PRESS RELEASE

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Welding laboratory on-site

Supporting customers with technology and know-how in their own countries

The production of high-quality weld seams, especially if automated and robot-assisted, requires the expertise of competent welding technologists. At their headquarter in Kaiserslautern, SKS Welding Systems provides their customers a team of experts in a first-class and fully equipped welding laboratory. The basic services of the lab includes the further training and qualification of users and the implementation of feasibility studies. In line with the expansion of their global customer service, SKS also expands this kind of offer: The welding laboratories of the subsidiaries in Czech Republic, Turkey and China have already proven successful; additional labs are under construction in Mexico and the United States.

Following the example in Germany, the welding test laboratories of the subsidiaries are already supporting customers in the use of SKS systems.
Production-related feasibility studies with a wide range of inert gases and filler materials, process and product trainings as well as the determination of process parameters, all in cooperation with customers, are among the top tasks. In this context, customer service includes not only the selection of the arc welding process, but also recommendations concerning welding consumables, inert gases and suitable component and torch positions.

An example from the welding laboratory in the Czech Republic for a major producer of control cabinets illustrates the benefits for our customers. The requirement of the customer was to produce a fillet weld on the corner joint (corner connection of the control cabinet) with as little spatter as possible and without

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weld reinforcement. This should reduce expensive rework such as edge grinding and the removal of weld spatter. The customer's requirements were met through a short series of tests on original components with a Frontpull torch system and the application of the microMIG-cc process. Based on the recommendation of the expert team, the vertical-down position (PG) was selected as the weld joint position. The filler material used was 0.8 mm steel, with a 92%Ar+8%CO_2 inert gas. With the subsequent transfer of knowledge into the actual production a welding speed of 130 cm/min was achieved and the high quality of the joint confirmed.

In preparation for the future production of aluminum cabinets further test welds were performed on prototypes. Here, too, the selected method and the recommended welding position delivered convincing results.

Following the example of SKS Welding Systems GmbH in Germany, the welding laboratories of the subsidiaries are equipped with robot rotary tilting table combinations that allow simulating almost any conceivable component positions. The availability of the necessary components for the processes makes it possible that all SKS arc welding processes can be simulated in a very short time. Different torch and wear part geometries allow for accessibility studies on the actual workpiece. The in-house metallurgical department provides microsections to review customer requirements and irregularities within the weld seam. A high speed camera is also available to establish the best process parameters for special applications.

The results of these investigations are discussed in detail in test reports and made available to the customers. In addition to the process recommendation and the simple transfer of the results into series production they also help saving time and costs as there is less staff and time required to determine the process parameters on site.

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Images:

1: Managing Director of SKS Welding Systems Shanghai in the welding laboratory.

2: SKS laboratory in Germany serves as a model for the welding laboratories of the subsidiaries.

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