

Application example

Cardboard headers on packaging

PLASTIC WELDING

METAL WELDING

CUTTING

CLEANING

SCREENING

**Task**

A cardboard label header has to be attached to tubular bags once they have been filled and sealed. The cardboard is coated with a thin plastic film. The high production capacity requires short process times.

Solution

The label headers are welded onto the packaging using ultrasonics. Due to the size and the amount of power required, the solution relies on 20kHz components with a power rating of 2.4kW. The welding area of the sonotrode has a spot welding contour to minimise the amount of energy required. The modular ultrasonic MAG generators are optimised for installation in control cabinets with a depth of 300 mm. The welding process can be controlled via a bus connection or the TCS5 process controller.

Configuration advantages

The process of welding coated cardboard onto plastic packaging is very challenging from the perspective of short cycle times. A thermal sealing process is theoretically possible but the process times would be relatively long because it takes time for the heat to penetrate the cardboard. With the ultrasonic welding method, the energy is generated from inside the cardboard and plastic thanks to damping. In turn, this enables very short welding times to be achieved. All relevant process parameters can be monitored, read out in real time and – if necessary – evaluated statistically.



The application was solved on a USP3000 20kHz ultrasonic welding system with a MAG generator and TCS5 process controller/appropriate components, which were integrated into a special system with a bus connection.

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