

Application example

Oil-tight and gas-tight seals for shock absorbers

PLASTIC WELDING

METAL WELDING

CUTTING

CLEANING

SCREENING



Task

An ABS shock absorber is to be provided with an oil-tight and gas-tight welded seal at the base and lid. After the base has been welded, the tube is mounted with the piston, the spring and the piston rod and filled to overflowing with oil. The second seal weld is then carried out through the oil. There must be no air inclusions and the welding must be oil-tight and gas-tight.

Solution

In this case, the task was performed reliably with torsional technology with TSP750 machines. All steps are carried out in one special system, resulting in the finished shock absorbers.

Configuration advantages

The technology produces a reliable weld, particularly for parts which must be oil-tight and gas-tight but which can have very thin walls (as in this case). As there must be no air inclusions in the shock absorber, the weld must be carried out through the oil. Furthermore, longitudinal ultrasonics would result in impermissible foaming in the oil, which is not the case when using torsional technology. Torsional ultrasonic welding produces hugely reliable, tight welding seams, even if the joining seam is contaminated with oil, for example.



The application was carried out with torsional SONIQTWIST® components of a TSP750 welding system, 20 kHz/1200 W, integrated into an automatic production line (TSV750 actuator, SE2010 TC converter, MAG generator and TCS5 controller).