

Hüffermann switch all welding production over to EWM products

Up to 10% more trailers per workstation annually

As part of the ewm maXsolution holistic consultation solution, specialists at EWM closely examined the entire production process of Hüffermann Transportsysteme GmbH – discovering enormous potential for savings. After optimising a welding workstation in line with recommendations from EWM, this market leader in systems for transport and recycling vehicles manufactured up to 10% more trailers in just one year at just one workstation – a considerable increase in output – while at the same time reducing working time by up to 15 per cent. Based on these results, Hüffermann will be switching over all 68 of their welding production workspaces to EWM products by the end of the year.

“Originally, we just wanted to reduce overtime. Again and again, we found overtime necessary in order to meet our delivery deadlines. Today, we have not only reduced overtime to nearly zero, but also achieved an increase in output of up to 10 per cent,” said Torsten Völker, head of production for “towed units” at Hüffermann, whilst looking at the numbers. Not only this, but many ongoing costs could also be reduced using a variety of measures.

Hüffermann aren’t doing all that much differently to before: they have the same products, the same designs and the same employees. As part of the ewm maXsolution holistic consultation solution, specialists at EWM considered the entire process chain and closely examined every detail of the production process – from gas and wire feeding to the welding process to the contact tip. They optimised every single factor, which had enormous effects on the bottom line: incredible time savings and amortisation of the investment within a year.

Welding untreated black steel with ease using forceArc puls

Just about every trailer from Hüffermann is a unique, customised item, but the one constant which is seen throughout the company is the weld seam. It’s

always the same material which they process in steel construction: untreated black steel with a plate thickness of 5 to 12 mm. In the past, these plates were processed with transition and spray arcs. Time and again, though, welders experienced a lack of fusion caused by included scale and weld spatter. Today, all seams are welded with a forceArc puls pulsed arc, a heat-reduced, directionally stable and powerful arc with deep penetration. EWM carried out comprehensive consultation on the characteristics and functionality of the pulsed arc and individual instruction of the welders in this process. Since then, it has become the only process still used by the company, both for manual and automated welding. “The arc penetrates nicely, fuses the sidewalls in an optimal way and pushes scale ahead of itself. The seam is exactly as it should be,” said Völker with a smile.

Thanks to the high stability of the forceArc puls process alone, it was already possible to reduce welding time without changing any other conditions. As the process creates virtually spatter-free seams, subsequent grinding work has also been reduced considerably – and this also reduces the overall working time required.

Top-notch service

Letting deeds, rather than words, speak for themselves is one of Völker’s maxims. That’s why the first welding system was a loan machine with which the welders were able to try out the new process on their own components first. This system was comprised of a Phoenix 355 Progress puls welding machine with the drive 4X HP wire feeder and the MT551W PC2 function welding torch.

Excellent welding results aside, the main factor which impressed Völker was EWM’s service – not only had the service technicians maintained EWM machines, they also repaired machines from the competition. Hüffermann were even able to make use of the free collection and delivery service here. Within eight hours, a spare machine was delivered and the defective machine was loaded up, repaired and then returned to Hüffermann.

Long-lasting welding torch consumables minimise replacement times

The most impressive feature of welding torches from EWM is the long service life of the consumables, especially the contact tip. In the past, this part had to be replaced three times a day. Nowadays, every EWM nozzle lasts around a

week. With a replacement time of only five minutes, the time saved just by using the EWM consumable amounts to 15 minutes a day, which is equivalent to five hours a month. At some workstations, the nozzles even last five to six weeks.

As the welding process is very stable and the arc is so well backed by the laminar gas flow, the entire welding process is virtually spatter-free – this also makes replacement of the gas nozzle obsolete. It simply doesn't get soiled.

The fact that the welding torches use the same consumables for both manual welding and automated welding makes order management and warehousing especially easy.

The welding torch is equipped with an integrated remote control. This enables welders to switch back and forth between the various programs directly at the welding torch, eliminating the need to go back to the power source. "Not having to go back and forth makes things enormously easier for welders," said Völker in regard to this advantage. The time which used to be spent going back and forth can now be spent welding, which increases productivity accordingly.

The X-technology function torch requires no additional control cable with plugs. This makes the torch hose package lighter and increases service life.

Easy wire feeding from above

Thanks to the introduction of an articulated arm, welders' work has been made especially easier. The wire feeder is located at a height of 3.5 m on a swivelling mount above the welding area. The welding torch and hose package also come from there. This not only makes welders' work much easier, as they don't always have to lift the hose package, but it makes their work much more comfortable, as there are no longer things lying around on the floor – like the intermediate hose package and wire feeder. Thanks to the easy-to-move joint, the welding torch is always right where it should be.

The hose package is 6.5 metres long, which makes the working radius especially large. This great length has been made possible by increasing the wire diameter from 1.0 to 1.2 mm.

An enormous economic benefit has resulted from switching filler material from a spool to a drum connection. Whereas in the past a 15 kg spool would have to be changed every other day at the latest, the 250 kg of filler materials from a drum last around six weeks. A wire change takes about the same amount of

time for both a spool and a drum: around 15 minutes each. The amount of time saved is just as great. “Changing something once is such a big improvement over changing it 17 times,” according to Völker. Expressed in numbers, the 16 additional wire changes equate to five hours of welding time over six weeks.

Reducing gas consumption by a third

Like the welding process and wire feeding, shielding gas and its transport to the arc are also part of the process chain and hold potential for savings.

Hüffermann mix the gas themselves and distribute it to the various welding stations using a ring circuit system spanning five halls. All in all, a leak test, the installation of new gas tapping points and the use of optional electronic gas flow control have reduced gas consumption by one third.

Regulated and optimised gas supply has also improved welding results, as the amount of gas which reaches the welder is just the amount they need.

Involving employees right from the start

When you're introducing new welding processes, acquiring new equipment and introducing new inverter and control technology in an area characterised by step switch controlled transformer welding machines, the welders need to be involved in the process. This worked out wonderfully at Hüffermann. “The switch-over for welders happened successively, step by step,” recalled Völker. Through individual training, the process was introduced and explained to each welder according to their needs. Time and again, EWM went to the customer's facility of their own accord without any special request to engage with each employee and answer individual questions. Today, every welder has their processes well under control and is happy to work with the EWM system and the welding torch. Less finishing work thanks to the elimination of spatter and considerably reduced welding fume emissions as a result of the forceArc puls process are other positive side effects of the switch.

Working time down, output up

Reducing working time by up to 15 per cent while at the same time increasing output by up to 10 per cent and reducing gas consumption by a third without a drop in quality – these were the arguments which convinced Hüffermann to switch over all their welding production to EWM products. By implementing the

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large number of individual measures recommended by EWM, the company were able to find a solution which satisfied both the worker and the growing demands of the market. Thanks to the time saved by putting the overall concept into practice, it was possible not only to maintain performance, but to increase it. To Völker, this was the decisive factor, because “you can buy everything except time!”

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Fig. 1:



Hüffermann are converting all their welding production in steel construction to products from EWM: welding machines, the innovative forceArc puls process, welding torches and wire feeding. A drum connection reduces wire changing times by at least five hours per month.

Fig. 2:



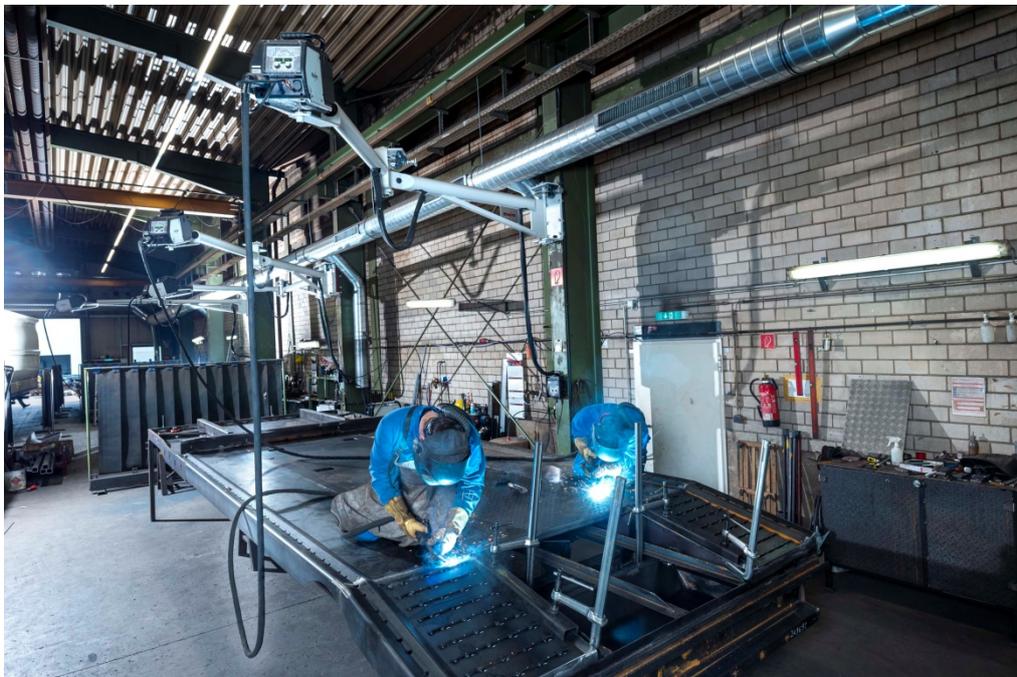
The innovative forceArc puls welding process is used in every area of steel construction for welding untreated black steel. Process reliability is high, and the virtually spatter-free seam is perfect.

Fig. 3:



The Phoenix 355 puls power source, the drive 4X wire feeder and the MT-series welding torch are ideally matched to one another and provide optimum welding results.

Fig. 4:



The swivelling articulated arm with wire feeder and supply line to the welding torch are located above the workstation. The 6.5-metre-long welding torch hose package facilitates working within a large area.

Fig. 5:



The MT welding torch impresses with its extremely long-lasting (service life of up to six weeks) contact tip. Welders can select the program directly using the integrated remote control.

Fig. 6:



Amazed by the vast potential for savings discovered: Torsten Völker, head of production for “towed units,” and Christoph Baller, standard part department head, welding coordinator and welding expert

Fig. 7:



Retrofitting preproduction: Mechanical engineering at the plant was taken over and fully updated with EWM products: two welding machines and wire feeders, remote controls and AMT automated welding torches each.

Fig. 8:



Automated production of the base support with two EWM AMT welding torches in parallel. Thanks to forceArc puls, distortion is reduced, welding speed is increased and process reliability is raised.

Fig. 9:



Employees were involved in an ideal way during the welding production switch-over. Jeffrey Kube, EWM sales representative for Wittstock/Rathenow, Christoph Baller, standard part department head, welding coordinator and welding expert, Torsten Völker, head of production for “towed units” and Toralf Pekrul, site manager for Wittstock/Rathenow

Fig. 10:



Huffermann Transportsysteme GmbH are a highly specialised manufacturer of lorry trailers for interchangeable containers and roll-off containers, lorry and special structures, disposal vehicles and load-securing systems, while also a market leader in special trailers.

More high-resolution images are available at: www.ewm-group.de

About EWM:

EWM AG are Germany's largest and one of the most important worldwide manufacturers of arc welding technology. The family-run company from Mündersbach have been living their motto, "We are welding" (DE: "Wir sind Schweißen"), for over 60 years with forward-looking, well thought-out and sustainable complete solutions designed with a large helping of passion for industrial clients as well as skilled craft businesses.

EWM develop high-end welding technology. The company based in Germany's Westerwald region offer complete systems that cover everything from high-quality welding machines (and all associated components), through welding torches, to welding consumables and accessories for manual and automated applications. EWM have made a name for themselves worldwide thanks to their plants in Germany, China and the Czech Republic. Users praise their products' ease-of-operation and excellent results. Companies value the solid consultancy, service and enormous savings that come with EWM systems. The partially patented welding processes reduce the consumption of materials, energy and time during operation and produce up to 75 per cent less welding emissions.

The innovative welding manufacturer currently employs around 700 employees at 14 German and seven international locations, with just under 400 of these being based at their original headquarters in Mündersbach.

Press release



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