

WELDING BECOMES MORE EFFICIENT BY SWITCHING FROM TIG TO MIG-MAG

THREE TIMES FASTER WELDING WITH THE LORCH SPEEDROOT AND SPEEDPULSE PROCESSES

GOH Behälter & Anlagenbau GmbH produces high-quality vessels and piping components for plant manufacturers, leading compressed-air-processing companies, the chemical and aviation industries. Made of stainless steel and carbon steel at a sheet thickness of up to 120 mm, vessels must withstand pressures of up to 1,000 bar. This poses an enormous challenge to the quality of each individual weld seam, in particular since an optimal weld pattern is indispensable. Root weld seams in the round profiles processed at GOH used to be welded using TIG, which allows joining of the material with a greatly non-porous structure. However, it has the disadvantage of being a very slow welding process. The vessel manufacturer from Siegerland is now not only welding spatter- and pore-free, but also up to three times more quickly after switching to MIG-MAG-welding in combination with the Lorch SpeedRoot and SpeedPulse procedures.

OVERVIEW

GOH BEHÄLTER- UND ANLAGENBAU GMBH

- Netphen-Dreis-Tiefenbach, Germany
- 85 employees
- Vessel and apparatus construction
- www.goh-gmbH.de



Lorch SpeedRoot: Spatter-free and with very low energy input, SpeedRoot closes even eight-millimetre gaps in root welding three times faster than TIG processes.



Luis Braga welds the root layer of the pipe socket with a Lorch S-SpeedPulse machine using Lorch's SpeedRoot process. The top layer is welded with Lorch SpeedPulse.

The advantages of MIG-MAG-welding systems, combined with SpeedRoot and SpeedPulse

SHORTER WELDING TIMES, DEEP PENETRATION, GAP WIDTHS CAN BE BRIDGED WITHOUT PROBLEMS

SpeedRoot is a MIG-MAG process based on the S-SpeedPulse welding systems that combines a TIG-like root weld quality with the MIG-MAG speed advantages. Welding a root layer on a pipe socket that used to take 12 minutes with TIG now takes the company only eight minutes anymore. On top of this, where up to three welding units were needed for the various weld seam layers with several wires and gas mixtures in the past, GOH now handles this with a single SpeedPulse system. The switch between solid and flux-cored wire is also almost no work at all succeeds anymore due to the double-wire feeder and without gas

escaping. Since the root is grasped safely and deeply, the welders at GOH can now even avoid the trouble of welding a counter-pass since SpeedPulse ensures a smooth material transition to the workpiece. In the course of this, a pulsed guide drop is always followed by a second, specifically controlled, spray-arc-like material transition, making it possible to bridge gap widths of up to 10 mm without any problems at all and, in the case of solid ball resonators, filling even a penetration depth of 120 mm with a single weld seam. All in all, the welding process only takes one third of the time like this.



"Our error rate has dropped almost to zero since we started welding with SpeedPulse and SpeedRoot. Apart from the weld seam quality, these time savings were a major argument for our purchase decision."

– Günther Heupel, technical manager

FACTS

- Welding up to three times faster than with TIG
- Only one S-SpeedPulse unit required (previously up to three welding units for the different seam layers)
- Easy wire change between solid and flux cored wire due to Double feed system
- Only one filler layer required, counterlayer no longer required
- Gap widths of up to ten millimeters can be bridged without problems bridged
- Smaller heat-affected zone, yet deeper fusion penetration
- Significantly less spatter

