

## Application example

### Toy dinosaur

PLASTIC WELDING

METAL WELDING

CUTTING

CLEANING

SCREENING



#### Task

The individual parts of the dinosaur, which are injection-moulded from ABS with a three-dimensional surface, must be assembled and connected. As the limbs are movable and children may play with the dinosaur in water, the connections between the individual parts do not need to be watertight. If water gets into the toy, it should be able to run out again easily.

#### Solution

The individual parts are joined using an ultrasonic welding process. As a tight weld connection is not required in this case, the welding seam can be applied in spots rather than continuously. Domes are moulded onto the individual parts and are used to connect them to each other in multiple places by means of stud welding so that water can run out again if it gets into the toy. The application is welded on a USP3000 welding system, frequency 20 kHz, power 2400 W.

#### Configuration advantages

Even complex shapes can be perfectly welded together due to the suitable shaping of the parts to be connected. Stud welding is primarily used for parts with large or curved surfaces. The advantage of this type of welding is that the sound waves can be applied at preferred positions and it simplifies the design of the sonotrode with three-dimensional adaptation to the joining part. The modern MAG generator, together with the TCS5 process controller, ensures high joining quality.



The application was produced on a USP3000 20 kHz ultrasonic welding system with MAG generator and TCS5 process controller.