remain Many Steps Ahead!

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Welding is integral to the automotive manufacturing process. Malben Engineering, an award-winning supplier of high-level welded assemblies to both Original Equipment Manufacturers (OEMs) and tier 1 automotive sector suppliers, has invested in a massive technical step-change over the past three years.

Operational Director Luca Smargiasso says the introduction of a new vehicle model by a key customer necessitated the introduction of new, completely automated welding technologies. These include adaptive pulse welding, DC projection welders and controlled voltage spot welders; as well as advanced variable pulse MIG welding technology.

Data-driven welding production processes

Malben Engineering's rigorous welding production processes, backed by extensive quality controls, deliver an impressive 750 000 projection welds and 1.7 million spot welds monthly. The company is furthermore compliant with the automotive sector's CQI 15 quality standard - and was one of the first tier 1 suppliers to achieve A-rating and green status – maintaining a zero margin for defects and a rejection rate of zero parts per million (PPM), significantly exceeding customer expectations.

Although Malben has welded both coated and uncoated mild steel automotive parts for decades, Smargiasso says that the automotive industry is using thinner gauge, higher tensile steels, which makes welding more challenging: "There is a drive to go thinner with stronger materials, to reduce weight and improve fuel efficiency."

The advantage of Malben's automation and attention to detail is predictability and consistency, which go hand-in-hand: "In our sector, we are doing production welding for mass production runs. So, our welds must be exactly the same - every time," explains Quinten Ballot, Head of Maintenance who has extensive welding experience.

Over the past eight months, Malben proudly reports zero rejections. Smargiasso explains: "It is like climbing a mountain. Everybody can do day one, most people can do day two - however from day three, they cannot continue and are in danger of falling! It is being able to do the same thing day in, day out - over an extended period and without letting your guard slip – which really counts."

Data will set you free

Robust design of experiment processes and live data that is analysed in real-time set Malben Engineering apart.

Plant Manager Jithin Kottikkal, explains that the quality of the data provided enables the Malben welding team – which collectively has some 70 years' of welding experience – to rapidly take the necessary action to ensure that quality controls remain within limits.

Quality Control Manager Cheslyn Reid, adds: “We analyse the data, ensuring that it leads us in the right direction. We do not go into anything blindly, but instead carefully analyse what our process tells us – tracking it over a certain period, then implementing production line changes to ensure sure we are always ahead.”

Ballot points out that strict process controls and team-based decision-making are also priorities.

Smargiasso observes: “An adage that is often quoted is ‘the data will set you free’: this, and the discipline of our team - which takes pride in our brand and in working for Malben!”

Real value from real-time adaptive welding

The real-time control of weld parameters is achieved by using pulse welding: “The welding parameters are adjusted in real-time during the weld process. If the gap between the welded parts varies due to dimensional tolerance allowances, the weld voltage and arc length are adapted accordingly.

Technical Director Marco Smargiasso says that an important part of the Malben step-change was a move from AC to DC, with the move to DC projection welders – noting that that where robotic spot welders are still controlled by AC, this is carefully checked: “We monitor and measure the voltage. If there is something wrong, it is immediately stopped. Monitoring current ensures we do not get a cold weld.”

Ballot observes that the quality welding which Malben achieves, also relies on highly skilled team members.

“Malben not only employs experienced welders – but actively builds skills within the company to keep pace with technology, and most importantly, with the requirements of our valued customers,” he concludes.

Ends

(678 words)

Note to Editors:

About Malben Engineering: '*passionate about excellence*':

As a company with decades of manufacturing experience, servicing an elite client base, Malben Engineering prides itself on offering a variety of vertically integrated services. These encompass strong tool design and manufacturing capabilities; as well as the supply of complex stampings and high-level welded assemblies (of varying size and complexity), using the latest technologies and world-class surface finishing which includes plating as well as e-coating capabilities, exceeding exacting customer corrosion standards.

Despite a strong focus on supplying the automotive sector, Malben Engineering's products are used in a variety of other industries including mining and the construction sector.

Situated in Nigel, approximately 45 kilometres south-east of Johannesburg, Malben Engineering was established in 1974 by six Italian-South African partners with the purpose of producing tooling and pressed metal components for its first major automotive customer FIAT. Today, Malben Engineering is a Level 4 BBBEE (broad-based black economic empowerment) company, led by one of the original founders, Amerigo Smargiasso, supported by his family and staff, who are all passionately engaged in the business. The company is a MIBCO (Motor Industry Bargaining Council) member and supplies Ford MC SA at 1st tier level; as well as other 1st tier suppliers to the South African automotive sector.

Malben Engineering continues to be guided by an ethos based on its original people-centric family values, believing that people make the business. This is evident in the passion with which the team deliver against their responsibilities, feeling a true sense of loyalty, commitment and the pride in the brand. With agile decision-making – most recently reflected in its decision to take the lead in understanding the advantages of green steel for the future - Malben Engineering is able to fast-track investment in the latest technologies and implement innovative solutions in its tool design and manufacturing processes.

Malben Engineering's management and staff are committed to establish, maintain and continually improve on all aspects of this world-class company - truly '*passionate about excellence*'.

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